

Eurasian Studies in Business and Economics 23
Series Editors: Mehmet Huseyin Bilgin · Hakan Danis

Mehmet Huseyin Bilgin
Hakan Danis
Ender Demir
Virginia Bodolica *Editors*

Eurasian Business and Economics Perspectives

Proceedings of the 36th Eurasia
Business and Economics Society
Conference



 Springer

Eurasian Studies in Business and Economics

Volume 23

Series Editors

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Eurasian Studies in Business and Economics is the official book series of the Eurasia Business and Economics Society (www.ebesweb.org). Each issue of the series includes selected papers from the EBES conferences. The EBES conferences, which are being held three times a year, have been intellectual hub for academic discussion in economics, finance, and business fields and provide network opportunities for participants to make long lasting academic cooperation. Each conference features around 250 research articles presented and attended by almost 500 researchers from more than 60 countries around the World. Theoretical and empirical papers in the series cover diverse areas of business, economics, and finance from many different countries, providing a valuable opportunity to researchers, professionals, and students to catch up with the most recent studies in a diverse set of fields across many countries and regions.

Mehmet Huseyin Bilgin • Hakan Danis •
Ender Demir • Virginia Bodolica
Editors

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Economics Society Conference

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Preface

This is the 23rd issue of the Springer’s series **Eurasian Studies in Business and Economics**, which is the official book series of the Eurasia Business and Economics Society (EBES, www.ebesweb.org). This issue includes selected papers presented at the 36th EBES Conference—Istanbul that was held on **July 1, 2, and 3, 2021, with the support of the Istanbul Economic Research Association. Due to the COVID-19 virus, we organized a “hybrid” conference which convened in a physical location and also allowed for virtual participation.**

We are honored to have received top-tier papers from distinguished scholars from all over the world. We regret that we were unable to accept more papers. In the conference, *141* papers will be presented and *311* colleagues from *49* countries will attend the conference. We are pleased to announce that distinguished colleagues **Barry Eichengreen** from the *University of California, Berkeley (USA)*, **Narjess Boubakri** from *American University of Sharjah (UAE)*, **Klaus Zimmermann** from *GLO (Germany)* and *EBES*, and **Jonathan Batten** from *RMIT University (Australia)* will join the conference as invited editors and/or keynote speakers.

In addition to publication opportunities in EBES journals (*Eurasian Business Review* and *Eurasian Economic Review*, which are also published by Springer), conference participants were given the opportunity to submit their full papers for this issue. Theoretical and empirical papers in the series cover diverse areas of business, economics, and finance from many different countries, providing a valuable opportunity to researchers, professionals, and students to catch up with the most recent studies in a diverse set of fields across many countries and regions.

The aim of the EBES conferences is to bring together scientists from business, finance, and economics fields, attract original research papers, and provide them with publication opportunities. Each issue of *the Eurasian Studies in Business and Economics* covers a wide variety of topics from business and economics and provides empirical results from many different countries and regions that are less investigated in the existing literature. All accepted papers for the issue went through a peer-review process and benefited from the comments made during the conference as well. The current issue is entitled as *Eurasian Business and Economics*

Perspectives and covers fields such as education, management, finance, growth and development, and regional studies.

Although the papers in this issue may provide empirical results for a specific county or regions, we believe that the readers would have an opportunity to catch up with the most recent studies in a diverse set of fields across many countries and regions and empirical support for the existing literature. In addition, the findings from these papers could be valid for similar economies or regions.

On behalf of the series editors, volume editors, and EBES officers, I would like to thank all the presenters, participants, board members, and keynote speakers, and we are looking forward to seeing you at the upcoming EBES conferences.

Best regards

Istanbul, Turkey

Ender Demir

Eurasia Business and Economics Society (EBES)

EBES is a scholarly association for scholars involved in the practice and study of economics, finance, and business worldwide. EBES was founded in 2008 with the purpose of not only promoting academic research in the field of business and economics, but also encouraging the intellectual development of scholars. In spite of the term “Eurasia,” the scope should be understood in its broadest terms as having a global emphasis.

EBES aims to bring worldwide researchers and professionals together through organizing conferences and publishing academic journals and increase economics, finance, and business knowledge through academic discussions. Any scholar or professional interested in economics, finance, and business is welcome to attend EBES conferences. Since our first conference in 2009, around 13,749 colleagues from 99 countries have joined our conferences and 7729 academic papers have been presented. **EBES has reached 2541 members from 87 countries.**

Since 2011, EBES has been publishing two journals. One of those journals, *Eurasian Business Review—EABR*, is in the fields of industrial organization, innovation, and management science, and the other one, *Eurasian Economic Review—EAER*, is in the fields of applied macroeconomics and finance. Both journals are published quarterly by *Springer* and indexed in *Scopus*. In addition, EAER is indexed in the *Emerging Sources Citation Index (Clarivate Analytics)*, and EABR is indexed in the *Social Science Citation Index (SSCI)*. EABR has an impact factor of 3.5 (2020 JCR Impact Factor).

Furthermore, since 2014 Springer has started to publish a new conference proceedings series (**Eurasian Studies in Business and Economics**) which includes selected papers from the EBES conferences. The series has been recently indexed by **SCOPUS**. In addition, the 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th (Vol.2), 21st, and 24th EBES Conference Proceedings have already been accepted for inclusion in the *Conference Proceedings Citation Index—Social Science & Humanities (CPCI-SSH)*. Other conference proceedings are in progress.

We look forward to seeing you at our forthcoming conferences. We very much welcome your comments and suggestions in order to improve our future events. Our success is only possible with your valuable feedback and support!

With my very best wishes,

Klaus F. Zimmermann
President

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Part I
Eurasian Business Perspectives: Education

Understanding Student Learning Gain: Using Student-Staff Partnerships within Higher Education to Inform the Continuous Improvement Process



Martyn Polkinghorne, Gelareh Roushan, and Julia Taylor

Abstract This paper considers a staff-student partnership approach to gather undergraduate business studies students' perceptions of the Learning Gain that they have achieved on a university module. This understanding can then be used to improve teaching for subsequent cohorts of students studying the same subject. The Learning Gain model used considers both the explicit knowledge gained by a student (Distance Travelled) and the tacit understanding (Journey Travelled). Data is collected at the end of the teaching, and the students are asked to reflect on their perceptions of how much they had learnt based upon specific question areas. The questions themselves are evolved from the Intended Learning Outcomes of the module being studied. Student responses highlighted areas of both successful and less successful learning for each participating student and also for each topic area. Differences in the learning being reported based upon both gender and project type were also identified. The model provides a unique perspective regarding how students view their own learning, from which a set of recommendations can be developed, to highlight key areas in which teaching needs to be reviewed to improve effectiveness. The lessons from this study demonstrate the value of staff-student partnerships as an integral part of the continuing improvement process within education.

Keywords Marketisation · Assessment · Feedback · Learning gain · Higher education · Staff-student partnerships

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1 Introduction

The Higher Education sector has been subjected to an ongoing process of marketisation over several years (Bristow & Schneider, 2002; Molesworth et al., 2010; Nedbalova et al., 2014; Banwait, 2017; Bendixen & Jacobsen, 2017; Nixon et al., 2018). As a result, students are now seeking assurances regarding the value for money of the course that they decide to study (Chapleo & O’Sullivan, 2017; Roohr et al., 2017). Simultaneously, more students are rejecting the high levels of debt necessary to fund their studies (de Gayardon et al., 2019) and instead are questioning why the cost of Higher Education is so significant (Callender & Jackson, 2008; Temple et al., 2016; Tomlinson & Kelly, 2018). Understanding the learning experience of students on a course or module, or in the context of marketisation, the students’ perception of their learning, has now become an imperative (Polkinghorne et al., 2017a).

Previous research undertaken by other researchers has demonstrated the value of students and staff working together in partnership (Bovill & Felten, 2016). Such partnerships represent academic development which is underpinned by inclusion, collaboration, and culture change (Mercer-Mapstone, 2020), thereby unlocking the power of the student perspective (Felten et al., 2019) and enabling students to contribute to curricular or pedagogical change (Cook-Sather et al., 2014).

A recent study undertaken by the authors (Polkinghorne et al., 2021a) has considered the development of a new model for evaluating the Learning Gain of students and has tested it with a group of undergraduate students, considering how they viewed the change in their own learning with regard to the research method elements of their final year project. This paper now takes an alternative perspective related to how students view the change in their learning in relation to the project management aspects of their research project. The paper proposes that using a *staff-student partnership* approach to liaise with students and to understand their perceived Learning Gain from studying a course or module will help the academic development of future teaching. This is therefore a move away from the traditional model of purely teacher-led assessment of student improvement, with student surveys being confined to asking questions regarding how the course or module has been taught. Instead, this approach is innovative because it encourages student self-reflection.

Rand Europe (McGrath et al., 2015), and subsequently summarised by Polkinghorne et al. (2017b), reviewed the previously recognised measures for evaluating the Learning Gain of students. In England, a national learning project was established to trial the five most recognised approaches. Reports based upon these trials have been published by Jones-Devitt et al. (2019) and by Howson (2019), which indicate many reservations about these approaches and their appropriateness for determining the Learning Gain of students. The main concerns relate to finding a way of evaluating student learning gain which is considered to be academically robust, practical to deliver and cost-effective to administer.

An improved understanding of what constitutes Learning Gain does now need to be developed by England’s Office for Students, i.e. whether Learning Gain is about

“accountability, measuring performance, assuring quality or for the enhancement of teaching, learning and the student experience” (Howson & Buckley, 2020, p. 11). Existing methods for determining student Learning Gain also need further development to ensure that they are fit for purpose, for example, to take into account the impact of contextual factors such as subject level differences (Jones-Devitt et al., 2019; Howson, 2019).

The research study discussed in this paper considers the evaluation of student Learning Gain using a model proposed by Polkinghorne et al. (2017c) and detailed by Polkinghorne et al. (2021a), which uses Distance Travelled (models, tools and theories) and Journey Travelled (practical experience and ‘know-how’) to create an understanding of a student’s perceptions of their learning. This approach is thought to be well-suited for application in the context of *staff-student partnerships*, and this is the first study which considers using the model in this way.

Firstly, this paper will present the approach which has been undertaken. It will then explain the model for evaluating Learning Gain which has been applied in this study. The data collection and analysis undertaken will be discussion and interpretation of the findings offered. Conclusions will be presented, followed by an identification of the limitations of this study, and finally the likely future direction of this research will be explained.

2 Research Approach and Method

This paper is reporting on research that has been undertaken in the period 2017 to 2020, using a ‘survey’-based primary data collection strategy, with a cross-sectional time horizon and a non-probability purposive critical sampling method. This mono-method research uses self-reflective surveys to collect ordinal (ranked) data from participants. Use of the model and question design are both expanded upon in the next section of this paper.

The possible question responses from each participant used a skewed Likert style ranking scale (Likert, 1932) to enable students to reflect upon their own perceptions. The ranking options were based upon descriptive linguistic labels from ‘*No Change*’ (code = 0), ‘*Minor Improvement*’ (code = 1), ‘*Moderate Improvement*’ (code = 2), ‘*Significant Improvement*’ (code = 3) to ‘*Exceptional Improvement*’ (code = 4), to enable participants to reflect upon how they perceived their own learning to have transformed from undertaking the university module or course being studied. The module in question was the final year (level 6) project on a business studies undergraduate degree course which was offered to students in three formats, these being:

1. Dissertation Project (DP) which is a project investigating a research topic.
2. Reflective Project (RP) which is a project considering the individual learning experiences of the student on their placement year working in industry.

3. Consultancy Project (CP) which is a live project investigating a real-world business issue for a company partner.

Whilst the Consultancy Project can be individual or group based, the Dissertation Project and the Reflective Project are only offered on an individual basis. In each case, projects last for the full academic year and require a 12,000-word (or equivalent) report to be submitted at the end of Level 6. In the case of the Consultancy Projects, a presentation is also required at the conclusion of the work to ensure that results are disseminated to the relevant company partner.

It should be noted that the term ‘Research Proposal’ used in this paper only applies to Dissertation Projects but encompasses the alternative terms ‘Learning Agreement’ which applies to Reflective Projects and ‘Project Initiation Document’ which applies to Consultancy Projects. This was made clear to participants.

This study was undertaken with ethical approval from Bournemouth University (Reference 9236). All participants volunteered to be involved in the study. The data was collected anonymously, and analysis was delayed until after the students’ final marks had been published to avoid any conflict of interest.

3 Application of the Model

The model for evaluating student Learning Gain being applied in this study was first theorised by Polkinghorne et al. (2017c). The model builds on a previous study by Polkinghorne et al. (2017a) and takes into account definable Process, Output and Outcome Indicators and maps questions developed from a module’s Intended Learning Outcomes relating to both Distance Travelled and Journey Travelled.

The Process Indicators upon which the model is founded relate to the collection of data and the need to avoid national data from existing sources and instead to collect data at the lowest possible level (from individual students). This approach is considered by the authors to best support diversity and inclusivity and will therefore also help to address attainment gaps for students from minority backgrounds. Using a self-reporting reflective survey approach, the model is cost-efficient to administer and analyse and enables both validity and comparability to be considered.

The Output Indicators are driven by Bloom’s (revised) Taxonomy of Higher-Order Thinking Skills, as defined by Anderson and Krathwohl (2001), which is a representation of the thinking skills that should be applied at the various levels of Higher Education. In this study, only the uppermost four levels of the taxonomy are included in the model (creating, evaluating, analysing and applying) as the participants in the test cohort were Level 6—final year undergraduate degree students.

The model concentrates on academic development in terms of Distance Travelled and Journey Travelled. In this context, Polkinghorne et al. describe explicit knowledge as being “subject learning that can be codified and verbalised” and tacit knowledge as being “experience and practical application” (Polkinghorne et al., 2021b, p. 1743).

Table 1 Questions relating to Distance Travelled and Journey Travelled

| |
|---|
| Questions relating to Distance Travelled |
| Q1 How much has your understanding of how to create an effective research proposal increased? |
| Q2 How much has your understanding of designing ethically sound research projects increased? |
| Q3 How much has your understanding of how to create an effective Gantt chart increased? |
| Q4 How much has your understanding of the importance of a research proposal increased? |
| Questions relating to Journey Travelled |
| Q5 How much has your ability to be creative (developing new ideas) increased? |
| Q6 How much has your ability to be innovative (developing new ways of doing things) increased? |
| Q7 How much has your ability to manage a project using a research proposal increased? |
| Q8 How much have your skills for structuring a research project report increased? |

Authors' own work

The Outcome Indicators used in this model relate indirectly to longer-term benefits such as improvements in teaching and assessment and the raising of standards that may result from a better understanding of the perceived effectiveness of the learning achieved by students. As such, the model, and the understanding gained from using the model, can be used to support the continuous improvement of educational delivery and student engagement and therefore has the potential to reinforce the *Managerialism* (economic return), *Marketisation* (competition between universities) and *Performativity* (universities responding to targets and indicators) agendas (Ball, 2003; Morley, 1997; Skelton, 2005). A recent study by Katsioudi and Kostareli (2021) recognises the importance of this relationship between Learning Gain achieved, student engagement and the ultimate satisfaction that they derive from their educational experience.

Taking into account the Intended Learning Outcomes for the module, eight questions were developed. These questions included four that related to Distance Travelled and four related to Journey Travelled (Table 1). Using the model, the questions developed were mapped against the *Taxonomy of Higher-Order Thinking Skills* to ensure that comprehensive coverage had been achieved.

Taking a *staff-student partnership* approach and asking students to consider how they perceived their own learning on the module being studied, using each of the questions presented as a trigger, students were asked to select the linguistic label that most reflected their own view of their academic development from a ordinal ranking list. Using this method, a response pattern was established for each participating student.

Each participating student was assigned an identifying code. This identifying code enabled differentiation between participants whilst also preserving the required level of anonymity. The identifying code for each participating student used a structure defined as being project type identifier (CP = Consultancy Project; DP = Dissertation Project; RP = Reflective Project)—gender identifier (M = Male; F = Female) and numerical identifier (integer in the range 1 to 2). Examples of this identifying code being used include code CP-F1 who is the first female consultancy

project student, and in contrast, code RP-M2 who is the second male reflective project student.

Considering the ranking response options, it was anticipated that low-level Learning Gain responses (No Change and Minor Improvement) would indicate potential issues requiring urgent attention, medium-level Learning Gain responses (Moderate Improvement) would indicate situations that needed to be monitored and high-level Learning Gain responses (Significant Improvement and Exceptional Improvement) would indicate good practice with the potential for wider dissemination.

4 Data Analysis

A summary of student responses is detailed in Table 2. There was evidence that 42% of students (CP-M1, CP-M2, DP-F2, RP-M2 and RP-F2) reported high levels of learning across the eight questions, with each student indicating either *Significant Improvement* or *Exceptional Improvement* in their perceived learning for at least 75% of the questions asked. This definition of a ‘high-level’ of learning will be used throughout this paper, with the frequency of respondents indicating *Significant Improvement* or *Exceptional Improvement* in their perceived learning being described as a percentage of the overall number of possible responses.

Across the responses, several students reported a mixed array of variation in their own learning, with 42% students (CP-F1, CP-F2, DP-F1, RP-M1 and RP-F1)

Table 2 Individual student and question Learning Gain responses

| | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | % High levels of learning per student |
|---|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------------------|
| Student CP-M1 | 3 | 2 | 4 | 4 | 4 | 3 | 4 | 0 | 75% |
| Student CP-M2 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 100% |
| Student CP-F1 | 3 | 0 | 2 | 4 | 3 | 3 | 4 | 0 | 63% |
| Student CP-F2 | 3 | 3 | 1 | 3 | 3 | 2 | 2 | 3 | 63% |
| Student DP-M1 | 2 | 3 | 0 | 4 | 1 | 1 | 2 | 2 | 25% |
| Student DP-M2 | 3 | 1 | 0 | 1 | 1 | 0 | 2 | 3 | 25% |
| Student DP-F1 | 2 | 2 | 1 | 1 | 3 | 3 | 4 | 3 | 50% |
| Student DP-F2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 100% |
| Student RP-M1 | 3 | 3 | 1 | 3 | 3 | 2 | 2 | 3 | 63% |
| Student RP-M2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 100% |
| Student RP-F1 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 63% |
| Student RP-F2 | 3 | 3 | 2 | 3 | 4 | 3 | 3 | 3 | 88% |
| % high levels of learning per question | 83% | 58% | 33% | 83% | 83% | 67% | 67% | 67% | 68% |

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Table 3 Respondents reporting high levels of student Learning Gain

| | Distance Travelled (%) | Journey Travelled (%) | Overall Learning Gain (%) |
|---------------|------------------------|-----------------------|---------------------------|
| Student CP-M1 | 75 | 75 | 75 |
| Student CP-M2 | 100 | 100 | 100 |
| Student CP-F1 | 50 | 75 | 63 |
| Student CP-F2 | 75 | 50 | 63 |
| Student DP-M1 | 50 | 0 | 25 |
| Student DP-M2 | 25 | 25 | 25 |
| Student DP-F1 | 0 | 100 | 50 |
| Student DP-F2 | 100 | 100 | 100 |
| Student RP-M1 | 75 | 50 | 63 |
| Student RP-M2 | 100 | 100 | 100 |
| Student RP-F1 | 50 | 75 | 63 |
| Student RP-F2 | 75 | 100 | 88 |

Authors' own work

providing high-level responses to at least 38% of questions indicating strong Learning Gain is perceived to have been achieved whilst simultaneously reporting low-level responses to a further 38% of questions. Low levels of learning relate to responses that are *No Change* or *Minor Improvement* according to the participant's perception of their own Learning Gain. A further 16% of participants (DP-M1 and DP-M2) reported only low levels of learning for at least 75% of question presented.

Considering individual questions, for Q1 (*How much has your understanding of how to create an effective Research Proposal increased?*), Q4 (*How much has your understanding of the importance of a Research Proposal increased?*) and Q5 (*How much has your ability to be creative (developing new ideas) increased?*), high levels of Learning Gain were reported by 83% of students. This result would imply that successful teaching has occurred from which perceived student learning has been achieved.

In contrast, for Q3 (*How much has your understanding of how to create an effective Gantt chart increased?*), only 33% of students reported a high level of Learning Gain. This result would imply that teaching methods, and associated materials, relating to this area of the curriculum should be revisited and that changes may be required.

Once again considering only the high levels of learning according to each participant's own perception, the results for questions Q1 to Q4 can be combined to provide the mean frequency reported for Distance Travelled, and for questions Q5 to Q8 they can be combined to provide the mean frequency reported for Journey Travelled. By undertaking this approach (Table 3), it becomes possible to identify any underlying patterns or trends in learning dynamics.

In this context, reporting of a mean frequency Learning Gain of 75% and above was considered to be good, below 50% was considered to require attention, and between 50% and 75% was considered to require monitoring. Based upon this mean frequency data, students CP-M2 (100%) and DP-F2 (100%) reported the highest

Table 4 Combined higher categories of student Learning Gain reported by gender

| | Questions relating to Distance Travelled | | | | Questions relating to Journey Travelled | | | | Mean frequency for gender |
|----------------|--|-----|-----|-----|---|-----|-----|-----|---------------------------|
| | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | |
| Female | 83% | 50% | 17% | 83% | 100% | 83% | 83% | 67% | 71% |
| Mean frequency | 58% | | | | 83% | | | | |
| Male | 83% | 67% | 50% | 83% | 67% | 50% | 50% | 67% | 65% |
| Mean frequency | 71% | | | | 58% | | | | |

Authors' own work

overall perceived Learning Gain, whilst students DP-M1 (25%) and DP-M2 (25%) reported the lowest perceived Learning Gain.

Considering just the high levels of Learning Gain reported for each participant, firstly for Distance Travelled (Q1, Q2, Q3 and Q4) and then separately for Journey Travelled (Q5, Q6, Q7 and Q8), student CP-M2 reported an exceptionally high level of Distance Travelled Learning Gain (100%) and Journey Travelled Learning Gain (100%), from which we can deduce that in their own opinion, this student's subject knowledge and practical experience have been advanced significantly. Student DP-M1 reported much higher levels of Distance Travelled Learning Gain (50%) compared to Journey Travelled Learning Gain (0%) from which we are able to speculate that their subject knowledge has advanced far more than their practical understanding. Equally, student DP-F1 reported much higher levels of Journey Travelled Learning Gain (100%), when compared to Distance Travelled Learning Gain (0%), from which we can surmise that their practical understanding has advanced far more than their subject knowledge.

Table 4 enables us to differentiate the data on the basis of identified gender. From this data it is clear that Females are reporting much stronger Learning Gain for Journey Travelled (83%), compared to the Males (58%), which indicates that more practically orientated skills have been learnt by the Females. Conversely, Males are reporting stronger Distance Travelled Learning Gain (71%), compared to Females (58%), which indicates that more theoretical knowledge has been learnt by the Males. The overall Learning Gain reported for Females (71%) is higher than the Learning Gain for Males (65%), but not by a very significant margin.

Even though the reported Journey Travelled Learning Gain is much higher for Females compared to Males, which is reflected in the magnitude of the difference in the reported higher levels of learning for Q5 (*How much has your ability to be creative increased?*), Q6 (*How much has your ability to be innovative increased?*) and Q7 (*How much has your ability to manage a project using a Research Proposal increased?*), interestingly, in the case of Q8 (*How much have your skills for structuring a research project report increased?*), Males have reported the same level of Learning Gain as the Females (66.7%).

Q1 (83%) and Q4 (83%) reported top levels of Learning Gain for both Males and for Females. Q7 (83%) was also a top result for Females and comparatively low for

Table 5 Combined high-level student Learning Gain reported by project type

| | Questions relating to Distance Travelled | | | | Questions relating to Journey Travelled | | | | Mean frequency for project type |
|-----------------------------|--|-----|-----|------|---|-----|-----|-----|---------------------------------|
| | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | |
| Consultancy project | 100% | 50% | 50% | 100% | 100% | 75% | 75% | 50% | 75% |
| Mean frequency | 75% | | | | 75% | | | | |
| Dissertation project | 50% | 50% | 25% | 50% | 50% | 50% | 50% | 75% | 50% |
| Mean frequency | 44% | | | | 56% | | | | |
| Reflective project | 100% | 75% | 25% | 100% | 100% | 75% | 75% | 75% | 78% |
| Mean frequency | 75% | | | | 81% | | | | |

Authors' own work

Males (50%). It should be noted that the Q3 Female Learning Gain result (17%) was extraordinarily low and was by far the lowest of all Learning Gain results obtained from this study indicating that for the question related to “*How much has your understanding of how to create an effective Gantt chart increased?*”, with only one exception, the Female group of participants did not consider that their learning had progressed enough to have been worthy of reporting.

Table 5 enables us to differentiate the data based on project type. From this data it is clear that students undertaking the Consultancy Project and the Reflective Project are reporting much stronger Learning Gain for Distance Travelled (75%) compared to those students following the Dissertation Project pathway (44%). This finding can be used to inform decision-making about the selection and resourcing of different project types and the overall matching of individual students with projects.

When considering Journey Travelled, students following the Consultancy Project (75%) and Reflective Project (81%) both reported high levels of Learning Gain, whilst students following the dissertation pathway once again reported a lower level of Learning Gain (56%).

In the case of the Consultancy Projects, the highest reported Learning Gain is recorded for questions Q1 (100%), Q4 (100%) and Q5 (100%), and the lowest reported Learning Gain is for questions Q2 (50%), Q3 (50%) and Q8 (50%). For Dissertation Projects, the highest reported Learning Gain is also recorded for Q8 (75%), and the lowest reported Learning Gain is for Q3 (25%). Finally, in the case of the Reflective Projects, the highest reported Learning Gain is recorded for Q1, Q4 and Q5 (100%), and once again, the lowest reported Learning Gain is recorded for Q3 (25%).

Of particular note is the case of Q8 (*How much have your skills for structuring a research project report increased?*), which has the highest Learning Gain being reported by the students undertaking the Dissertation Project (75%) whilst

simultaneously being one of the lowest Learning Gains being reported by the students undertaking the Consultancy Project (50%). Conversely, in the case of Q3 (*How much has your understanding of how to create an effective Gantt chart increased?*), whilst students on both the Dissertation and Reflective Projects reported the lowest Learning Gain for this question (25%), in the case of students following the Consultancy Project pathway, the Learning Gain being reported for this question (50%) was aligned with that of several other question responses.

The data collected suggests that overall Learning Gain for the Consultancy Project students (75%) and the Reflective Project students (78%) is much higher than for the Dissertation Students (50%). This is particularly relevant given the significant resource required to undertake intensive one-to-one supervision for Dissertation Projects, in comparison to the group supervision more commonly applied for the Consultancy Projects. Considering Learning Gain in terms of Distance Travelled and Journey Travelled, the Consultancy Project students have reported a good balance of both (75%), indicating that they consider that they have learnt both explicit knowledge and practical abilities. The exception to this is the case of Q8 (*How much have your skills for structuring a research project report increased?*) in which this group of students do not feel that their research proposal skills have improved nearly as much, which is not a view that either the Dissertation Project students or the Reflective Project students agree with.

Whilst the Reflective Project students have reported the exact same level of Distance Travelled Learning Gain (75%) as the Consultancy Project students, their reported Journey Travelled Learning Gain (81%) is even higher, and again this group of students is reporting they have learnt both explicit knowledge and practical abilities. Conversely, in the case of the Dissertation Project students, the reported Journey Travelled Learning Gain (56%) is higher than it is for Distance Travelled Learning Gain (44%), which implies that this group of students considers that their practical abilities have advanced more than their subject knowledge has, albeit both are lower than expected.

Furthermore, it should be noted that whilst there are clear differences in the student responses to certain questions, the difference in reported Learning Gain between the Consultancy Project students and the Reflective Project Students is quite small (75% and 78%, respectively) which indicates that although slightly different in the actual detail, both groups of students consider that they have received a similar overall level of educational development, and in both cases this is significantly more than the Learning Gain that has been reported by the Dissertation Project students (50%). Table 6 is a summary of the key issues raised.

Table 6 Summary of the key areas of concern raised by the data analysis

| Questions | Project type | | | Gender | |
|--|--------------|----|----|--------|---|
| | CP | DP | RP | F | M |
| Q1—How much has your understanding of how to create an effective research proposal increased? | | X | | | |
| Q2—How much has your understanding of designing ethically sound research projects increased? | X | X | | X | |
| Q3—How much has your understanding of how to create an effective Gantt chart increased? | X | X | X | X | X |
| Q4—How much has your understanding of the importance of a research proposal increased? | | X | | | |
| Q5—How much has your ability to be creative (developing new ideas) increased? | | X | | | |
| Q6—How much has your ability to be innovative (developing new ways of doing things) increased? | | X | | | X |
| Q7—How much has your ability to manage a project using a research proposal increased? | | X | | | X |
| Q8—How much have your skills for structuring a research project report increased? | X | | | | |

Authors’ own work

5 Discussion

The research reported within this paper considers that, in the context of the increasing marketisation of Higher Education, there is an opportunity to take a *staff-student partnership* approach, so that student views regarding their own perceived learning on a course or module can be captured in the form of their Learning Gain.

The model for evaluating the Learning Gain of students used in this study is based upon an alternative perspective first proposed by Polkinghorne et al. (2017c). The model considers both the Distance Travelled by a student (explicit knowledge that can be codified) and the Journey Travelled (tacit understanding in the form of skills and experience). A test cohort of Level 6 (final year undergraduate degree) students were assessed using the model during their project module. Students were asked to self-report their perceived learning connected with certain key aspects of the module, i.e., project management-orientated learning. Data was collected using an online data collection tool based upon eight specific questions bespoke to the module being studied. Four of these questions related to Distance Travelled and the other four questions related to Journey Travelled.

Analysis of the data collected by this study identified differences in student learning against individual questions and, more importantly, against questions grouped as relating to Distance Travelled and Journey Travelled. Questions reporting high levels of perceived learning indicated successful teaching and good practice that should be identified and disseminated. Questions reporting low levels of perceived learning indicate potential problem areas (Table 6), which presents an opportunity for rethinking the delivery and support being provided to students, so

Table 7 Recommendations for integration into the continuous improvement process

| Project type | Recommendations for academic team consideration |
|----------------------|--|
| Consultancy project | <ul style="list-style-type: none"> • Revise support regarding ethics. • Revise support for Gantt chart development. • Revise support for structuring a research project. |
| Dissertation project | <ul style="list-style-type: none"> • Revise support for creating and understanding research proposals. • Revise support regarding ethics. • Revise support for Gantt chart development. • Revise support for students to be creative and innovative. • Revise support for creating a research proposal. • Revise support for how to manage a research project. |
| Reflective project | <ul style="list-style-type: none"> • Revise support for Gantt chart development. |
| Females | <ul style="list-style-type: none"> • Revise support regarding ethics. • Revise support for Gantt chart development. • Revise support for structuring a research project. |
| Males | <ul style="list-style-type: none"> • Revise support for Gantt chart development. • Revise support for students to be creative and innovative. • Revise support for how to manage a research project. |

Authors' own work

that a more effective educational experience can be generated. Students reporting high or low Distance Travelled whilst simultaneously reporting the converse for Journey Travelled are thought to be indicating a natural disposition towards either explicit knowledge (theoretical) or tacit understanding (practical), respectively.

The variations in learning presented were translated into a set of recommendations (Table 7), for integration into the continuous improvement process, so that teaching the following year could be revised in priority areas and appropriate scaffolding put in place to create a supportive learning environment. Undertaking a similar data collection exercise, with the next cohort of students studying this same module, will provide an immediate indication of how successful any such changes have been. Undertaking this exercise each year for a period of time will provide valuable trend data from which the correlation between changes in teaching executed can be related to the reported learning from the students. This approach has the potential to provide a simple, and yet powerful, understanding of the learning patterns of the students on the taught module. Without the students' involvement and their personal reflection on their own perceived learning, this approach would not have been possible. The important role of the *staff-student partnership* in terms of informing the continuous improvement process within Higher Education has therefore been established.

6 Conclusion

The evidence from this Learning Gain study demonstrates that taking a *staff-student partnership* approach has enabled the academic team to understand the learning journey of the participating students. This new understanding will influence actions

subsequently taken as part of the continuous improvement process, and in terms of institutional competitiveness, whether in respect of the managerialism, marketisation or performativity agendas, the data collected will ensure that strategic decision-making is informed. The lessons learnt from this study are therefore positive, and the authors consider that the potential benefits of using the Learning Gain model would be equally applicable to other university level education systems.

7 Limitations and Future Research

This paper has reported on a study involving a small cohort of business studies students studying a project module at Level 6 (final year undergraduate degree). The size of the cohort was restricted when the ethical approval was granted, and all students included had to be supervised by the same academic. Although this condition removed the variables of supervisor style, ability and experience, it also ensured that the cohort size was too small to be able to generalise from the research outcomes.

Data collected using a *staff-student partnership* approach has been demonstrated to provide useful insights into the perceived learning of the participating students. The model for evaluating student Learning Gain now needs application to larger groups of students to fully understand its potential impact. Such further testing could include students studying at different levels in Higher Education and within a variety of discipline areas. A subsequent study will investigate these wider issues and will also consider if the *staff-student partnership* approach remains valid, when applied to larger groups of students. Furthermore, demographic data is required for the participants, to enable consideration of Learning Gain variations in the context of minority group representation.

References

- Anderson, L., & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longmans.
- Ball, S. (2003). The teacher's soul and the terrors of performativity. *Journal of Education Policy*, 18(2), 215–228. <https://doi.org/10.1080/0268093022000043065>
- Banwait, K. (2017). *The student as customer: A study of the intensified marketisation of higher education in England*. PhD Thesis, University of Derby, Deby.
- Bendixen, C., & Jacobsen, J. (2017). Nullifying quality: The marketisation of higher education. *Quality in Higher Education*, 23(1), 20–34. <https://doi.org/10.1080/13538322.2017.1294406>
- Bovill, C., & Felten, P. (2016). Cultivating student–staff partnerships through research and practice. *International Journal for Academic Development*, 21(1), 1–3. <https://doi.org/10.1080/1360144X.2016.1124965>
- Bristow, D., & Schneider, K. (2002). Collegiate student orientation scale (CSOS): Application of the marketing concept to higher education. *Marketing for Higher Education*, 12(2), 15–34. https://doi.org/10.1300/J050v12n02_02

- Callender, C., & Jackson, J. (2008). Does the fear of debt constrain choice of university and subject of study? *Studies in Higher Education*, 33(4), 405–429. <https://doi.org/10.1080/03075070802211802>
- Chapleo, C., & O'Sullivan, H. (2017). Contemporary thought in higher education marketing. *Journal of Marketing for Higher Education*, 27(2), 159–161. <https://doi.org/10.1080/08841241.2017.1406255>
- Cook-Sather, A., Bovill, C., & Felten, P. (2014). *Engaging students as partners in learning and teaching: A guide for faculty*. Jossey-Bass.
- de Gayardon, A., Callender, C., & Green, F. (2019). The determinants of student loan take-up in England. *Higher Education*, 78, 963–983. <https://doi.org/10.1007/s10734-019-00381-9>
- Felten, P., Abbot, S., Kirkwood, J., Long, A., Lubicz-Nawrocka, T., Mercer-Mapstone, L., & Verwoord, R. (2019). Reimagining the place of students in academic development. *International Journal for Academic Development*, 29(2), 192–203. <https://doi.org/10.1080/1360144X.2019.1594235>
- Howson, C. (2019). *Final evaluation of the office for students learning gain pilot projects. Report to the office for students*. King's College.
- Howson, C., & Buckley, A. (2020). Quantifying learning: Measuring student outcomes in higher education in England. *Politics and Governance*, 8(2), 6–14. <https://doi.org/10.17645/pag.v8i2.2564>
- Jones-Devitt, S., Pickering, N., Austen, L., Donnelly, A., Adesola, J., & Weston, A. (2019). *Evaluation of the National Mixed Methods Learning Gain Project (NMMMLGP) and student perceptions of learning gain. Report to the office for students*. Sheffield Hallam University.
- Katsioudi, G., & Kostareli, E. (2021). A sandwich-model experiment with personal response systems on epigenetics: Insights into learning gain, student engagement and satisfaction. *FEBS Open Bio*, 11(5), 1282–1298. <https://doi.org/10.1002/2211-5463.13135>
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 22(140), 55.
- McGrath, C., Guerin, B., Harte, E., Frearson, M., & Manville, C. (2015). *HEFCE report - learning gain in higher education*. RAND Corporation.
- Mercer-Mapstone, L. (2020). The student–staff partnership movement: Striving for inclusion as we push sectorial change. *International Journal for Academic Development*, 25(2), 121–133. <https://doi.org/10.1080/1360144X.2019.1631171>
- Molesworth, M., Scullion, R., & Nixon, E. (2010). *The marketisation of higher education and the student as consumer*. Routledge.
- Morley, L. (1997). Change and equity in higher education. *British Journal of Sociology of Education*, 18(2), 231–242. <https://doi.org/10.1080/0142569970180206>
- Nedbalova, E., Greenacre, L., & Schulz, J. (2014). UK higher education viewed through the marketization and marketing lenses. *Marketing for Higher Education*, 24(2), 178–195. <https://doi.org/10.1080/08841241.2014.973472>
- Nixon, E., Scullion, R., & Hearn, R. (2018). Her majesty the student: Marketised higher education and the narcissistic (dis) satisfactions of the student-consumer. *Studies in Higher Education*, 43(6), 927–943. <https://doi.org/10.1080/03075079.2016.1196353>
- Polkinghorne, M., Roushan, G., & Taylor, J. (2017a). Considering the marketing of higher education: The role of student learning gain as a potential indicator of teaching quality. *Marketing for Higher Education*, 27(2), 213–232. <https://doi.org/10.1080/08841241.2017.1380741>
- Polkinghorne, M., Roushan, G., & Taylor, J. (2017b). *Assessing student learning: A comparison of existing methods for evaluating the learning gain of students*. Bournemouth University.
- Polkinghorne, M., Roushan, G., & Taylor, J. (2017c, May 11). Evaluating student learning gain: An alternative perspective [Poster Presentation]. In *Higher Education Academy (HEA) Surveys Conference – Understanding and Enhancing the Student Experience*, Manchester, UK.

- Polkinghorne, M., Roushan, G., & Taylor, J. (2021a). Seeking an educational utopia: An alternative model for evaluating student learning gain. *Further and Higher Education*, 45(6), 857–869. <https://doi.org/10.1080/0309877X.2020.1826035>
- Polkinghorne, M., O’Sullivan, H., Taylor, J., & Roushan, G. (2021b). An innovative framework for higher education to evaluate learning gain: A case study based upon the discipline of marketing. *Studies in Higher Education*, 46(9), 1740–1755. <https://doi.org/10.1080/03075079.2019.1703132>
- Roohr, K., Liu, H., & Liu, O. (2017). Investigating student learning gains in college: A longitudinal study. *Studies in Higher Education*, 42(12), 2284–2300. <https://doi.org/10.1080/03075079.2016.1143925>
- Skelton, A. (2005). *Understanding teaching excellence in higher education: Towards a critical approach*. Routledge.
- Temple, P., Callender, C., Grove, L., & Kersh, N. (2016). Managing the student experience in English higher education: Differing responses to market pressures. *London Review of Education*, 14(1), 33–44. <https://doi.org/10.18546/LRE.14.1.05>
- Tomlinson, M., & Kelly, P. (2018). A prize for a price? HE marketization and the question of value. *Theory and Research in Education*, 16(3), 351–367. <https://doi.org/10.1177/1477878518810915>

The Role of Technology in Student Learning and Engagement: The Case of the Webinar



Mohammad Ali Wasim and Kathryn Mitchell

Abstract This exploratory study looks into the use of webinars and how they impact student learning and engagement. An analysis of literature will be carried out to explore student learning and engagement and the link between webinar use. Recommendations would be given to practitioners to help them enhance the student learning and engagement through the use of webinars and also identifying the right virtual platforms for use. The objectives of this research were to identify the role of technology in student learning and engagement; secondly, develop an understanding of the use of webinars as a tool; and, thirdly, understand and analyse the impact of webinar use on student learning and engagement. The research is going to follow a constructivist approach utilizing qualitative methods to collect data. Questionnaires would be distributed to business school students who have experienced both face-to-face sessions and webinars. In conclusion, a holistic approach needs to be taken to understand the nature and the use of technology to enhance the learning and engagement of students. In addition, a more informed approach needs to be undertaken when framing policies for technology in the higher education sector. This should involve all stakeholders and would be significant in supporting the use of technology and enhancing student learning and engagement.

Keywords Online learning · Student learning and engagement · Webinars · Technology use in HE · Blended learning · Teaching and learning

1 Introduction

This paper investigates the impacts of technology on student learning and engagement. To contextualise, this paper focuses on young people and the extent to which they are tech savvy, which has been found, from the research, to have significant impact on their learning abilities and, in turn, affect engagement also. Researchers

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acknowledged and addressed the global pandemic, COVID-19, which has had influenced tech skills due to the reality of shifting to online learning overnight when the UK went into a national lockdown.

There is a growing debate on the use of technology in the classroom from primary school to higher education institutions. Students are more interactive with technology and more responsive to the digitally driven teaching methods rather than traditional teaching methods (Rosen, 2010). There is a growing concern with the youth being overwhelmed with technology having a negative impact on their mental health due to addiction to it (Shoukat, 2019). This research aims to identify the role of technology in student learning and engagement; also, to develop and understand the use of webinars as a tool; and, finally, to understand and analyse the impact of webinar use on student learning and engagement.

The study identifies evidence that universities who are not early adopters of technology in their teaching and learning seem to be at a loss. The use of smartphones and tablets in class has become a norm, to make notes, view slides and interact in online polls and the like. The research acknowledges the limited exploration of one business school and that there is a wider opportunity for higher education institutions to participate in similar research to further understand methods that may need to be put into practice. There is no escape from this reality, it is high time that new methods are adopted in a planned way so that the maximum benefit from technology can be derived and its shortcomings if any are overcome with its guided use. This aspect drives the argument further that there is a need to rethink our pedagogy for the digital age with its digitally connected students. Education is in a transition and moving from the traditional way of doing things to becoming more digital and technology focused (Beetham & Sharpe, 2013).

The paper reviews literature, addressing the global pandemic, COVID-19, and how this may impact the scope of the research, followed by justifying the chosen methodology for the research execution. Results are analysed through the emerged responses that were highlighted through qualitative data analysis. Finally, practical recommendations have been presented, with reference to the small-scale nature and therefore opportunity for further research.

2 Literature Review

The fundamental question to ask here is that ‘How can we use technology to motivate and engage students?’ Students who normally find it difficult to attend lectures, stay motivated and engage with others. The objective with the use of technology would be to be able to tap into the learning potential of students and enhance their learning and engagement. But we are only able to do that if we are aware of the type of students we are dealing with and what pedagogy suits them. Being aware of all this is one aspect; the ability to put that awareness to use to make informed decisions to not only frame but also execute a digital education strategy is another. The role of educational leaders is paramount in this regard, and not only do

they need to lead from the front but also be tech savvy enough to frame, justify and execute the strategy they formulate (Kelly, 2019; Sterrett & Richardson, 2019). Another factor which needs to be delved on is the way the learning space is structured. A lot of higher education institutes spend exuberant amounts of money in trying to bring in the best type of technology available in the market. At times the teachers and students using the technology are not well versed with its use and struggle (Henriksen et al., 2019). This is exacerbated further by the physical impediments which makes it difficult to fully benefit from the use of the technology. There is a growing concern that despite having a strategy in place for using technology to benefit students, the right infrastructure needs to be in place. This includes hybrid learning spaces, e.g. pods, etc. which are enabling and help the teachers and students alike. Having shared office spaces or limited space to practice these modern methods of teaching can be a significant stumbling block impacting the potential benefit of technology use in higher education (Middleton, 2018).

In light of the above discussion, it can be argued that there is a need to rethink the way the whole process of e-learning takes place. There is a need to make learning, training and teaching accessible to all. This needs to be linked to the organizational practices to help implement the relevant up-to-date pedagogy for effectiveness. In addition, with the right support mechanisms in place, learners and teachers can improve their performance and be more efficient (Friesen, 2009). The role of institutional behaviours is paramount in determining the type of students available and also the response they will have to the use of technology. This is expounded further by the different type of students from a diverse demography, with varying learning needs and approaches to learning in addition to the excess baggage which may be carried from their previous academic and life experiences. All these factors impact their learning and engagement and how they engage with technology. Different disciplines also have an impact as some would not only be more prone but also receptive to the use of technology in education (Fry et al., 2008). There is a need to create a mindset of independent learning and growth among the students of digitally driven higher education institutes (Kizilcec & Goldfarb, 2019).

There are a number of aspects which pose challenges to the adoption of technology in higher education as discussed above. Despite these challenges, institutions are focused on benefitting their students' learning and engagement through the use of technology (Walker et al., 2012). There is also a growing pressure on academics to adopt the new technology to be in sync with other competitor institutes and also the new generation of students (Porter et al., 2014). It also enables the students to collaborate with each other more than usual. Students who are shy to ask questions in class feel more at ease to contribute in a virtual environment. This also adds value to students who have varying learning needs and enhances their experience (Heflin et al., 2017). Given the amount of time that lecturers have to develop content and also learn the use of new technology, it limits the maximum benefit they can derive from the use of it (Beggs, 2000). There is a growing concern that perhaps technology has not transformed teaching and learning and in turn engagement, mainly due to not being able to utilize its full potential due to perhaps lack of training and resources available to the staff involved. This could be due to the financial aspects or the lack

of vision from the leadership. In addition, the culture in vogue at the higher education institutions might also impact the way technology adoption impacts the learning and engagement. Technology is seen more of a driver rather than a supporter of teaching and learning. Who is calling the shots? If the technology companies are developing technology for enhancing teaching and learning, are they taking all stakeholders on board or is it more of a sales pitch which suits the bill of the higher education provider (Glover et al., 2016). It is also difficult to gauge the enhancement in student learning which has taken place. Has there been an audit beforehand and one afterwards to see the impact on the students' learning and engagement? Which benchmarks have been used? In addition, what are the variables which need to be measured? The lack of clarity at different levels among the stakeholders and those monitoring student learning and engagement is a cause of concern (Kirkwood & Price, 2014). There is also the other side of the argument where the higher education funding council for England argues that technology creates more flexibility for the students and teachers alike and also gives the opportunity to develop a personalized approach to learning and engagement. It also develops confidence in students, and they can gain additional relevant skills which would make them more tech savvy (Mountford-Zimdars et al., 2015). The learners who have found it difficult to interact in face-to-face sessions are more prone to benefit from online learning resources. They also feel more comfortable in asking questions and engaging in a virtual environment. It also gives lecturers the opportunity to develop their own varying teaching approaches which enhances their skill set. The overall approach is holistic in nature and promotes the institution as a centre of progress and innovation which is moving with the times and helps to enhance quality processes and support equality of opportunity to all types of learners without discrimination (Machin et al., 2016). This form of learning is supported by the social constructivist theory where students would learn through interaction with others. The use of technology gives the perfect opportunity to do this. Virtual learning environments which have tools such as blogs, webinars, discussion boards, voice-overs and the like enable the students to not only learn and engage but also contribute to the learning process (Bognar et al., 2015; Mughal & Zafar, 2011). This is further supported by the way the learning activities are designed. This includes the type of activities, assessment of the lecturer and the learner and finally the role of the lecturer in terms of providing the right type of support to enable full benefit from the use of technology to support the students' learning and engagement (Koochang et al., 2009). There is a need to be wary of the limitations as well. This type of technology-driven learning may divorce students into delving deep into the knowledge base creating an element of ignorance at times moving them away from reality and relying too much on superficial understanding in this digital age. The 'group think' aspect is a cause of concern which cannot be taken lightly as it may impact academic thought and progression (Naidoo, 2019). There is a need to understand that there are different types of learners. Some who are mature may prefer the old school of teaching rather than a virtual one. So there cannot be one-size-fits-all model, and we cannot just assume that everyone is well versed with technology and would be able to benefit from technology use to enhance their learning and engagement. In addition, the

stereotype assumption that generation z is all for and into technology may still be a far cry and needs to be looked at more carefully (Kirschner & De Bruyckere, 2017). The myth that students of generation z are better at the use of technology is actually fading away as they are caught more in a spiral of technology overload where they are finding it difficult to step away from it all and are overwhelmed. It seems like more of a simplistic explanation where proponents of technology use in higher education are riding on the bandwagon of the generation gap to shy away from the core issues of the generation which may be linked more to their lack of in-depth knowledge and being inept to have a regimented study regime due to the flexibility provided to them through the use of technology for their learning and engagement (Margaryan et al., 2011).

The role of the right platform is paramount for the success of the blended learning approach. There are a number of platforms which have come in use for this. Universities have used Blackboard Collaborate, an existing platform embedded in university VLEs. In addition, Microsoft teams and Zoom have also come to the forefront (John, 2020). Each platform has its own advantages and shortcomings. There is flexibility catch up on recordings if live sessions are missed and also facilitating different student needs (Elsamanoudy et al., 2020). On the flip side, lack of the right Internet connectivity and minimal use of the audio/video option during discussions may impact student learning and engagement (Hamad, 2017; Chen et al., 2020). The use of Microsoft teams has grown fourfold on the back of the pandemic with almost 13 million users who access it daily (Lansmann et al., 2019; Forbes, 2019). Teams was initially started in 2017 as a meeting software for corporations, it has been able to capture the academic market as well due to the contracts secured with universities such as Staffordshire University (Donnelly, 2017; Microsoft, 2020). The reviews of the software have been good with enhanced features such as video conferencing, chat rooms, link to assessments and polls with students which have improved student learning and engagement (TechRadar, 2020). In addition, despite being a new platform, initial research suggests that the impact has been positive (Henderson et al., 2020; Rojabi, 2020). Going forward, the potential to embed assessment links such as Turnitin and also being able to emulate other more evolved VLEs such as Blackboard would go a long way in better adoption and usage of Microsoft teams and enhancing the student learning and experience in a post-pandemic blended learning world (Martin & Tapp, 2019).

Given the nature of the research which is exploratory and trying to look into the use of webinars and how they impact student learning and engagement. An analysis of literature was carried out to explore the different aspects of student learning and engagement. Given the focus of the research to particularly look at the role of technology in student learning and engagement, there is a gap which exists specifically looking at the use of webinars as an online learning tool. This would be explored further, and a research question and sub-questions were framed in light of the literature review to help to inform and explore the research at hand.

Research question of this paper is what is the role of technology specifically webinars in student learning and engagement? Also, sub-questions are as follows: What is the role of technology in general in student learning and engagement? What

are webinars and how are they used as a tool? What is the impact of webinars on student learning and engagement?

3 Methodology

The research is going to follow a constructivist approach as we are utilizing other people's opinions to form an understanding of the research topic (Creswell & Poth, 2016). The experiences of individuals pave the way to understand reality and interpret it (Saunders et al., 2007). A qualitative approach would help to understand the issue at hand in a better way as we are trying to understand experiences (Denzin & Lincoln, 2000). This is more of a case study approach utilizing qualitative methods to collect data. The use of questionnaires would be made as they are easy to administer given the time frame and nature of the topic at hand (Silverman, 2013; Yin, 2013). An ethical approval form was filled out to get approval for carrying out primary research which included a participant information sheet as well (refer to Appendix for detail). Once approved an online questionnaire was framed using Qualtrics and was piloted (Bell et al., 2018). In light of feedback from the pilot, the participants were happy with the information, instructions, language, questions and the time to fill out the survey. The questions of the survey were framed in light of the literature review (refer to Appendix for detail). The first question looked at demography to see the age of the respondents. The second part of the survey looked at the access and support available including attendance on webinars and also issue faced while accessing webinars. The third section measured learning and engagement of students through the webinars. Section 4 was more of a reflection of what was good and what can be done further. The survey was distributed to 90 business school students who have experienced both face-to-face sessions and webinars. There were 18 responses which gives almost a response rate of 20%. Once the responses were collected, the data was analysed using appropriate methods.

The objectives of this research were threefold:

1. Identifying the role of technology in student learning and engagement
2. Developing an understanding of the use of webinars as a tool
3. Understanding and analysing the impact of webinar use on student learning and engagement.

The questions framed in the questionnaire helped to fulfil the objectives of the research through their responses. There are a number of limitations to this approach. Primarily the response rate was quite low, and even for the ones who responded, not all of them gave comments in the open-ended questions section. The other limitation is with the sampling technique as given the time frame it was difficult to reach out to more people to get a better response. So a convenience sampling method was employed which impacts information and credibility (Creswell & Poth, 2016). In addition, perhaps other methods such as focus groups or one-to-one interviews could have been employed to get a more informed view (Bell et al., 2018). Despite the

limitations the research was able to give a good output which helped to frame the answers to the required research questions set out.

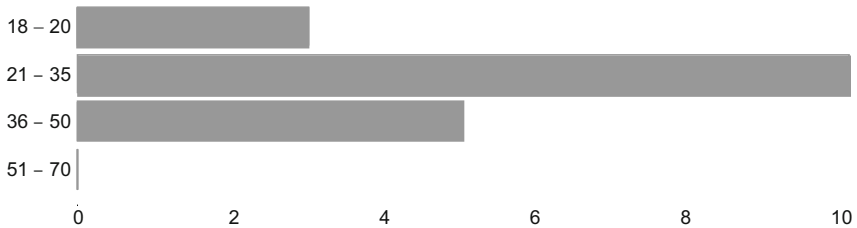
4 Findings and Analysis

The following section would analyse the responses to the questionnaire and then link it to the literature to justify the findings.

Q1 looked at the demographic and found that the majority of the respondents were between the age of 21 and 35. This data can be used for further research when we look at the impact on learning and engagement due to age (refer to Chart 1).

Q1 in Sect. 2 looked at the attendance of the webinars which has a significant impact on students’ learning and engagement because if you do not attend, the webinar engagement is lost. Majority of the students attended between one and three webinars which was quite low given the fact that the courses they took had an average of eight webinars each. An area of further research to look into is live vs recorded webinar attendance (refer to Chart 2).

Q2 in Sect. 2 looked at any issues the participants faced while accessing webinars, and majority of the students did not face any issues (refer to Chart 3). This ties into

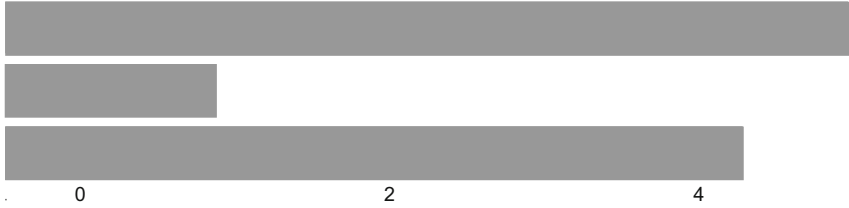


| Field | Min | Max | Mean | Standard Deviation | Variance | Responses |
|-------|-----|-----|------|--------------------|----------|-----------|
| Age | 1 | 3 | 2 | 1 | 0 | 18 |

| Field | Choice Count |
|---------|--------------|
| 18 – 20 | 3 |
| 21 – 35 | 10 |
| 36 – 50 | 5 |
| 51 – 70 | 0 |
| Total | 18 |

Source: Authors own study

Chart 1 Demographic statistics

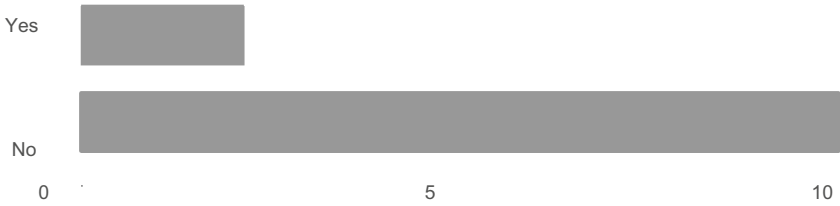


| Field | Min | Max | Mean | Standard Deviation | Variance | Responses |
|--------------------------------------|-----|-----|------|--------------------|----------|-----------|
| How many Webinars have you attended? | 1 | 3 | 2 | 1 | 1 | 17 |

| Field | Choice Count |
|-----------|--------------|
| 1 - 3 | 8 |
| 4 - 6 | 2 |
| 7 or more | 7 |
| Total | 17 |

Source: Authors own study

Chart 2 Responses to Q1 in Sect. 2

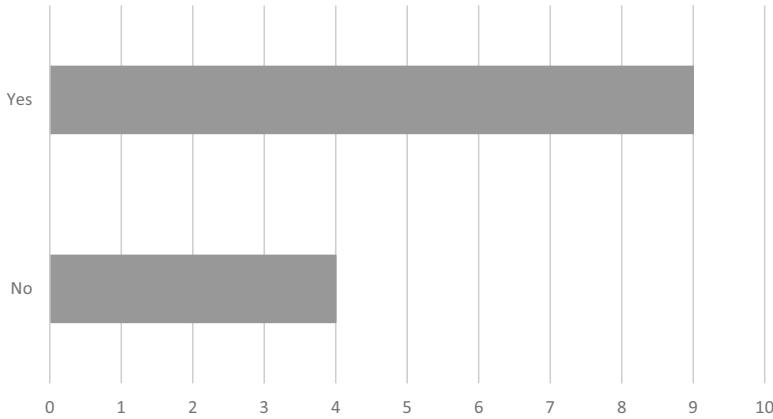


| Field | Min | Max | Mean | Standard Deviation | Variance | Responses |
|---|-----|-----|------|--------------------|----------|-----------|
| Did you face any technical issues while accessing Webinars? | 1 | 2 | 2 | 0 | 0 | 17 |

| Field | Choice Count |
|-------|--------------|
| Yes | 3 |
| No | 14 |
| Total | 17 |

Source: Authors own study

Chart 3 Responses to Q2 in Sect. 2



| Field | Min | Max | Mean | Standard Deviation | Variance | Responses |
|--|--------------|-----|------|--------------------|----------|-----------|
| If yes, where you able to get the right support from the university? | 1 | 2 | 1 | 0 | 0 | 13 |
| Field | Choice Count | | | | | |
| Yes | 9 | | | | | |
| No | 4 | | | | | |
| Total | 13 | | | | | |

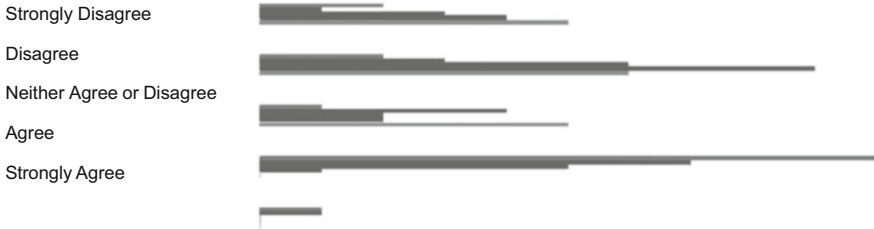
Source: Authors own study

Chart 4 Responses to Q3 in Sect. 2

the fact that there is good support available at the university to cater to any of these issues.

Q3 in Sect. 2 looked at if the students were able to get the right support in case of any issues. The majority of the students said that they were able to get the needed support (refer to Chart 4). This view was also supported by Friesen (2009) who argued that with the right support mechanisms in place, it helps students and teachers alike.

Q1 in Sect. 3 which looked at learning and engagement focused on usefulness of webinars in delivering course content. Ten agreed and one strongly agreed to this notion. This is a positive feedback for the use of webinars in course delivery (refer to Chart 5). This was supported further by the responses to Q1 in Section 4 as they can be used for revision and recordings can be made use of. This view is also supported by Heflin et al. (2017). In addition, there is less distraction in a webinar compared to a class, and also they give flexibility to the learner. This view is also supported by Mountford-Zimdars et al. (2015).



| | |
|---|----------------------|
| ● | 1. I find that we... |
| ● | 2. I find that we... |
| ● | 3. I find webinar... |
| ● | 4. I am more like... |
| ● | 5. I am more like... |

| Field | Min | Max | Mean | Standard Deviation | Variance | Responses |
|--|-----|-----|------|--------------------|----------|-----------|
| 1. I find that webinars are useful for delivering course content | 1 | 5 | 3 | 1 | 1 | 16 |
| 2. I find that webinars help me develop skills in the subject that is being taught | 1 | 5 | 3 | 1 | 1 | 16 |
| 3. I find webinars engaging | 1 | 4 | 3 | 1 | 1 | 16 |
| 4. I am more likely to contribute to a webinar discussion than in a face to face class | 1 | 4 | 2 | 1 | 1 | 16 |
| 5. I am more likely to prepare for a webinar rather than a face to face class | 1 | 3 | 2 | 1 | 1 | 16 |

Source: Authors own study

Chart 5 Responses to Q1 in Sect. 3

In Q2 Sect. 3 which looked at webinars developing subject skills, seven agreed and one strongly agreed with this notion. This is a positive impact of webinars to improve subject skills (refer to Chart 5). This was also further supported by the responses to Q1 in Sect. 4 as there is an opportunity to get active feedback and probe further where needed for the benefit of the learner. This view is also supported by Heflin et al. (2017) and Machin et al. (2016).

Q3 in Sect. 3 looked at whether the students found the webinars engaging. Five agreed while six disagreed with the notion. This is something which needs to be looked into further (refer to Chart 5). This was further supported by the responses to

Q1 in Sect. 4 where students felt they could be more engaging than just reading the slides. Also in Q2 of Sect. 4, students felt more activities could be used to engage students. In addition, training of staff would also benefit in improving the webinar delivery; this view was also supported by Henriksen et al. (2019). Technical issues at times made it difficult to follow through on the webinar which was also pointed out by Middleton (2018).

Q4 in Sect. 3 looks at preference of contribution by the student, and the majority disagreed with the notion and believed they would contribute more to a face-to-face session rather than a webinar (refer to Chart 5). This also depends on the type of learner as Kizilcec and Goldfarb (2019) argued that there needs to be a mindset of independent learning for students to benefit from technology.

Q5 in Sect. 3 looks at the preparation aspect of the webinar where they disagreed with the notion and felt that they are less likely to prepare for a webinar than a face-to-face session (refer to Chart 5).

These findings would help frame the recommendations to improve webinar delivery in turn impacting student learning and engagement.

5 Conclusion and Recommendations

In light of the above discussion, it is clearly manifest that there needs to be a holistic approach which needs to be taken to understand the nature and the use of technology to enhance the learning and engagement of students through the use of technology. The research set out to explore the relevant literature in the subject and on the basis of that research questions were framed. This process fed into framing the questions for the primary research, and it was carried out using an online survey. The results of the survey have been analysed and show an overall positive impact of webinars for students' learning and engagement. Given the circumstances there is still a lot of opportunity to improve on webinar delivery, and in light of the literature and the research findings, there is a lot of opportunity for improvement. The following suggestions in light of the findings would go a long way in improving webinar delivery and in turn improve student learning and engagement.

1. There is a need to have the right support mechanisms from the university in place for the webinar delivery on different platforms to be successful.
2. The availability of timely recordings is essential as it benefits the student and gives flexibility to students with varying learning needs.
3. The student and the teacher both need to be trained to fully utilize the benefits from webinars on different platforms.
4. Technical issues need to be ironed out as soon as possible to ensure consistency in the delivery of webinars on different platforms.
5. There needs to be a mindset of independent learning which needs to be developed for students to benefit from technology.

Concluding the above discussion, it can be safely argued that despite the growing concern with the youth being overwhelmed with technology having a negative impact on their mental health due to addiction to it (Shoukat, 2019). It is the order of the day, and universities who are not early adopters of technology in their teaching and learning seem to be at a loss. It is high time that technology was used in the right way to maximize the benefit from it. In addition, a more informed approach needs to be undertaken when framing policies for technology in the higher education sector. This should involve all stakeholders and would go a long way in supporting the use of technology and enhancing student learning and engagement.

Reflecting on the research paper, a lot of interesting areas have been discovered in the literature review, and there is a lot of potential for further research which can be carried out. Going forwards a more detailed research can be carried out with a larger sample size. The current research was limited due to the time frame and the nature of the project. Although the research can be deemed to be valid and reliable, there are further steps which can be taken to reinforce this such as using different data collection methods and different sampling techniques (Guba & Lincoln, 1994). This is something which can be explored when further research is carried out.

Appendix

Participant Information Sheet and Questionnaire

Title of Research Project: The role of technology in student learning and engagement: The case of the webinar
Researcher: Dr. Mohammad Ali Wasim.

University School: Staffordshire Business School

Invitation: I would like to ask if you would be willing to take part in the following research. It is important for you to understand why I am doing this project and what it would involve for you if you decide to take part. Please take time to read the information carefully and take time to think about whether you would like to take part.

- Your involvement in the research is voluntary.
- You may withdraw from the research at any time and for any reason.
- You can omit any questions you do not want to answer.
- Your answers will be anonymous, and the data will be treated with full confidentiality and, if published, it will not be identifiable as theirs.
- You will be given the opportunity to be debriefed, i.e. to find out more about the study and its results.

What Is This Study About

This study will look into the use of webinars and how they impact student learning and engagement.

Further Information

This investigation will be undertaken for the purpose of completing an Academic Professional Apprenticeship (APA) at Staffordshire University. If you have any questions regarding this study, then please do contact me via email. My email is Mohammad.Wasim@staffs.ac.uk, and I will be happy to discuss with you any questions you may have. Thank you for taking the time to take part.

Potential Questions

Part 1: Demographic Information

1. Age
 - 18–20
 - 21–35
 - 36–50
 - 51–70

Part 2: Access and Support

1. How many Webinars have you attended?
 - 1–3
 - 4–6
 - 7 or more
2. Did you face any technical issues while accessing webinars?
 - Yes
 - No
3. If yes, where you able to get the right support from the university?
 - Yes
 - No

Part 3: Learning and Engagement

Please select one option for each question that best reflects your opinion.

| | | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree |
|---|---|-------------------|----------|---------------------------|-------|----------------|
| 1 | I find that webinars are useful for delivering course content | 1 | 2 | 3 | 4 | 5 |
| 2 | I find that webinars help me develop skills in the subject that is being taught | 1 | 2 | 3 | 4 | 5 |
| 3 | I find webinars engaging | 1 | 2 | 3 | 4 | 5 |
| 4 | I am more likely to contribute to a webinar discussion than in a face-to-face class | 1 | 2 | 3 | 4 | 5 |
| 5 | I am more likely to prepare for a webinar rather than a face-to-face class | 1 | 2 | 3 | 4 | 5 |

Part 4: Reflection

1. What do you find useful in our Webinars? Please explain

2. How can Webinars be made more useful for your learning and engagement? Please explain.

Q1—What do you find useful in our webinars?
 Please explain.

What do you find useful in our Webinars? Please explain.

1. They allow active feedback while also being recorded so that they can be used for revision.
2. As I work alongside university, webinars for me are especially helpful. The good thing about webinars as well is that you can rewatch them if you wish to help get a better understanding of the topic, and there are less distractions than in a classroom.

3. There is more explanation, rather than just boring PowerPoint slides.
4. It is good to have a recording of the webinars for future reference, and the ability to catch up if I'm not available for the live one.

Q2—How can webinars be made more useful for your learning and engagement? Please explain.

How can Webinars be made more useful for your learning and engagement? Please explain.

1. Ensure that content is concise and lacks in technical issues at the presenter's end. There also needs to be some interactivity in the webinar, as it is far too easy to lose focus if there is nothing to engage with.
2. I think if some of the lecturers had a bit more training on how to fully use the webinars to their full potential as some are very interactive with voting, polls, writing on the board, etc. which is very engaging while other just deliver their presentation.
3. The type of webinars varies depending on lecturer. I find some webinars more engaging and easier to follow than others.

References

- Beetham, H., & Sharpe, R. (Eds.). (2013). *Rethinking pedagogy for a digital age: Designing for 21st century learning*. Routledge.
- Beggs, T. A. (2000). Influences and barriers to the adoption of instructional technology. In *Proceedings of the Mid-south Instructional Technology Conference*
- Bell, E., Bryman, A., & Harley, B. (2018). *Business research methods*. Oxford University Press.
- Bognar, B., Gajger, V., & Ivic, V. (2015). Constructivist E-learning in higher education. *Online Submission*.
- Chen, J. C., Dobinson, T., & Kent, S. (2020). Students' perspectives on the impact of blackboard collaborate on Open University Australia (OUA) online learning. *Journal of Educators Online*, 17(1), n1.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
- Denzin, N. K., & Lincoln, Y. (2000). *Handbook of qualitative research*. Sage Publications.
- Donnelly, C. (2017). *Staffordshire university goes all-in on Microsoft azure for digital transformation*. [Online] [ComputerWeekly.com](https://www.computerweekly.com/feature/Staffordshire-University-on-going-all-in-on-Microsoft-Azure-for-digital-transformation). Available at: <https://www.computerweekly.com/feature/Staffordshire-University-on-going-all-in-on-Microsoft-Azure-for-digital-transformation>.
- Elsamanoudy, A. Z., Al Fayz, F., & Hassaniien, M. (2020). Adapting blackboard-collaborate ultra as an interactive online learning tool during the COVID-19 pandemic. *Journal of Microscopy and Ultrastructure*, 8(4), 213.
- Forbes. (2019). *Microsoft teams hits 13 million users to tighten grip on slack*. [Online] Available at: <https://www.forbes.com/sites/adrianbridgwater/2019/07/12/microsoft-teams-hits-13-million-users-to-tighten-grip-on-slack/#1964483b5351>.
- Friesen, N. (2009). *Re-thinking e-learning research: Foundations, methods, and practices* (Vol. 333). Peter Lang.
- Fry, H., Ketteridge, S., & Marshall, S. (2008). *A handbook for teaching and learning in higher education: Enhancing academic practice*. Routledge.

- Glover, I., Hepplestone, S., Parkin, H. J., Rodger, H., & Irwin, B. (2016). Pedagogy first: Realizing technology enhanced learning by focusing on teaching practice. *British Journal of Educational Technology*, 47(5), 993–1002.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). Sage.
- Hamad, M. M. (2017). Pros & cons of using blackboard collaborate for Blended learning on Students' learning outcomes. *Higher Education Studies*, 7(2), 7–16.
- Heflin, H., Shewmaker, J., & Nguyen, J. (2017). Impact of mobile technology on student attitudes, engagement, and learning. *Computers & Education*, 107, 91–99.
- Henderson, D., Woodcock, H., Mehta, J., Khan, N., Shivji, V., Richardson, C., Aya, H., Ziser, S., Pollara, G., & Burns, A. (2020). Keep calm and carry on learning: Using Microsoft teams to deliver a medical education program during the COVID-19 pandemic. *Future Healthcare Journal*, 7(3), e67.
- Henriksen, D., Mehta, R., & Rosenberg, J. (2019). Supporting A creatively focused technology fluent mindset among educators: Survey results from a five-year inquiry into teachers' confidence in using technology. *Journal of Technology and Teacher Education*, 27(1), 63–95.
- John, A. S. (2020). *It's not just zoom*. Google Meet, Microsoft Teams, and Webex Have Privacy Issues, Too.
- Kelly, R. (2019). Leadership development and mindsets—From directive to collective behavior. In *Constructing leadership 4.0* (pp. 123–152). Palgrave Macmillan.
- Kirkwood, A., & Price, L. (2014). Technology-enhanced learning and teaching in higher education: What is 'enhanced' and how do we know? A critical literature review. *Learning, Media and Technology*, 39(1), 6–36.
- Kirschner, P. A., & De Bruyckere, P. (2017). The myths of the digital native and the multitasker. *Teaching and Teacher Education*, 67, 135–142.
- Kizilcec, R. F., & Goldfarb, D. (2019). Growth mindset predicts student achievement and behavior in Mobile learning. In *Proceedings of the Sixth (2019) ACM Conference on Learning* (pp. 1–8). ACM.
- Koohang, A., Riley, L., Smith, T., & Schreurs, J. (2009). E-learning and constructivism: From theory to application. *Interdisciplinary Journal of E-Learning and Learning Objects*, 5(1), 91–109.
- Lansmann, S., Schallenmüller, S., & Rigby, M. (2019). *Teams everywhere - investigating the impact of Microsoft teams on knowledge worker* (pp. 1–5). Research-in-Progress.
- Machin, L., Hindmarch, D., Murray, S., & Richardson, T. (2016). *A complete guide to the level 5 diploma in education and training*. Critical Publishing.
- Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education*, 56(2), 429–440.
- Martin, L., & Tapp, D. (2019). Teaching with teams: An introduction to teaching an undergraduate law module using Microsoft teams. *Innovative Practice in Higher Education*, 3(3), 58–66.
- Microsoft. (2020). *Microsoft teams: Nothing can stop a team*. [Online] Available at: <https://www.microsoft.com/en-gb/microsoft-365/microsoft-teams/group-chat-software>
- Middleton, A. (2018). Reimagining spaces for learning in higher Education. *Innovative Practice in Higher Education*, 3(3).
- Mountford-Zimdars, A. K., Sanders, J., Jones, S., Sabri, D., & Moore, J. (2015). *Causes of differences in student outcomes*. Higher Education Funding Council for England.
- Mughal, F., & Zafar, A. (2011). Experiential learning from a constructivist perspective: Reconceptualizing the Kolbian cycle. *International Journal of Learning and Development*, 1(2), 27–37.
- Naidoo, M. (2019). The nature and application of formational learning in the distance medium. *HTS Theological Studies*, 75(1), 1–7.
- Porter, W. W., Graham, C. R., Spring, K. A., & Welch, K. R. (2014). Blended learning in higher education: Institutional adoption and implementation. *Computers & Education*, 75, 185–195.

- Rojabi, A. R. (2020). Exploring EFL Students' perception of online learning via Microsoft teams: University level in Indonesia. *English Language Teaching Educational Journal*, 3(2), 163–173.
- Rosen, L. D. (2010). *Rewired: Understanding the iGeneration and the way they learn*. St. Martin's Press.
- Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods*. Business Students.
- Shoukat, S. (2019). Cell phone addiction and psychological and physiological health in adolescents. *EXCLI Journal*, 18, 47.
- Silverman, D. (2013). *Doing qualitative research: A practical handbook*. SAGE Publications Limited.
- Sterrett, W. L., & Richardson, J. W. (2019). The change-ready leadership of technology-savvy superintendents. *Journal of Educational Administration*, 57(3), 227–242.
- TechRadar. (2020). *Microsoft teams review*. [Online] Available at: <https://www.techradar.com/uk/reviews/microsoft-teams>.
- Walker, R., Voce, J., & Ahmed, J. (2012). *2012 survey of technology enhanced learning for higher education in the UK*. Universities and Colleges Information Systems Association. Accessed March 22, 2018.
- Yin, R. K. (2013). *Case study research: Design and methods*. Sage publications.

Investigation of Higher Education Teacher Adoption of Microsoft Teams: Managing Behaviour through Online Delivery and Promoting Positive Usage



Kathryn Mitchell and Mohammad Ali Wasim

Abstract The continuous expectation that UK educational institutions are to adopt and embed the latest technological advances in their practice to provide the best learning experience, up to now, has been a steady development. The COVID-19 pandemic has been a catalyst for change, forcing teachers to deliver learning online for all disciplines. This research aimed to identify the key barriers that higher education (HE) teachers encounter when delivering learning online through Microsoft Teams, with focus on managing behaviour and promoting positive usage. The hypothesis was built around expecting several variables in relation to teacher confidence and competence levels which may have had an impact on their experience. This is a conceptual paper based on the experiences and perceptions of HE teachers using Microsoft Teams to deliver online learning. Through an inductive approach, guided by action research, the research has worked towards establishing a set of comprehensive themes. This methodological approach has generated impactful conclusions which have been transformed to enable practical outputs against the Staffordshire University strategy. The research gained understanding of teacher perceptions and how this has an impact on the student experience in a broader scope than was initially expected. Further research is recommended to test perception changes outside of the COVID-19 pandemic.

Keywords Online learning · Microsoft Teams · Subjective barriers · Teacher competence · HE responsibility · Skill development

1 Introduction

This paper explores the impacts of the global pandemic, COVID-19, and how it transformed higher education institutions' usage of Microsoft Teams for online delivery. An abrupt shift to online teaching and learning and thus lack of time to

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support staff (Martzoukou (Academic libraries in COVID-19: a renewed mission for digital literacy, 2020)), research motivations arose from the need for strategic planning to ensure that the impact on the student experience is minimised. There is also an incentive in this paper to address the gap in theories for managing behaviour online. Whilst acknowledged that face to face is a different dynamic to online (Clarke, 2008), no specific theories have been found to support this.

Therefore, the research investigates teacher confidence and competence levels when managing behaviour through online delivery on Microsoft Teams. The study identifies the key barriers that teachers encounter, which has then informed a training framework for practical application. The context of this research looks at the perspective of the teacher. Often the student perspective is focused on; however, it is clear that teacher confidence and competence impact the overall experience that the student receives (Waters, 2012). The rationale for this research evolves from the use of Microsoft Teams at Staffordshire University, with the long-term objective that they will become a 'Microsoft University', utilising the software for teaching, learning and assessment. The choice of the specific technology to deliver online learning is not considered the key factor of success; however, it is impactful to the student experience (Conrad & Donaldson, 2011).

This research addresses the limited exploration of Microsoft Teams as a specific tool. Other studies have established that the use of Microsoft Teams is increasing in organisations (Lansmann et al., 2019) and positive connotations have been projected by teachers on the use of the technology (Martin & Tapp, 2019). This research has gained understanding of the feelings and experiences of Staffordshire University teachers in adopting Microsoft Teams to enhance practice. Academic contribution has been established, with the continuing development of the proposed strategic framework to support teacher confidence and competency. Participation in executing the proposed framework is an opportunity for the wider higher education sector, with influence already from universities in Egypt, Spain and Germany. A significant finding presented that training pre-established prior to the global pandemic was not appropriate in those circumstances. Whilst it has been acknowledged that the pandemic was unexpected, it has still highlighted the need for a more strategic approach to online teaching support.

This paper firstly reviews literature, before justifying the chosen methodology for the research execution. Results are analysed through the emerged themes that were highlighted through qualitative data analysis. Finally, practical recommendations alongside a proposed strategic framework for training HE staff have been presented, with reference to the small-scale nature and therefore opportunity for further research.

2 Literature Review

The research will investigate technology-enhanced learning in a higher education (HE) environment, with a focus on managing behaviour online and promoting positive usage. The research aims to develop a conceptual understanding of the research topic (Wisker, Developing doctoral authors: engaging with theoretical perspectives through the literature review, 2015), interpretation of theoretical perspectives and reading from a variety of sources has been carried out. This includes new literature developments (Basit, 2010), specifically around the use of Microsoft Teams within HE and the impacts of the global pandemic, COVID-19, on higher education institutions.

2.1 *The Role of Technology-Enhanced Learning*

Traditionally HE was based on a physical location where students shared a community learning space (Clarke, 2008) which represented and influenced institution quality perceptions. TEL has now become a significant factor in universities marketing their teaching quality (Polkinghorne et al., 2017), impacting the awarded score for the teaching excellence framework (TEF). This impact has been clear for Staffordshire University who improved their score and were awarded ‘TEF Gold’ in 2019 (Times Higher Education, What is the TEF? Results of the teaching excellence framework 2019, 2019b). It is clear from research that there is an expectation of progressive integration of technology within HE; however, it has not been without its criticisms. Concerns regarding introducing technology to current learning environments have arisen, with the potential to diminish essential pedagogical elements (Lewin & Lundie, 2016). For context, pedagogy is the emergent and consistent practice of teaching (Grootenboer et al., 2017) with theoretical focus. Studies have shown that TEL provides opportunities for HE to inspire flexible pedagogies (Gordon, 2014). Other studies have found that teachers are aware of the expectation that they need to be pedagogically and technically assured (Marta-Lazo et al., 2019). The topics’ subjective nature makes it difficult to acquire concrete conclusions; however, these studies clearly demonstrate the requirement for further substantial research into the area.

Arguably, TEL can be designed to embed traditional teaching methods (Race & Pickford, Making Teaching Work: ‘teaching smarter’ in post-compulsory education, 2007). In a ‘pedagogy first’ approach developed by Sheffield Hallam University, they found in early stages of testing their approach that it was received favourably by staff (Glover et al., 2016), showing evidence of positive attitudes towards integrating pedagogy and TEL. It would be interesting to explore further study in this area, to understand if there has been any long-term impact. On the other hand, Lewin et al. (Developing digital pedagogy through learning design: An activity theory perspective, 2018) found that pressures concerning fulfilling the curriculum restrict teachers’

development in digital pedagogy. This is not specifically representative of HE; however, there was a significant number of teachers that participated, 500 in total across 15 European countries. Therefore, a robust study which identifies barriers which may occur when adopting TEL.

An identified benefit of TEL is the ability to digitally video record lectures, providing students with the opportunity to engage in blended learning and consolidation (Edwards & Clinton, 2018). Considered as ‘disruptive pedagogy’ (Kinash et al., 2015), video technology is also used in real-time learning aiding the move into constructivism, providing students with varied learning experiences (Carmichael et al., 2018). In addition, this technology can help to support increasingly diverse learning needs (Race & Pickford, Making Teaching Work: ‘teaching smarter’ in post-compulsory education, 2007), particularly for digital native learners who may ‘prefer processing pictures, sounds and video before text’, as identified from Australian research carried out by Clarke and Clarke (Born digital? Pedagogy and computer-assisted learning, 2009). This evidence suggests that the HE sector is responding to the technological innovations that are shaping society (Times Higher Education, Understanding Digital Society, 2019a).

2.2 *Managing Behaviour Online*

Literature refers to students’ generally poor learning-related technology skills (Weller, 2011), which can lead to behavioural barriers for teachers. Whilst this is well-informed research, Weller (The Digital Scholar: How technology is transforming scholarly practice, 2011) claims that ‘technologies change daily’; therefore 9 years on, arguably this research is dated, considering the predicted digital developments. It must be considered that student skills have progressed too and perhaps there is now an assumption that people already have technological understanding (Clarke, 2008). Evidence of this is apparent in the 25-participant study conducted by Anderson et al. (Supporting Business Students’ transition into higher education: the case of marketing downloads, 2016), who found that new generations of students are demonstrating differing learning experiences and enhanced digital skills. This finding is not an industry-wide representation due to the small-scale research, particularly as contradictory studies have shown that even with enhanced skills, managing behaviour will not be successful without full engagement from the learner (Waters, 2012).

Behaviourism is apparent in e-learning, which is possibly convenient as behaviourism can still be effective when working with students who may need more direction (Bates, 2019). It could be said that ‘behaviour’ could mean a number of things; however, research is in support of providing guidelines to ‘ensure that online behaviour is always appropriate’ (Chelliah & Field, 2014) and that expectations have been raised by establishing the netiquette from the beginning (Morss & Murray, 2005).

Theories for managing behaviour do not necessarily specify techniques for online; however, the foundations of Canter's 'Assertive Discipline' theory stated that the implications of uncertain expectations could lead to a failed learning environment (Bates, 2019). Managing behaviour face to face is a different dynamic to online (Clarke, 2008), thus highlighting a gap in theoretical support for teachers.

2.3 Teachers' Adoption of E-Learning

There have found to be several advantages to technology being used in teaching (Benfield, 2002), but it would be fair to acknowledge that it may take time for a beginner to become accustomed. In a study of teachers' attitudes towards technology, with 225 certified education professionals, it was found that 52% had a positive connotation towards integrating technology (Banas, 2010). The study highlighted that common barriers for teachers included time, knowledge/skills and confidence. Other small-scale research found confidence to be a common construct towards technology integration, alongside enjoyment and anxiety (Njiku et al., 2019). It is important to acknowledge here that individual barriers are open to interpretation (Clarke, 2008) and the environment in which you practice could have an effect on self-assessment of ability. Berne's Confidence and the Values model (Bates, 2019) explores challenging your existing beliefs and encouraging a more constructive view of your ability. Using guidance from Berne's model, an open and honest attitude will be stimulated through the research methodology, to encourage accuracy in the findings of this research.

The above investigation has raised curiosity of whether the responsibility is with HE institutions to support personal and professional development or whether individual professionals are expected to take responsibility for their own understanding and practice of TEL (Morss & Murray, 2005). There is risk of online learning being led by those that are 'well-versed' rather than those who are trained in the processes of teaching and learning (Race & Pickford, Making Teaching Work: 'teaching smarter' in post-compulsory education, 2007), posing the question of whose responsibility is it to ensure competency in both areas?

Research shows that attitudes can be positively impacted when there is adequate technology integration training (Christensen, 2002). This study was based on primary school teachers; therefore, it cannot be assumed that there would be the same outcome for HE teachers. However, in an American study on 197 academics from various disciplines, Bigatel et al. (The Identification of Competencies for Online Teaching Success, 2012) found that providing professional development to teachers is critical to successful online delivery. Whilst the need for training at this point cannot be assumed, there is significant research that would suggest that e-learning competency development supports positive delivery. Perhaps this would also be the case for adopting TEL in the first instance.

2.4 Delivering Learning through Microsoft Teams

Although there are several platforms that can be used, using digital to enhance delivery does not need to be complex (Pickering, 2015). However, it has been suggested that using technology to transform teaching ‘is a complex activity’ (Kirkwood & Price, 2014) which implies that the ability to implement TEL is subjective. Therefore, the choice of tech is not necessarily the key to successful learning online but is an important contributor to that success (Conrad & Donaldson, 2011).

The impact of using Microsoft Teams in organisations is increasing (Lansmann et al., 2019) with 13 million daily users (Forbes, 2019). The software is still in its infancy, having been first released in 2017 (Microsoft, 2020); therefore, literature to evidence that impact is limited. A Staffordshire University academic has carried out a small study on Microsoft Teams (Martin & Tapp, 2019), establishing that the software is still in an embryonic stage, but feedback from participants was positive. For an understanding of the software, a review from TechRadar (Microsoft Teams Review, 2020) highlighted key functionalities including video conferencing, screen sharing, live chat, call recording and live polls and assessments. This source was selected to avoid bias information from Microsoft.

With focus being on the teacher upholding the confidence, there are unlimited opportunities for students to develop these skills (Barber et al., 2015), and HE should champion this, particularly with the growth in student accountability in achieving learning outcomes (Orîndaru, 2015). As universities have increased opportunities in learning online, with some courses fully online (Redmond et al., 2018), understanding the impact requires further investigation and consideration. There was extensive research carried out in 2015, perhaps due to the noticeable developments in technology in learning. Clearly it can be acknowledged that research on TEL in HE was more informed by that time. Now another 5 years on, it will be interesting to understand the impact on Staffordshire University Business School.

2.5 New Literature

Since the research topic was proposed, universities from 191 countries have been closed to prevent the spread of COVID-19 (Cesco et al., 2021), but using Microsoft Teams has been an effective way to keep learning ongoing (Mai, 2021). Due to still experiencing the pandemic, Martzoukou (Academic libraries in COVID-19: a renewed mission for digital literacy, 2020) acknowledges that HE institutions may not have the time to ensure staff are supported, but still expect that students are developing digital literacy. The sentiment here suggests that the involuntary shift to online delivery has seen acknowledgement of student challenges but not the mental stress that teachers are facing (Mohapatra, 2020), an area which has been addressed

in the research execution. The academic publications presented are across the UK, India, Italy and Vietnam, providing a global perspective of the research topic.

Higher Education news presents the difficulties faced by teachers from the abrupt transition to online delivery during the pandemic lockdown. Whilst technology was made accessible by HE institutions, teachers are exhausted with participants sharing that teaching online is ‘utterly draining’ and mentally and physically tiring (Times Educational Supplement, 2021). The Times Higher Education (Upskill fatigue: will hybrid and hyflex tip academics over the edge? 2021) suggested that the achieved transition ‘would normally be a five-year transformation’ and so it is no surprise that the conditions have led to high levels of fatigue. In a survey of 3500 participants conducted in New Zealand, 70% agreed that planning time had increased ‘significantly’, and almost half expressed that they were not confident in meeting learner needs through Microsoft Teams and other technologies (The Educator Australia, 2020). The findings from new literature solidify the research aim to develop a training framework to support teacher confidence and competence in online delivery.

3 Methodology Evaluation

This research is a qualitative study, with an inductive approach, following the Action Research Cycle (McNiff, 2017). Data was collected through semi-structured focus groups and interviews, virtually through Microsoft Teams. Pragmatic decision-making was used to encourage an open insight during the data collection (Costley & Fulton, 2019). This was due to the disruption that the pandemic had caused on teaching staff, and therefore it was considered that thoughts and experiences may be influenced by the unique circumstance. It proved helpful for the researcher to also be a HE teacher as the element of empathy supported in participants having a safe space to answer open and honestly (Crang & Cook, 2007).

The research design proved successful in addressing the aim and hypothesis. Key contributing factors were the open-ended questions and the opportunity for the researcher to probe around the variables identified (Bell & Waters, 2018). However, there is scope for more questions to be asked around this research aim. Participants were consistently forthcoming with thoughts and experiences, an attitude that was perhaps not expected to this level. It was understood that action research allows for collaboration and mutual understanding between the researcher and practitioner (McNiff, 2017). This was particularly apparent; therefore, if similar research is carried out again, the researcher must consider that this is a topic which the participants possibly feel a close connection too, particularly if an opportunity to see impactful results is presented.

The biggest challenge faced in this study was time management. Being in practice and facing a number of the barriers such as learning planning time increase and heightened expectations from students, which have since been shared with the participants, it meant that the timeline was amended appropriately. Flexibility

around time has meant that data collection and analysis of findings have not been rushed and therefore research integrity is not affected.

3.1 Data Collection

The aim was to collect data over two parts, to provide participants with the opportunity to review the outputs established from part 1 of the study. Part of amending the timeline for the study, it was decided to remove Part 2 of the data collection. However, there was an opportunity to propose the output ideas during a poster presentation with fellow colleagues and peers within Staffordshire University. The proposal of a semi-structured training framework to support teachers was well received and has been considered in the recommendations.

The semi-structure approach to questioning was very successful; it was clear that this is a favourable method for education research (Basit, 2010). This allowed participants to explore all topics in their own way without being influenced, which may have restricted their answer. Perhaps guidance from Cohen et al. (Research Methods in Education, 2018) here in the question development phase encouraged the open exploration from the participants, as it was ensured that there was absolute clarity in what the question was asking (Appendix). The literature review influenced the questions significantly. Specifically, the new literature published in the last few months presented a number of challenges for HE teachers which were relevant to the study. The length of some responses was surprisingly long, which demonstrated that participants felt safe to explore their thoughts openly. A conclusion based on observing the participants during the data collection is that perhaps they felt a little more comfortable to share honest thoughts due to being in a focus group or interview with teaching staff that they do not work with inside the university. This conclusion is subjective; however, the approach avoided participants feeling that they needed to share thoughts which were more 'socially acceptable' (Crang & Cook, 2007) and in turn preventing the data from being invalid.

3.2 Achieved Sample

Originally, Staffordshire University Business School was selected as the research sample; this is the researcher's practice discipline area, and therefore the environment was understood from experience (Crang & Cook, 2007). Pragmatic decision-making was in action when it proved challenging to encourage a valuable sample size with participants from that one school. On reflection in-action (Bates, 2019), it seemed an exceptional opportunity though to widen participation to other schools, due to HE institutions globally shifting to online learning in 2020 (Cesco, et al., 2021). Whilst the research aimed to have impact on a small scale, by opening participant, it meant that the wider university could be evaluated and therefore

Table 1 Achieve sample participants

| Who? | Location? | Type of teacher role? | How many? | Discipline area |
|-------------------------|--------------------------|------------------------------------|----------------|---|
| Practicing HE lecturers | Staffordshire University | Mixture of full time and part time | 9 participants | All participants were from a range of schools within the university |

Source: Authors' own study

Table 2 How ethical considerations were managed

| Ethical area for consideration | How it was managed |
|--|--|
| Data storage | All data was stored electronically on a password-protected OneDrive account on the Staffordshire University server |
| Protection to participants | All participants have been anonymised and referred to as participant, followed by a number. Names of participants were spoken during the focus groups and interview; however, once transcripts had been devised, all recordings were permanently deleted All participants signed a consent form and read a participant information sheet prior to taking part |
| Researcher was 'Indigenous Insider' (Costley & Fulton, 2019) | Conscious of position through research discipline and following exactly what was proposed in the research protocol (Appendix) and ensuring that any thoughts shared were nonbiased or leading in any way |

Source: Authors' own study

achieve a more credible representation of Staffordshire University. Table 1 presents the achieved sample participants, including the discipline areas. Sixty percent of the original proposed 15 participants were achieved. It was hoped that the participant number would be higher; however, due to the circumstances, a number of staff interested did not have the capacity to be involved in the study. An interesting irony based on the research subject, adding to the hypothesis that teaching staff may not always have the time for additional developmental activities and other events.

3.3 Adhering to BERA Ethical Guidelines

The study has remained conscious of the BERA ethical guidelines, ensuring that participants were treated 'fairly, sensitively and with dignity' (BERA, 2018). Table 2 shows the critical ethical areas for consideration and how they were adhered to.

3.4 Research Limitations Evaluated

Several limitations were identified prior to the data collection (Cohen et al., 2018); these have now been evaluated to present how they were managed in action (Table 3).

Other limitations include ensuring that any conclusions drawn from the data collected are fair and accurate. Validity of research knowledge developed from

Table 3 Evaluation of research limitations

| Identified limitation | Proposed actions for researcher | Limitations in action |
|---|---|--|
| Technology may fail during virtual focus groups and interviews, due to poor internet connection | The focus groups and 121 interviews will be audio and video record; therefore, if the technology fails, there will be some evidence gathered. Focus groups and 121 interviews in this case would then be rearranged | At times during the online focus groups and interviews, there were pauses in the internet connection. This however did not disrupt the data collection taking place. The automatic transcript used on Microsoft teams was always working, and the transcripts were fully checked for any errors before data analysis commenced |
| Small scale, low number of participants | For this research project, the aim is to attempt to show impact to Staffordshire University business school. Once the research methodology has been tested, there may be opportunity to repeat and expand in the future. This limitation will be acknowledged throughout the analysis of findings | It was aimed to achieve at least 15 participants; 60% at 9 participants was achieved. The opportunity to repeat and expand is going to be explored in the recommendations. Based on the data collected, it would be interesting to get a larger sample |
| Participants may not have time to engage, particularly as a HE teacher role can cause fatigue (Morss & Murray, 2005) | Focus groups and 121 interviews will present flexibility around scheduling and will only be conducted for 45 minutes per slot maximum. In addition, electronic interview approach is helpful in collecting data from busy professionals (Basit, 2010) | It was decided for all focus groups and interviews to be no longer than 30 minutes. Participants were receptive to this, and it was ensured that the timescale was stuck to it |
| Participants may not be honest within their answers and discussions due to preconceived relationships with colleagues also within the focus group | Participation information sheet will ensure that participants are guided and understand that this research is not a judgement of their performance | Probing questions enabled participants to be open and not steered in a specific direction |

Source: Authors' own study

participant discussion was tested in-action by often reiterating the point that they had made, to confirm that the information had been interpreted in the correct way (McNiff, 2017).

4 Findings and Analysis

This section contains the analysis of the data collected from the focus groups and interview which were conducted during October 2020. The data is presented in a number of visual ways in order to gain new understandings of the phenomena that are reflected in the data (Basić, 2010).

4.1 Data Reporting

The data reporting process has included making sense of each collection, through the transcription process, looking for patterns and extracting themes. NVivo research software has been used to support the coding process and generate theory from qualitative data (Bell & Waters, 2018). For the purposes of this small-scale research, key emerging themes have been focused on; however, there is scope for further analysis, addressing some of the underlining issues that were highlighted. The correlation of these areas is discussed in the key themes.

The qualitative data has vast subjective characteristics; therefore surface-level factual perspective has been used to help ensure that interpretation is accurate (McNiff, 2017) and to give context around the thoughts and experiences shared by participants (Table 4).

The above overview highlights that training needs are specific to each individual, and therefore a flexible approach to training staff should be considered. Staffordshire University shows evidence of this already through the ‘Staffordshire Way’ Induction initiative which is made up of introductory information about the university and sign posting to access to varied digital systems and training. However, linking back to the findings of the literature review, there is evidence showing that lack of structure and pressures on teaching staff can lead to restricted development (Lewin et al., 2018). This evidence is supported by the perceptions of the participants who shared concerns around time and being able to plan for training time (Line 197–199), even though the training was crucial to their confidence in delivering online learning via Microsoft Teams.

Table 4 Participant surface-level factual perspective

| Participant | Experience level | Subject area | Use of MS Teams | Required support | Training completed | Purpose for using MS Teams |
|---------------|-------------------|--|-------------------------------------|--|---|----------------------------|
| Participant 1 | New staff | Business school | Never used MS teams before role | All—No experience | Training completed No time for formal training | Teaching and communicating |
| Participant 2 | Experienced staff | Health and social care | Some use of MS teams | Needs structured support | Some TEL workshops | Teaching and communicating |
| Participant 3 | Established staff | Life sciences and education | Some use of MS teams | Continuous development | Teacher training qualification | Teaching and communicating |
| Participant 4 | Established staff | Law, policing and forensics | Experienced with using MS teams | Discipline-specific support | Self-taught and advice from colleagues | Teaching and communicating |
| Participant 5 | New staff | Health and social care | Never used MS teams before role | Practical support needed | Some TEL workshops | Teaching and communicating |
| Participant 6 | New staff | Health and social care | Never used MS teams before role | All—No experience | No time for formal training | Teaching and communicating |
| Participant 7 | Established staff | Life sciences and education | Never used MS teams before COVID-19 | Practical support needed | None. Following colleagues on social media | Teaching and communicating |
| Participant 8 | Established staff | Health and social care | Some use of MS teams | Discipline-specific support | Teacher training qualification | Teaching and communicating |
| Participant 9 | Experienced staff | School of Digital, technologies and arts | Experienced with using MS teams | None—Extensive experience with systems | No formal training, self-taught | Teaching and communicating |

Source: Authors' own study

4.2 *Emerging Themes*

To readdress the variables identified in the research hypothesis, those identified proved to be accurate to the study, emerging in the themes.

4.2.1 **Emerged Theme 1: Competence and Confidence in Delivering Online**

Hypothesis variables—Discipline teaching area, Demographics such as age and type of employment contract and Level of TEL in personal education

It is clear from the results that competency and confidence across participants differ depending on individual circumstances and therefore are open to interpretation (Clarke, 2008) and therefore difficult to be conclusive. This was expected in the research, but not considered to be a limitation. This is an opportunity to explore the differing elements that build competency and work towards developing support and training appropriate for all HE teachers across disciplines.

'If you're not, you're not as convinced or competent with the whole package of teams delivery then you're not going to use all of the resources and the techniques available to enhance your teaching. Yeah, that's you know that that's a very real sort of issue. I think with a lot of lecturers'

Participant 2

The literature review found positive connotation of adopting online teaching (Banas, 2010) which has been reflected in the findings. Whilst some participants did not feel yet competent or confident in delivering sophisticated online classes, the sentiment was positive around improving and continuing to learn. This also supports previous Staffordshire University research, where participants commented positively on adopting Microsoft Teams for teaching (Martin & Tapp, 2019).

'The more you do it, the more confident you get. So, I am now very confident having done it lots of times'

Participant 4

Confidence was discussed in all focus groups and interview, which brought a number of perspectives depending on the focus. Confidence is a common construct towards technology integration (Njiku et al., 2019), and it was clear from the participants that their confidence levels depended on the students which they were teaching.

'Thankfully, I've been quite lucky. I haven't encountered any major issues yet. The students that we teach they used to kind of this online system, so one of my fears was that they're going to become like keyboard warriors'

Participant 9

The participant above discusses students being used to the technology, whilst others suggested that students were perhaps more receptive when the teacher is more confident.

'So because of the lack of knowledge and confidence around doing that, we're still debating how best'

Participant 2

'I haven't actually had the confidence yet to allow my students to break off into groups to do work because I haven't always been sure that they might come back'

Participant 5

These findings support the research aim of developing a training framework that would be flexible around the differing characteristics of multiple disciplines.

4.2.2 Emerged Theme 2: Perceptions of Appropriateness of Microsoft Teams Training

Hypothesis variable—Support from Staffordshire University

There was extensive discussion during the data collection around the training available at Staffordshire University, to support the adoption and implementation of delivering learning through Microsoft Teams. Firstly, below explores some of the perceptions of using Microsoft Teams for delivery.

'I don't think I think it is a tool and I think that just going back to your earlier question about is it appropriate VLE environment. It cannot be no matter what Microsoft do for the simple fact is, when you could log on to blackboard, it remains held on a server and you log in. Microsoft require you to load and so for that, because in order to get access to your microphone and camera and everything your axe giving them full access to all your data'

Participant 1

'So yeah, it serves two functions. Yeah, so that so it's what they used to and they get to know each other and then we can change them around to get to know other students and work with other students. So, it's very good from that perspective in terms of their behaviour'

Participant 4

'So I tried it for the very first time to try and make it a bit interesting. When I split them into breakout rooms, there was twelve students initially, and I split them into two breakout rooms, but actually 50% of my students never made it into the breakout rooms, and I found that I thought, how do I tackle this? And then equally, we have people that come into the session, turn the video, turn the microphone off'

Participant 6

This is significant to the feedback about training available. If the teacher is not receptive to using Microsoft Teams, they may not engage with the training. On the other hand, perhaps if the training had a structured approach, they may understand the functionalities for online delivery prior to practice. Linking to literature, perhaps teachers have been less receptive to learning due to the fast transition to online delivery (Times Educational Supplement, 2021). Likewise, due to the abrupt change to online, it could be that Staffordshire University suffered during the pandemic, as Martzoukou (Academic libraries in COVID-19: a renewed mission for digital literacy, 2020) suggests that there has been a lack of time to support staff. Regardless of Staffordshire University having a dedicated TEL team, these perceptions could be purely based on the unique circumstances.

'I think because I was so new when we went into lockdown, knowing all the systems, I hadn't quite learned all the university different kind of programs and systems to use affectively. And I have missed that opportunity'

Participant 5, goes on to say. . .

'I do believe the university has put forward courses that you know we can attend. Online again, but it's still not the same as somebody over. Shoulder show me how to do something on the keyboard'

The Staffordshire University Strategy includes 'embracing "digital first" in all learning and teaching', alongside 'recruiting well qualified and highly skills staff and ensure that relevant skills and qualifications are maintained' (Staffordshire University, 2021). The findings would suggest that there is a gap in the structure for achieving these elements of the strategy, particularly through those participants who openly shared that they would like to see some 'support for delivery' (Line 223–225). For context, the discussion was not based around training being available, this was specifically referring to the practicalities of implementing knowledge and skill. Using data analysis codes, in total 2/3 of the participants used language to suggest that currently the TEL training approach is not fit for purpose, supporting the rationale for a structured approach.

'If there's a potential here to develop some support for delivery, I would say it needs to be considered on a school specific or even a department specific basis. That's not to say it needs to become too fractious, but some of the generic teaching support if you like'

Participant 4

'There's an excellent teacher in our team who has been in the university for many many years, and she's actually found the changing over to delivering in this in this way very technically challenging. Well, she's found it very stressful, and you've got an excellent teacher there, you know, and it just seems a shame that she feels like that'

Participant 5

It is important to acknowledge the support that Staffordshire University does currently offer, such as a dedicated TEL team, scheduled training and an informal query group for support via Microsoft Teams. Race (The Lecture's Toolkit: A

Practical Guide to Assessment, Learning and Teaching, 2020) suggests that teachers should have a mentor; perhaps this could be adapted to a ‘digital mentor’, which in turn would support the expected tech integration (Times Higher Education, Understanding Digital Society, 2019a), reflected in the Staffordshire University Strategy.

5 Conclusion

This study is limited to the unique circumstances of the global pandemic, COVID-19. Addressing queries on quality and validity of the research is not straightforward. Costley and Fulton (Methodologies for Practice Research: Approaches for Professional Doctorates, 2019) present the conventional way of following ‘Objectivity, Generalisability and Repeatability’. It is recommended to repeat this study outside of the pandemic to test whether perceptions would be different. However academic contribution has been justified, and so this now needs to be tested and reviewed by practitioners.

To summarise, the study investigated teacher confidence and competence when managing behaviour through online delivery on Microsoft Teams. The research aimed to identify the key barriers that teachers encounter and to address these through a proposed training framework to support with practical application of skill. The research showed that confidence and competences are not limited to managing behaviour and promoting positive usage, but that discipline area and level of general teaching experience contribute.

Staffordshire University should consider the implementation of a structured approach to staff training, supported by the findings. Whether a new member of staff, established or experienced, there is a clear need for understanding whether someone is ready to provide a positive experience to students before using technology to deliver learning.

5.1 Key Recommendations Are as Follows

- Develop a diagnostic to assess level of competency and confidence with Microsoft technology.
- Explore the proposed training framework evolved from this research to provide teachers with more structured support.
- Consider the implementation of this approach in the staff Personal Development Review and new staff induction process (Murray, 2008).

HE Institutions are conscious of raising student achievement. With the presence of achievement flatlining across education, teachers are under more pressure to enhance their skills to benefit the student experience (Hattie, 2015). If teachers are not guided in their development, it may lead to consistent delivery without enhancement. The

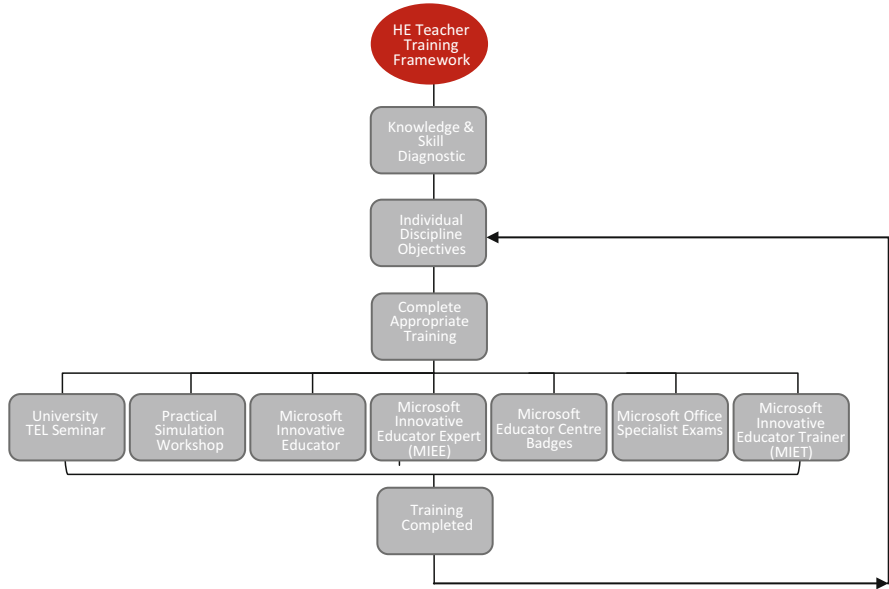


Fig. 1 Proposed Microsoft HE teacher training framework. Source: Authors’ own study

forward aim is to work with the Technology Enhanced Learning (TEL) team within Staffordshire University to identify cognitive strengths and weaknesses (Leighton & Gierl, 2007) and develop the knowledge and skills diagnostic and training framework. Perhaps once tested, the framework could be considered for further testing in other HE Institutions.

The proposed framework (Fig. 1) encourages continuous development, allowing for varied levels of competency, and addresses the continuously changing technological developments (Weller, 2011), identified in the literature review. It has a Microsoft approach, but it is acknowledged that this could be expanded further to incorporate other technologies and softwares used university wide.

Appendix: Interview/Focus Group Protocol and Proposed Questions

Research Project Interview/Focus Group Protocol and Proposed Questions

Title of Project: Investigation of HE teacher adoption of Microsoft Teams: managing behaviour through online delivery and promoting positive usage.

Researcher: Kathryn Mitchell, Lecturer, Staffordshire Business School

To contextualise this protocol document, below confirms the key areas of the research and the selected sample who will be participating.

Keywords highlighted in literature review to inform research

Subjective barriers, teacher confidence, HE responsibility, expectations, Behaviourism, skill development, digital experience

Breakdown of selected sample

| Who? | Location? | Type of teacher role? | How many? | Discipline area |
|-------------------------|--|------------------------------------|--------------------|--|
| Practicing HE lecturers | Staffordshire University business school | Mixture of full time and part time | 15–20 participants | Mixture of business, accounting and finance, marketing and tourism |

Focus Group Protocol

Before Focus Group

- Schedule an online Microsoft Teams meeting with the group of participants.
- Check Participant Consent Form has been signed.

Introduction

- Thank you for agreeing to participate.
- Check that the participants have read and understood Participant Information Sheet.
- Any questions from reading the Information Sheet?
- Brief recap of the key points:

The study will investigate HE teacher adoption of Microsoft Teams to manage behaviour through online delivery and promoting positive usage.

You were asked to participate because you met the criteria as outlined on the Participant Information Sheet.

Your answers are confidential and anonymous; you will be identified in the report as ‘Participant’ and a number.

- How the focus group will work:

Semi-structured focus group, beginning with broad questions which may lead to several topics.

The duration is 30 minutes.

Remember that there are no right or wrong answers.

You may not agree with the opinions of others, but everyone's opinion is equally valid.

Please speak one person at a time.

Reminder that the focus group will be recorded, and the recording will be archived once analysis has been completed.

During the Focus Group

- Topic 1—Experience of using Microsoft Teams for online delivery and promoting student usage (8 minutes).
- Topic 2—Thoughts on whether Microsoft Teams online delivery can sufficiently manage virtual classroom behaviour (8 minutes).
- Topic 3—Thoughts on the expectations to using more digital tools to support delivery of learning and how prepared staff feel for this (8 minutes).
- Final thoughts—Anything else not talked about that you would like to add? (6 minutes).

Closing the Focus Group

- Thank you all for your time.
- Any questions?
- Please contact me if you think of anything.

Interview Protocol

Before the Interview

- Schedule an online Microsoft Teams meeting with the participant.
- Check Participant Consent Form has been signed.

Introduction

- Thank you for agreeing to participate.
- Check that the participant has read and understood Participant Information Sheet.
- Any questions from reading the Information Sheet?
- Brief recap of the key points:

The study will investigate HE teacher adoption of Microsoft Teams to manage behaviour through online delivery and promoting positive usage.

You were asked to participate because you met the criteria as outlined on the Participant Information Sheet.

Your answers are confidential and anonymous; you will be identified in the report as 'Participant' and a number.

- How the interview will work:

Semi-structured interview, beginning with broad questions which may lead to several topics.

The duration is 20 minutes.

Remember that there are no right or wrong answers.

Reminder that the interview will be recorded, and the recording will be archived once analysis has been completed.

During the Interview

- Introductory question—What is your experience of using Microsoft Teams for online delivery?

Probe: Did you use Microsoft Teams prior to the changes that COVID-19 brought to delivery?

Probe: Do you think that Microsoft Teams is a suitable platform to be a VLE for higher education studies?

Do you feel supported in understanding how to use the technology for delivery?

Is there anything more that universities could do to encourage your confidence and competency in the use of Microsoft Teams for delivery?

- How do you feel about managing behaviour when delivering through Microsoft Teams?

Probe: Are there any types of groups of students who are more/less receptive to using Microsoft Teams for their learning?

Probe: What techniques do you use to manage behaviour through Microsoft Teams?

Probe: Are there any techniques that you have found work better/worse than others?

- Final thoughts—Anything else not talked about that you would like to add?

Closing the Focus Group

- Thank you for your time.
- Any questions?
- Please contact me if you think of anything.

Source: Authors' own study

References

- Anderson, D., Wason, H., & Southall, J. (2016). Supporting business Students' transition into higher education: The case of marketing downloads. *Teaching in Higher Education, 21*(8), 978–989.
- Banas, J. R. (2010). Teachers' attitudes toward technology: Considerations for designing preservice and practicing teacher instruction. *Community & Junior College Libraries, 16*(2), 114–127.
- Barber, W., King, S., & Buchanan, S. (2015). Problem based learning and authentic assessment in digital pedagogy: Embracing the role of collaborative communities. *The Electronic Journal of e-Learning, 13*(2), 59–67.
- Basit, T. N. (2010). *Conducting research in educational contexts*. Continuum International Publishing Group.
- Bates, B. (2019). *Learning theories simplified* (2nd ed.). SAGE Publications.
- Bell, J., & Waters, S. (2018). *Doing your research project: A guide for first-time researchers* (7th ed.). Open University Press.
- Benfield, G. (2002). *Designing and managing effective online discussions*. [Online] Available at: https://www.brookes.ac.uk/documents/ocslid/online_discussions/ [Accessed 10 May 2020].
- BERA. (2018). Ethical GUIDelines for educational research. In 4. British Educational Research Association (BERA).
- Bigatel, P. M., et al. (2012). The identification of competencies for online teaching success. *Journal of Asynchronous Learning Networks, 16*(1), 59–77.
- Carmichael, M., Reid, A.-K., & Karpicke, J. D. (2018). *Assessing the impact of educational video on student engagement, critical thinking and learning: The current state of play*. SAGE Publications.
- Cesco, S., et al. (2021). Higher education in the first year of COVID 19: Thoughts and perspectives for the future. *International Journal of Higher Education, 10*(3), 285–194.
- Chelliah, J., & Field, J. (2014). Managing the risks of social media: Ways to ensure that online behaviour is always appropriate. *Human Resource Management International Digest, 22*(5), 39–41.
- Christensen, R. (2002). Effects of technology integration education on the attitudes of teachers and students. *Journal of Research on Technology in Education, 34*(4), 411–433.
- Clarke, A. (2008). *E-Learning skills* (2nd ed.). Palgrave Macmillan.
- Clarke, T., & Clarke, E. (2009). Born digital? Pedagogy and computer-assisted learning. *Education and Training, 51*(5/6), 395–407.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
- Conrad, R.-M., & Donaldson, J. A. (2011). *Engaging the online learner: Activities and resources for creative instruction*. John Wiley & Sons.
- Costley, C., & Fulton, J. (2019). *Methodologies for practice research: Approaches for professional doctorates*. SAGE Publications Ltd..
- Crang, M., & Cook, I. (2007). *Doing ethnographies*. SAGE Publications Ltd..
- Edwards, M. R., & Clinton, M. E. (2018). A study exploring the impact of lecture capture availability and lecture capture usage on student attendance and attainment. *High Education, 77*, 403–421.
- Forbes. (2019). *Microsoft teams hits 13 million users to tighten grip on slack*. [Online] Available at: <https://www.forbes.com/sites/adrianbridgwater/2019/07/12/microsoft-teams-hits-13-million-users-to-tighten-grip-on-slack/#1964483b5351> [Accessed 17 May 2020].
- Glover, I., et al. (2016). Pedagogy first: Realising technology enhanced learning by focusing on teaching practice. *British Journal of Educational Technology, 47*(5), 993–1002.
- Gordon, N. (2014). *Flexible pedagogies: Technology-enhanced learning*. The Higher Education Academy.
- Grootenboer, P., Edwards-Groves, C., & Choy, S. (2017). *Practice theory perspectives on pedagogy and education: Praxis, diversity and contestation*. Springer.
- Hattie, J. (2015). *What Doesn't work in education: The politics of distraction*. Pearson.

- Kinash, S., Knight, D., & McLean, M. (2015). Does digital scholarship through online lectures affect student learning? *Journal of Education technology & Society*, 18(2), 129–139.
- Kirkwood, A., & Price, L. (2014). Technology-enhanced learning and teaching in higher education: What is 'enhanced' and how do we know? A critical literature review. *Learning, Media and Technology*, 39(1), 6–36.
- Lansmann, S., Schallenmüller, S., & Rigby, M. (2019). *Teams everywhere - investigating the impact of Microsoft teams on knowledge worker*. *Research Gate: Research-in-Progress*, pp. 1–5.
- Leighton, J., & Gierl, M. (2007). *Cognitive diagnostic assessment for education*. Cambridge University Press.
- Lewin, C., Cranmer, S., & McNicol, S. (2018). Developing digital pedagogy through learning design: An activity theory perspective. *British Journal of Educational Technology*, 49(6), 1131–1144.
- Lewin, D., & Lundie, D. (2016). Philosophies of digital pedagogy. *Studies in Philosophy and Education*, 35, 235–240.
- Mai, T. T. T. (2021). Microsoft teams in the context of freshmen ELF learning. *AsiaCALL Online Journal*, 12(2), 12–23.
- Marta-Lazo, C., Frau-Meigs, D., & Osuna-Acedo, S. (2019). A collaborative digital pedagogy experience in the tMOOC “step by step”. *Australian Journal of Educational Technology*, 35(5), 111–127.
- Martin, L., & Tapp, D. (2019). Teaching with teams: An introduction to teaching an undergraduate law module using Microsoft teams. *Innovative Practice in Higher Education*, 3(3), 58–66.
- Martzoukou, K. (2020). Academic libraries in COVID-19: A renewed mission for digital literacy. *Library Management*, 1–11.
- McNiff, J. (2017). *Action research: All you need to know*. SAGE Publications Ltd.
- Microsoft. (2020). *Microsoft Teams: Nothing can stop a team*. [Online] Available at: <https://www.microsoft.com/en-gb/microsoft-365/microsoft-teams/group-chat-software> [Accessed 10 May 2020].
- Mohapatra, A. K. (2020). Editorial: Impact of Covid-19 on higher education. *Journal of Management & Public Policy*, 11(2), 4–6.
- Morss, K., & Murray, R. (2005). *Teaching at university: A guide for Postgraduates & Researchers*. SAGE Publications Ltd..
- Murray, J. (2008). Teacher educators' induction into higher education: Work - based learning in the micro communities of teacher education. *European Journal of Teacher Education*, 31(2), 117–133.
- Njiku, J., Maniraho, J. F., & Mutarutinya, V. (2019). Understanding teachers' attitude towards computer technology integration in education: A review of literature. *Education and Information Technologies*, 24(1), 3041–3052.
- Orîndaru, A. (2015). Changing perspective on students in higher education. *Procedia Economics and Finance*, 27(1), 682–691.
- Pickering, J. (2015). *How to start using technology in your teaching*. Higher Education Academy.
- Polkinghorne, M., Roushan, G., & Taylor, J. (2017). Considering the marketing of higher education: The role of student learning gain as a potential indicator of teaching quality. *Journal of Marketing for Higher Education*, 27(2), 213–232.
- Race, P. (2020). *The Lecture's toolkit: A practical guide to assessment, learning and teaching* (5th ed.). Routledge.
- Race, P., & Pickford, R. (2007). *Making teaching work: 'teaching smarter' in post-compulsory education*. SAGE Publications Ltd..
- Redmond, P., et al. (2018). An online engagement framework for higher education. *Online Learning*, 22(1), 183–204.
- Staffordshire University. (2021). *Strategic plan*. [online] available at: <https://www.staffs.ac.uk/about/corporate-information/strategic-plan> [Accessed 19th March 2021].

- TechRadar. (2020). *Microsoft Teams Review*. [Online] Available at: <https://www.techradar.com/uk/reviews/microsoft-teams> [Accessed 12 May 2020].
- The Educator Australia. (2020). 'We're exhausted': Teachers overwhelmed by online transition. [Online] Available at: <https://www.theeducatoronline.com/k12/news/were-exhausted-teachers-overwhelmed-by-online-transition/271289> [Accessed 10 March 2021].
- Times Educational Supplement. (2021). 'Utterly draining': The reality of teaching in lockdown. [Online] Available at: <https://www.tes.com/news/coronavirus-utterly-draining-reality-teaching-lockdown> [Accessed 10 March 2021].
- Times Higher Education. (2019a). *Understanding Digital Society*. [Online] Available at: <https://www.timeshighereducation.com/hub/city-university-hong-kong/p/understanding-digital-society> [Accessed 15 May 2020].
- Times Higher Education. (2019b). *What is the TEF? Results of the teaching excellence framework 2019*. [Online] Available at: <https://www.timeshighereducation.com/student/blogs/what-tef-results-teaching-excellence-framework-2019#> [Accessed 16 May 2020].
- Times Higher Education. (2021). *Upskill fatigue: will hybrid and hyflex tip academics over the edge?* [Online] Available at: <https://www.timeshighereducation.com/opinion/upskill-fatigue-will-hybrid-and-hyflex-tip-academics-over-edge> [Accessed 10 March 2021].
- Waters, J. (2012). Thought-leaders in asynchronous online learning environments. *Journal of Asynchronous Learning Networks*, 16(1), 19–33.
- Weller, M. (2011). *The digital scholar: How technology is transforming scholarly practice*. Bloomsbury Academic.
- Wisker, G. (2015). Developing doctoral authors: Engaging with theoretical perspectives through the literature review. *Innovations in Education and Teaching International*, 52(1), 64–74.

Part II
Eurasian Business Perspectives:
Entrepreneurship

Driving Economic Growth: Examining the Role of Leadership within SME Innovation



Rachel Clarke, Martyn Polkinghorne, Parisa Gilani, and Lois Farquharson

Abstract Small and medium-sized enterprises (SMEs) make a significant contribution to the UK economy, accounting for 60% of all private sector jobs and 47% of revenue. Whilst previous research has highlighted the importance of innovation for economic growth, productivity and success within larger organisations, this has been largely under-explored within smaller organisations. This is arguably more important than ever before as there is a distinct need for SMEs in the UK to innovate to recover from the COVID-19 pandemic and the associated economic crisis. However, without a leadership presence, there is little or no focus for an organisation to innovate, nor is there an individual or group to lead the way forwards and to motivate fellow employees to innovate. This paper investigates the role of leadership as a means of cultivating innovation within SMEs in the UK. Certain behaviours and leadership attributes are found more likely to support and encourage innovation in a variety of different types of leaders, regardless of their actual leadership style. However, we suggest that authentic, entrepreneurial, transformational and ambidextrous leadership approaches have the potential to be particularly valuable in cultivating innovation within SMEs and that this could be particularly pertinent for business recovery post-pandemic.

Keywords Leadership · Innovation · SMEs · Business · Management · Growth

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1 Introduction

Throughout history, there have been a small number of key developments which have pushed people through to the next stage of humanity and cultural development. These innovations are well-known throughout the globe as turning points in human history for their disruptive power. Ideas such as the wheel, the compass and the printing press have caused a shift in the thinking and habits of humans and have enabled us to move forwards by essentially making our lives easier so that we can explore further, create new things and understand more about the world we live in.

As a recent example of innovation that changed consumer habits and industry, thus affecting millions of people, is the arrival of the online streaming services. Companies such as Netflix and Spotify changed the way that consumers accessed films, television shows and music, enabling streaming customers to “feel that they potentially can listen to a lot of music while paying relatively less money” (Wagner et al., 2015, p. 35). These are large-scale ideas that have transformed industry, and our day-to-day life, for millions of people, and it is these kinds of ideas that transform the future of what is, or will be, possible.

The common factor behind these developments is the inherent “innovation”. Innovation in this context is used to describe an idea or invention that acts as a catapult to quickly advance understanding, by creating a step change in the product, and/or process, of a respective field or industry. How this form of innovation works within a business setting (Manville et al., 2019), and thus where the role of a leader lies (if anywhere) in leading a business to be more innovative, or to influence the development of an innovative company culture, now requires further consideration so that we can understand the drivers, challenges and motivations. This paper focuses on research which explores leadership and innovation within the United Kingdom (UK) workplace, specifically applying it to small and medium-sized enterprises (SMEs). In this context, SMEs are classified as being businesses that have a headcount of fewer than 250 employees and have a turnover equal to or under of €50 m and a balance of sheet of equal to or under €43 M (ec.europa.eu). Interestingly, 99% of businesses in the UK fall into the category of SME (<https://www.ons.gov.uk/businessindustryandtrade/business/>) accounting for 60% of jobs and 47% of revenue (Goldman Sachs, 2015, p. 6) which is why Hayton (2015) states that SMEs are key to developing prosperity.

2 Research Approach and Method

This paper is a review of the available literature and forms part of a larger study to address the UK innovation gap, taking a leadership perspective and specifically researching innovation within smaller companies and their associated leadership style. Secondary research was undertaken with public domain and government publications being reviewed. Priority was applied to papers and reports published

since 2016. The database archives utilised included Scopus, Directory of Open Access Journals, Science Direct and Web of Science. This research has been undertaken in accordance with Bournemouth University's ethical guidelines.

2.1 Defining Innovation

An early definition of innovation from over 85 years ago, Schumpeter (1935, p. 4) notes innovation to be a "historic and irreversible change in the way of doing things". Therefore, successful innovation relates to something that is novel and works better and is more efficient or effective, compared to how things were previously delivered.

Hagedoorn (1996) discussed this early definition of innovation by Schumpeter and seeks to find a link to entrepreneurship. Disruption has since remained a central part of innovation (Hagedoorn, 1996). Considering this, in addition to disruption, terms that the UK government uses to describe innovative ideas include step change and game changer. Many scholars cite West and Farr (1990, p. 209) for their definition of innovation, i.e., that the innovation is the "intentional introduction and application within a role, group, or organisation of ideas, processes, products, or procedures, new to the relevant unit of adoption". This definition presents two different aspects involved in the innovation process, these being creativity and implementation (West & Farr, 1990; Gerlach et al., 2020). Creativity in this sense is defined by Rosing et al. as being the "generation of original and useful ideas" (2011, p. 956). It is recognised that there needs to be a level of creativity for innovation to occur, and as such, creativity is a pivotal part of the innovation process.

Perhaps in its simplest form, Baregheh et al. (2009, p. 133) state that "innovation is the multi-stage process whereby organizations (sic) transform ideas into improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace." Another aspect that makes this process complex is that innovation does not adhere to a linear timescale (Rosing et al., 2011). This highlights the importance of having the right leadership in place to direct, monitor and inspire the innovation process.

2.2 Defining Leadership

Bass states that leaders "can make the difference in whether their organizations (sic) succeed or fail" (1990, p. 6). This notion is also supported in more recent studies including the work of Alrowwad et al. (2020). Hughes et al. state that we should consider leadership to be "a key predictor of employee, team, and organizational (sic) creativity and innovation" (2018, p. 549). This signifies a strong belief of the influence that leadership has on innovation. In terms of this study, the following definitions of leadership have been adopted, these being:

- Leadership “is an interaction between two or more members of a group that often involves a structuring or restructuring of the situation and the perceptions and expectations of the member” (Bass, 1990, p. 19).
- Leadership is “a process of social influence through which one person is able to enlist the aid of others in reaching a goal” (Chemers, 1997, p. 6).

Key parts of these definitions are the repetition of the word “influence” and the interaction amongst people. Therefore, it could be stated that leadership is a people-orientated approach to achieving an activity, whereas in contrast, management is a task-orientated approach to completing an activity. Leadership also encompasses the relationship between the leader and the follower (Alrowwad et al., 2020).

3 Innovation in the Context of Leadership

There are different types of innovation within an SME context for organisation, processes and management techniques, and the key differences of each will be identified for comparison with leadership styles in this paper. Across each type of innovation, certain key elements are constant, and these include the need to have both freedom and creativity to enable innovation to happen in a non-linear fashion which in turn can be confusing and unsettling for employees (Bledow et al., 2009; Gerlach et al., 2020).

Lukowski (2017) notes that different innovation styles require different leadership approaches, and this can further relate to the stage of different leadership styles may be better suited to different stages in the innovation cycle. This is particularly important when we consider innovation within SMEs, in which the management team may be quite small, and so the options for leadership styles may be limited.

3.1 Strategic Innovation

Strategic innovation is a “fundamentally different way of competing in an existing business” according to Charitou and Markides (2003, p. 55). By creating a new business model for an industry, a business can implement different management practices and operations, and as a result, it is the business model that ensures the company remains competitive, opposed to continually seeking efficiency gains (Charitou & Markides, 2003). Value innovation works in a similar way, but with a focus upon delivering a step change in added value for the customer.

3.2 *Management Innovation*

Defined as the “invention and implementation of a management practice, process, structure, or technique, that is new to the state of the art, and is intended to further organisational goals” (Birkinshaw et al., 2008, p. 825), management innovation focuses on practices relating to structure, planning and routine tasks, i.e. those which are typically associated with management capabilities. An example of management innovation is where companies allow their employees to dictate their own annual leave allowance. Khanagha et al. (2013) note that managerial interventions are at the heart of the management innovations.

3.3 *Operational Innovation*

Defined as “the creation and deployment of significant changes or new methods in a firm’s manufacturing operations and processes for producing the firm’s products” (Hammer, 2004, cited by Oke & Kach, 2012, p. 47), operational innovation is key for organisations seeking to maximise profits through cost and efficiency savings. Hammer notes that operational innovation is a disruption of an operation within a business, with potential impact upon product development, customer service and supply chain.

3.4 *Organisational Innovation*

Organisational innovation reflects the fast-paced nature of certain business sectors, highlighting the crucial need for organisations to innovate to gain, and/or maintain, a competitive advantage within their markets (Prasad & Junni, 2016). This includes the ability for organisations to be agile and adapt to changing landscapes both internally within the organisation and externally with suppliers (upstream supply chain) and customers (downstream supply chain). Prasad and Junni argue that transactional and transformational leadership styles together are vital in influencing organisational innovation, which can be defined as new structures, processes or practices within an organisation. However, “organizational (sic) ambidexterity has been established as an important antecedent of organizational (sic) innovation and performance” (Rosing & Zacher, 2017, p. 694), and so organisational ambidexterity is a precursor to organisational innovation.

3.5 *Technological Innovation*

Kurzahls et al. (2020) argue that technological innovation is key if a business wants to generate competitive advantage. As we are currently in Industry 4.0, i.e. the fourth industrial revolution in which digital technology is prominent, technological innovation has become relevant. As noted by Tidd and Bessant (2018), companies need the ability to embrace technological advances, since they bring with them opportunities for potential exploitation.

3.6 *Social Innovation*

Social innovation is a relatively new model with huge growth potential (Oeij et al., 2019). Domanski et al. (2020) argue that technological innovation alone is not enough to combat societal challenges. Social innovation should always provide a positive impact upon society (Oeij et al., 2019). This could include problems needing solutions relating to inclusivity and disability. If societal issues are in the spotlight, it could force an organisation to address them, especially if it is aligned to their values or corporate social responsibility.

3.7 *Employee Innovation*

In its simplistic form, Janssen (2004) describes employee (individual) innovation as consisting of three aspects, these being (1) idea generation, (2) idea promotion and (3) idea implementation. Zhou et al. (2014) suggest that specific leadership styles such as ethical leadership and transformational leadership have a positive effect on creativity and that this creativity may lead to motivation and/or the capacity for employee innovation.

3.8 *Ambidextrous Innovation*

The term ambidextrous means the ability to write with both hands. This term has been taken to be used as the ability to do two (or more?) conflicting actions simultaneously. There have been a series of recent studies stating that ambidextrous organisations, and thus ambidextrous innovation, have the potential to provide efficient and effective growth for a company through the exploration of new ideas and the exploitation of current ideas (Jansen et al., 2008; O'Reilly & Tushman, 2011; Fu et al., 2018; Berraies & Hamouda, 2018; Berraies and El Abidine, 2019).

In a study of knowledge-intensive organisations, Vrontis et al. (2017) investigated the relationship between ambidextrous organisations and their innovative performance. The study concluded that ambidextrous firms did have a greater performance from an innovation viewpoint. Gibson and Birkinshaw (2004) argue that if an organisation has the ability to balance a strategic alignment for short-term gain and adaptability for long-term gain, then they will see performance enhancements; however, if an organisation is unable to do this and therefore only focuses on one element at a time, then it will cause performance problems.

3.9 Innovation Management

Fontana and Musa (2017) identified different points within an “idea” cycle which brings together the notion of innovation management, these being (1) idea generation, (2) idea selection, (3) idea development and (4) idea diffusion, and that there is a need for agility and rapid decision-making (Tidd & Bessant, 2018).

4 Exploring Leadership in the Context of Innovation

Bledow et al. (2011) state the importance of leadership in stimulating innovation yet note the lack of specifics on which leadership style is the most effective. However, an increasing number of discussions and studies relating leadership to innovation are taking place with suggestions of leadership being a key player in innovation (Mumford et al., 2002; Rosing et al., 2011; Li et al., 2015; Gerlach, Hundeling, & Rosing, 2020) and the progression of organisations (Bagheri, 2017). Evidence suggests that certain different leadership styles can be effective to stimulate an innovative workplace, but unsurprisingly, as it relates to people, context is an important factor (Bledow et al., 2011). Rosing et al. (2011) argue that a specific leadership style on its own cannot lead to effective innovation, but however propose that a combination of set behaviours may have this effect. This is an interesting concept as may be linked to the shift of leaders having set behaviours and styles to a more flexible set of behaviours that could change depending on the goal, team and/or environment.

4.1 Authentic Leadership

Authentic leadership is a niche that has roots within positive approaches such as ethical and transformational leadership (Avolio & Gardner, 2005; Zhou et al., 2014). As this style focuses on being authentic to oneself, and is about being consistent with your own values and beliefs (Zhou et al., 2014), there is a strong ‘human’ element to

it relating to feelings, emotions and motivations. To be an authentic leader, one needs to have a deep self-awareness and know how others perceive them, and leading by example, authentic leaders demonstrate transparent “decision making, confidence, optimism, hope and resilience, and consistency between their words and deeds” (Avolio & Gardner, 2005, p. 326). A leader reflecting these behaviours onto others may create an effective innovative environment.

In a Chinese study, Zhou et al. (2014) studied the relationship between employee innovation and authentic leadership and tested to see if authentic leadership would have a positive effect on employee innovation and also if this leadership style would positively impact upon employee positive emotions and negatively impact upon employee negative emotions. The outcomes of this study were interesting because their data confirmed that leaders who used this leadership style to encourage employee innovation, by inspiring positive emotions within their workforce, were successful. As this is related to authentic leadership, the intentions will be genuine; however, this inception-style emotional influence was found to encourage employee’s enthusiasm and related positive emotions when considering employee motivation.

As a contrast, yet still using authentic leadership, Todt et al. (2019) created a study in Germany to test the resilience of a workforce being led by authentic leadership, through setbacks. Using the learnings from the Zhou et al. (2014) study regarding positivity, and this being enhanced by a leader, it would be interesting to explore this further to better understand how potential negativity from a work-based setback is tackled via an authentic leadership style. A large percentage of innovation projects are deemed unsuccessful or are dismissed before they are completed (Todt et al., 2019), so it is pragmatic to conduct studies relating to the resilience of employees in the face of adversity and how a leadership style can influence behaviours. As Todt et al. (2019) note, project setbacks can be a large drain of energy for innovators, and they argue that many managers move onto the next project without addressing the setback and the emotional toll it may have on their innovators. Also, the lessons are not learnt, meaning that if they were to tackle this problem again with their team, there is a lack of guidance on how to do this more effectively. The study outcomes demonstrated that there is not only a relationship, but a positive relationship between authentic leaders and innovator resilience.

4.2 Innovation Leadership

Innovation leadership aims to develop and lead companies through turbulent environments by ensuring a company is agile and adaptable and thus is linked to strategic leadership and entrepreneurial qualities. When a company fosters a culture of trust and problem-solving amongst colleagues at all levels, this can be a key differentiator in ensuring business success. Innovation leadership refers to tasks such as encouraging new ideas, taking responsibility and setting clear performance measures (Mumford et al., 2002; Carmeli et al., 2010).

The innovation leader is not necessarily a person within a formal leadership role, but a person who incites enthusiasm and motivation in others (Johannessen & Stokvik, 2019). However, it is also argued that innovation leaders recognise a balance, where it's not just about the generation of new ideas, but also implementation of the ideas across the organisation where applicable.

Cultivating an environment of knowledge-sharing is important within this leadership style, not dissimilar to strategic leadership. A 2010 study by Carmeli et al. highlighted that innovation leadership has a positive impact on creating an adaptive environment, which in turn enhanced organisational performance.

4.3 Distributed Leadership

Shared and distributed leadership styles are usually paired together; however, there is a distinction between the two. Shared leadership is empowering a workforce to take leadership opportunities within their areas of expertise, and thus one's title and role are irrelevant since the leadership is based on one's own knowledge and experience. This leadership is acknowledged, but potentially is not formalised (Liao et al., 2019). However, distributed leadership has origins within education and is based on core tasks in the running of organisations. Fu et al. (2018) argue that distributed leadership differs from shared leadership by being based cross-institutionally, whereas the shared leadership model relates to a team where leadership roles are shared out amongst team members. Therefore, distributed leadership relates to leaders within those roles, but also different members of an organisation's staffing base (Liao et al., 2019).

However, there are several studies within China which relate to distributed leadership and innovation. Interestingly, a study in 2018 by Fu et al. aimed to investigate whether distributed leadership drives ambidextrous innovation. This study remained inconclusive as to how and why distributed leadership has a positive effect on ambidextrous innovation.

To complement this study, other research by Liao et al. (2019) revealed that there was a direct positive relationship between distributed leadership and business model innovation (creating an innovative business model), though it was also noted that there are many factors involved in a successful business model innovation, including external factors such as new competitors and new markets.

4.4 Entrepreneurial Leadership

Entrepreneurial leadership is known for two attributes that separate it from other leadership styles. These are that the entrepreneurial leader has the ability to lead their team towards their vision in potentially turbulent environments and also in building an effective community (Dabić et al., 2021). Studies have shown that entrepreneurial

leaders enhance the innovative capability and thus drive the performance of a business (Bagheri, 2017; Fontana & Musa, 2017) so this approach to leadership may very well be classed as the most effective in creating an innovative culture within businesses (Dabić et al., 2021).

Fontana and Musa (2017) argue that there are key dimensions to this leadership style that encapsulate its essence. By a leader having a mix of strategic ability, communicative skills, the ability to motivate oneself and people and personal creativity and stability, an organisation is more likely to be creative and innovative throughout.

Key studies have taken place regarding entrepreneurial leadership within areas such as intellectual agility, communication skills and employee motivation, suggesting that perhaps this style of leadership has the crucial flexibility needed when creating an innovative culture within the workplace. Research suggests that the entrepreneurial leadership style has a positive impact on innovative work behaviour (Akbari et al., 2021). In this study by Akbari et al. (2021), the researchers wished to ascertain how entrepreneurial leadership improved the innovative work behaviours of employees in high technology SMEs with creative self-efficacy and support for innovation as mediating roles. The results of this study revealed that there is a positive link between entrepreneurial leadership and innovative work behaviour both directly and indirectly. By an entrepreneurial leadership style enhancing self-efficacy amongst employees, this study then demonstrated a positive impact based upon improved innovative work behaviour. Perhaps the most important part to note here is the self-belief increase from followers and how this change impacted innovative work behaviour.

4.5 Strategic Leadership

Cited by Fontana and Musa (2017, p. 4), Rowe's 2001 study defined strategic leadership as "the ability to influence others to voluntarily make day-to-day decision that enhance the long-term viability of the organization (sic) while at the same time maintaining its short-term financial stability". However, Kurzhals et al. (2020) noted this leadership style as specifically relating to senior executives and thus people who had roles such as CEO, though this leadership style is also associated with the bigger picture and thus complete responsibilities of the leader, rather than a specific focus or behaviour (Boal & Hooijberg, 2000). Strategic leadership shares similarities with entrepreneurial leadership, relating to influencing like other transformational styles, so it could be said that it is people focused; however, from these definitions, and the subsequent review, it is apparent that this style actually has a strong task focus. Kurzhals et al. (2020) conducted a study to consider the relationship between strategic leadership and innovation. They attempted to ascertain this relationship and concluded that there needs to be more research conducted within this domain, especially when researching the role(s) of the board of directors and how innovation success is measured. The study found a strong link between strategic leadership and

positive innovation; however, although strategic leadership can be used to enhance innovation within a company, it can only work if certain factors such as organisation, environment or group/individual characteristics are correctly in situ.

A 2011 study explored strategic leadership in relation to ambidextrous innovation. Lin and McDonough (2011) hypothesised that strategic leadership encouraged a knowledge-sharing culture which in turn encourages ambidextrous innovation. The team note that this was the first research of its kind to study leadership that creates an organisational culture which facilitates ambidextrous innovation. The results of this study demonstrate that there are positive outcomes relating to ambidextrous innovation when strategic leaders encourage a knowledge-sharing culture. This is a thought-provoking study because it recognises that for a specific organisational culture to develop, it needs to be a decision at a strategic level to foster this kind of environment. A key point from this study is that it suggests that organisational culture plays a much bigger part in fostering innovation, than leadership does. However, the appeal of this point is because the culture has to be created from somewhere. If culture is created from the bottom-up rather than the top-down, then the issue of whom is leading innovation needs to be investigated further. However, the study results also reveal that organisational culture has a mediating role in strategic leadership enhancing ambidextrous innovation within a company.

4.6 Transactional Leadership

Xenikou (2017) argues that a transactional leader sets the foundations of good employee performance, and a transformational leader then continues this progress by motivating and inspiring employees to achieve more. Berraies and El Abidine, (2019) note studies by Bass and Avolio (2000) and Xenikou (2017) and believe these two leadership styles to be complementary despite being seemingly being opposites. To separate these two leadership styles, transactional leaders reward followers for performing tasks as per instruction (Bass et al., 2003) and to the contrary, if a task is not completed, it is punishable (Berraies El Abidine, 2019). Thus, is it very much a transaction approach as the name denotes, whereas transformational leadership is more aligned to inspiring and motivating employees (Rosing et al., 2011).

As transactional leaders provide rewards for performance and achievement within the confinements of their instructions (Berraies El Abidine, 2019), this gives no flexibility, nor motivation, for employees to undertake non-scripted work which could improve process and thus be innovative. However, Jansen et al. (2008) provided the argument that, typically, reward is associated with transactional leadership, though there is also a space for reward within transformational leadership where these leaders manage performance based on trust, rather than the typical transactional exchange (Goodwin et al., 2001). This transactional style appears to have close links with autocratic leadership where the leader has full control over decisions and has little or no involvement from their employees. These styles may be useful on their own within certain environments; however, no literature is available

relating these leadership styles to innovation, as the style itself does not lend itself to creating an innovative or future-thinking environment.

4.7 Transformational Leadership

Transformational leaders are perceived as having encouraging and inspiring attributes, e.g. charisma (Alrowwad et al., 2020). Transformational leadership, as a single style, has been linked with innovative environments within the workplace (Rosing et al., 2011; Bagheri, 2017; Oluwafemi et al., 2020), yet there are no consistent conclusions across studies to confirm this (Rosing et al., 2011; Li et al., 2015). Leaders with a transformational style are well-positioned to inspire and encourage open thinking (Prasad & Junni, 2016), should this be their vision, though a 2008 study by Jansen et al. suggests that this leadership style is only successful when the right conditions are present and thus a change in certain variables could change the outcome. However, some scholars including Chen et al. (2014), Rosing et al. (2011) and Pieterse et al. (2009) take the opposing view, reporting instead that transformational leadership can rely on different factors to support its success. Rosing et al. (2011) also argue that transformational leadership can be effective in a leader sharing their vision and motivating employees to follow that vision; however, innovative performance could be hindered in this practice by employees being too focused on the vision, instead of concentrating on their tasks.

Li et al. (2015) took a different approach in investigating this type of leadership style by noting previous studies on transformational leadership and innovation, leading to some positive and some negative outcomes, and thus inconclusive results, and as such proposed a different study to ascertain a more substantiated link between leadership and innovation. This particular study simultaneously explored the relationship between individual and group transformational leadership and individual and group innovation. This is an interesting concept as it takes into consideration individual and group dynamics whilst investigating how they affect innovation, in potentially an ambidextrous study. Interestingly, the study concluded that there was a positive link between group-level transformational leadership and group-level innovation, but to the detriment of individual innovation.

Jansen et al. (2008) proposed attributes needed by senior leaders to enhance the ambidexterity of an organisation and the development of transformational leadership to achieve this. Their study was on large organisations. Bass (1985) noted the link between transformational leadership and the outcomes of teams and of the organisation as a whole. However, another behaviour identified by Bass (1985) was the ability to address individuals and pay attention to their needs. This is important for this particular leadership style due to the perceived charismatic presence and the inspiring nature of transformational leaders. Therefore, Jansen et al. (2008) argue that if senior teams lead with this style and thus have a shared vision for employees to follow (arguably developing this culture), this could lead to enhanced organisational performance by encouraging cooperation across work schedules

where usually conflicts may arise. Their study concluded that a transformational leadership style at senior management level does influence an organisation's ability to simultaneously explore new ideas and exploit existing ideas. A key part of their findings from the study is a shared vision amongst senior leaders and their employees.

4.8 Ambidextrous Leadership

Ambidextrous leadership appears to be an evolved mix of transactional and transformational leadership. This leadership style is an emerging field of research, as it appears to be only recently that ambidextrous leadership has been explored within an SME context (Oluwafemi et al., 2020), even though it has its roots in the 1970s (Duncan, 1976) and has been further developed from the 1990s onwards as ambidextrous organisations (Gibson & Birkinshaw, 2004) and only over the past two decades as ambidextrous leadership. The naming of this style is based upon the simultaneous nature of work, in that an organisation has the capability to both explore ideas and exploit ideas (Rosing et al., 2011; Alghamdi, 2018). Scholars note that organisations that are successful in these activities simultaneously are above their peers in terms of performance (Gibson & Birkinshaw, 2004; Rosing et al., 2011) as these leaders, and as an extension their organisations, not only have the agility and flexibility to change their behaviours depending on the need of the process but also the awareness of when to do this (Rosing et al., 2011). O'Reilly and Tushman (2011) note that ambidextrous behaviours amongst senior managers within firms are crucial for firms to enhance their performance; arguably, it could be said that these senior managers would therefore be acting in an ambidextrous leadership style.

Oluwafemi et al. (2020) explored Opening Leadership Behaviours (OLBs) and Closing Leadership Behaviours (CLBs), with SME leaders being able to flexibly interchange between these behaviours. For the sake of clarity, OLBs are behaviours which encourage knowledge acquisition and questioning, whereas CLBs differ with behaviours which are more process orientated such as meeting deadlines and goal setting (Gerlach, Hundeling, & Rosing, 2020). By using OLB and CLB behaviours, it was thought that this leads to highly motivated employees within an innovative context (Zacher & Rosing, 2015; Alghamdi, 2018; Gerlach, Hundeling, & Rosing, 2020). Oluwafemi's (2020) study concluded that SMEs found growth and competitiveness when their respective leaders demonstrated both OLB and CLB behaviours and were therefore able to flex the sets of behaviours where applicable to the contextual needs. In a similar study on OLB and CLB, Gerlach, Heinigk, et al. (2020) concluded that leaders demonstrating both behaviours by flexing their needs as regularly as needed did improve innovation performance. Interestingly, these behaviours draw parallels with the contrasting yet effective transactional and transformational styles of leadership.

Regarding transactional and transformational leaders, in a specific study on ambidextrous leadership and ambidextrous innovation, Berraies and El Abidine, (2019) concluded rather interestingly that a combination of transactional and transformational leadership was needed to enhance ambidextrous innovation. Gibson and Birkenshaw (2004) argue that specific leaders, a formal structure or a strong culture is not enough on their own for an effective increase in performance, but rather an ambidextrous organisation is the key factor which will set businesses apart from each other. This is due to their capability of being flexible, adaptable and working collaboratively. Arguably, specific leadership styles could cultivate this culture/type of organisation, though not necessarily just in an ambidextrous style.

In a 2020 longitudinal study set over a 6-week period, Gerlach et al. (2020) hypothesised that OLB would maximise creativity in the innovation process, but not aid the implementation and vice versa regarding CLB, and that these behaviours would maximise the implementation part of the process, but not the creativity. As part of this study, both transactional and transformational leadership styles were used, as appropriate, throughout. The results were intriguing as they did support the hypotheses, but also concluded that without the specifics of the task at hand, the leadership models did not improve performance.

5 Conclusion

This study has considered the role that leadership plays within SME innovation and considers how such innovation can therefore be cultivated. Whilst a range of different leadership styles have been identified, studies would suggest that only a few lend themselves to supporting the development of an innovative culture within an SME, these typically being authentic, entrepreneurial, transformational and ambidextrous leaders. However, it does appear that there are certain behaviours and leadership attributes that are more likely to support and encourage innovation, and these attributes may be found in a variety of different types of leaders regardless of their actual leadership style. Examples of these key behaviours and leadership attributes include:

- Being visionary.
- Being skilled communicator.
- Being inspirational.
- Setting clear boundaries.

Without a leadership presence, there is little or no focus for an organisation to innovate, nor is there an individual or a group to lead the way and motivate fellow employees to innovate. However, to complement an innovative leader, the employees also need to follow their example, and they themselves need to adopt innovative thinking. If a leader can develop an innovative culture in which employees have the freedom to create, innovate and exploit their ideas, there will

be a need to establish appropriate rewards. Such awards may be financial in nature, and they may also be recognition based.

Of the various styles of leadership theory explored within this review, the transformational, authentic and entrepreneurial styles of leadership have a long history of completed research studies and have positive links with innovation culture, including enhancing employees' performance in an innovative setting. Also identified is the place that transactional leadership has when partnered with transformational leadership. These two styles have been widely studied as complementary when applied together in different parts of the innovation process.

This study has also identified a significant rise in academic research relating to ambidextrous leadership. Research within this specific style has gained substantial momentum over the past decade, with the recognition of businesses operating in fast-paced environments with demanding customers and a constant battle for survival. As technology has developed with such pace, so must businesses and their competitors evolve to keep up and maintain their competitive advantage. Ambidextrous leadership appears to be an evolution of the well-research transactional and transformational leadership pairing which is proving to be effective in this scenario.

Much of the research reviewed in this paper not only recognises the different competencies required for successful innovation to occur, but also that these interjections are needed at different points within the innovation process. Agile leadership is therefore required to encourage optimal innovative return for employees. This seems to be where ambidextrous leadership shines most brightly and may be the way forward.

References

- Akbari, M., Bagheri, A., Imani, S., & Asadnezhad, M. (2021). Does entrepreneurial leadership encourage innovation work behavior? The mediating role of creative self-efficacy and support for innovation. *European Journal of Innovation Management*, 24(1), 1–22. <https://doi.org/10.1108/EJIM-10-2019-0283>
- Alghamdi, F. (2018). Ambidextrous leadership, ambidextrous employee, and the interaction between ambidextrous leadership and employee innovation performance. *Journal of Innovation and Entrepreneurship*, 7(1), 1–14. <https://doi-org.libezproxy.bournemouth.ac.uk/10.1186/s13731-018-0081-8>
- Alrowwad, A., Abualoush, S., & Masa'deh, E. (2020). Innovation and intellectual capital as intermediary variables among transformational leadership, transactional leadership, and organizational performance. *Journal of Management Development*, 39(2), 196–222. <https://doi.org/10.1108/JMD-02-2019-0062>
- Avolio, B., & Gardner, W. (2005). Authentic leadership development: Getting to the roots of positive forms of leadership. *The Leadership Quarterly*, 16(3), 315–338. <https://doi.org/10.1016/j.leaqua.2005.03.001>
- Bagheri, A. (2017). The impact of entrepreneurial leadership on innovation work behavior and opportunity recognition in high-technology SMEs. *Journal of High Technology Management Research*, 28(2), 159–166. <https://doi.org/10.1016/j.hitech.2017.10.003>

- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, 47(8), 1323–1339. <https://doi.org/10.1108/00251740910984578>
- Bass, B. (1985). *Leadership and performance beyond expectation*. Free Press.
- Bass, B. (1990). *Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). Free Press.
- Bass, B., & Avolio, B. (2000). *Multifactor leadership questionnaire*. Mind Garden.
- Bass, B., Avolio, B., Jung, D., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology*, 88(2), 207–218. <https://doi.org/10.1037/0021-9010.88.2.207>
- Berraies, S., & El Abidine, S. (2019). Do leadership styles promote ambidextrous innovation? Case of knowledge-intensive firms. *Journal of Knowledge Management*, 23(5), 836–859. <https://doi.org/10.1108/JKM-09-2018-0566>
- Berraies, S., & Hamouda, M. (2018). Customer empowerment and firms' performance: The mediating effects of innovation and customer satisfaction. *International Journal of Bank Marketing*, 36(2), 336–356. <https://doi.org/10.1108/IJBM-10-2016-0150>
- Birkinshaw, J., Hamel, G., & Mol, M. J. (2008). Management innovation. *Academy of Management Review*, 33(4), 825–845. <https://doi.org/10.5465/amr.2008.34421969>
- Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizational Psychology*, 2(3), 305–337. <https://doi.org/10.1111/j.1754-9434.2009.01154.x>
- Bledow, R., Frese, M., & Mueller, V. (2011). Ambidextrous leadership for innovation: The influence of culture. *Advances in Global Leadership*, 6, 41–69. [https://doi.org/10.1108/S1535-1203\(2011\)0000006006](https://doi.org/10.1108/S1535-1203(2011)0000006006)
- Boal, K., & Hoijberg, R. (2000). Strategic leadership research: Moving on. *The Leadership Quarterly*, 11(4), 515–549. [https://doi.org/10.1016/S1048-9843\(00\)00057-6](https://doi.org/10.1016/S1048-9843(00)00057-6)
- Carmeli, A., Gelbard, R., & Gefan, D. (2010). The importance of innovation leadership in cultivating strategic fit and enhancing firm performance. *The Leadership Quarterly*, 21(3), 339–349. <https://doi.org/10.1016/j.leaqua.2010.03.001>
- Charitou, C., & Markides, C. (2003). Responses to disruptive strategic innovation. *MIT Sloan Management Review*, 44(2), 55–63.
- Cherns, M. (1997). *An integrative theory of leadership*. Lawrence Erlbaum Associates.
- Chen, Y., Tang, G., Jin, J., Xie, Q., & Li, J. (2014). CEO's transformational leadership and product innovation performance: The roles of corporate entrepreneurship and technology orientation. *Journal of Product Innovation Management*, 31(S1), 2–17. <https://doi.org/10.1111/jpim.12188>
- Dabić, M., Stojčić, N., Simić, M., Potocan, V., Slavković, M., & Nedelko, Z. (2021). Intellectual agility and innovation in micro and small businesses: The mediating role of entrepreneurial leadership. *Journal of Business Research*, 123(C), 683–695. <https://doi.org/10.1016/j.jbusres.2020.10.013>
- Domanski, D., Howaldt, J., & Kaletka, C. (2020). A comprehensive concept of social innovation and its implications for the local context – On the growing importance of social innovation ecosystems and infrastructures. *European Planning Studies*, 28(3), 454–474. <https://doi.org/10.1080/09654313.2019.1639397>
- Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. *The Management of Organization*, 1, 167–188.
- Fontana, A., & Musa, S. (2017). The impact of entrepreneurial leadership on innovation management and its measurement validation. *International Journal of Innovation Science*, 9(1), 2–19. <https://doi.org/10.1108/IJIS-05-2016-0004>
- Fu, L., Liu, Z., & Liao, S. (2018). Is distributed leadership a driving factor of innovation ambidexterity? An empirical study with mediating and moderating effects. *Leadership &*

- Organization Development Journal*, 39(3), 388–405. <https://doi.org/10.1108/LODJ-05-2017-0134>
- Gerlach, F., Heinigk, K., Rosing, K., & Zacher, H. (2020). Aligning leader behaviors with innovation requirements improves performance: An experimental study. *Frontiers in Psychology*, 11, 1332–1345. <https://doi.org/10.3389/fpsyg.2020.01332>
- Gerlach, F., Hundeling, M., & Rosing, K. (2020). Ambidextrous leadership and innovation performance: A longitudinal study. *Leadership & Organization Development Journal*, 41(3), 383–398. <https://doi.org/10.1108/LODJ-07-2019-0321>
- Gibson, C., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *The Academy of Management Journal*, 47(2), 209–226. <https://doi.org/10.2307/20159573>
- Goldman Sachs. (2015). *Unlocking UK productivity – Internationalisation and innovation in SMEs*. Goldman Sachs.
- Goodwin, V., Wofford, J., & Whittington, J. (2001). A theoretical and empirical extension to the transformational leadership construct. *Journal of Organizational Behavior*, 22(7), 759–774. <https://doi.org/10.1002/job.111>
- Hagedoorn, J. (1996). Innovation and entrepreneurship: Schumpeter revisited. *Industrial and Corporate Change*, 5(3), 883–896. <https://doi.org/10.1093/icc/5.3.883>
- Hayton, J., 2015. Leadership and management skills in SMEs: Measuring associations with management practices and performance. BIS research paper 211. Department for Business Innovation and Skills.
- Hughes, D., Lee, A., Tian, A., Newman, A., & Legood, A. (2018). Leadership, creativity and innovation: A critical review and practical recommendations. *The Leadership Quarterly*, 29(5), 549–569. <https://doi.org/10.1016/j.leaqua.2018.03.001>
- Jansen, J., George, G., Van den Bosch, F., & Volberda, H. (2008). Senior team attributes and organizational ambidexterity: The moderating role of transformational leadership. *Journal of Management Studies*, 45(5), 982–1007. <https://doi.org/10.1111/j.1467-6486.2008.00775.x>
- Janssen, O. (2004). How fairness perceptions make innovative behavior more or less stressful. *Journal of Organizational Behavior*, 25(2), 201–215. <https://doi.org/10.1002/job.238>
- Johannessen, J., & Stokvik, H. (2019). *Evidence-based innovation leadership: Creating entrepreneurship and innovation in organizations*. Emerald Publishing Limited.
- Khanagha, S., Volberda, H., Jatinder, S., & Oshri, I. (2013). Management innovation and adoption of emerging technologies: The case of cloud computing. *European Management Review*, 10(1), 51–67. <https://doi.org/10.1111/emre.12004>
- Kurzahls, C., Graf, V., & König, A. (2020). Strategic leadership and technological innovation: A comprehensive review and research agenda. *Corporate Governance: An International Review*, 28(6), 437–464. <https://doi.org/10.1111/corg.12351>
- Li, V., Mitchell, R., & Boyle, B. (2015). The divergent effects of transformational leadership on individual and team innovation. *Group and Organizational Management*, 41(1), 66–97. <https://doi.org/10.1177/1059601115573792>
- Liao, S., Liu, Z., Fu, L., & Ye, P. (2019). Investigate the role of distributed leadership and strategic flexibility in fostering business model innovation. *Chinese Management Studies*, 13(1), 93–112. <https://doi.org/10.1108/CMS-02-2018-0420>
- Lin, H., & McDonough, E., III. (2011). Investigating the role of leadership and organizational culture in fostering innovation ambidexterity. *IEEE Transactions on Engineering Management*, 58(3), 497–509. <https://doi.org/10.1109/TEM.2010.2092781>
- Lukowski, W. (2017). The impact of leadership styles on innovation management. *Marketing of Scientific and Research Organizations*, 24(2), 105–136. <https://doi.org/10.14611/minib.24.06.2017.12>
- Manville, G., Karakas, F., Polkinghorne, M., & Petford, N. (2019). Supporting open innovation with the use of a balanced scorecard approach: A study on deep smarts and effective knowledge transfer to SMEs. *Production Planning and Control*, 30(10–12), 842–853. <https://doi.org/10.1080/09537287.2019.1582093>

- Mumford, M., Scott, G., Gaddis, B., & Strange, J. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly*, *13*(6), 705–750. [https://doi.org/10.1016/S1048-9843\(02\)00158-3](https://doi.org/10.1016/S1048-9843(02)00158-3)
- O'Reilly, C., III, & Tushman, M. (2011). Organizational ambidexterity in action: How managers explore and exploit. *California Management Review*, *53*(4), 5–22. <https://doi.org/10.1525/cmr.2011.53.4.5>
- Oeij, P. R. A., Van der Torre, W., Vaas, F., & Dhondt, S. (2019). Understanding social innovation as an innovation process: Applying the innovation journey model. *Journal of Business Research*, *101*(8), 243–254. <https://doi.org/10.1016/j.jbusres.2019.04.028>
- Oke, A., & Kach, A. (2012). Linking sourcing and collaborative strategies to financial performance: The role of operational innovation. *Journal of Purchasing & Supply Management*, *18*(1), 46–59. <https://doi.org/10.1016/j.pursup.2012.01.001>
- Oluwafemi, T., Mitchelmore, S., & Nikolopoulos, K. (2020). Leading innovation: Empirical evidence for ambidextrous leadership from UK high-tech SMEs. *Journal of Business Research*, *119*(C), 195–208. <https://doi.org/10.1016/j.jbusres.2019.10.035>
- Pieterse, A., van Knippenberg, D., Schippers, M., & Stam, D. (2009). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior*, *31*(4), 609–623. <https://doi.org/10.1002/job.650>
- Prasad, B., & Junni, P. (2016). CEO transformational and transactional leadership and organizational innovation: The moderating role of environmental dynamism. *Management Decision*, *54*(7), 1542–1568. <https://doi.org/10.1108/MD-11-2014-0651>
- Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, *22*(5), 956–974. <https://doi.org/10.1016/j.leaqua.2011.07.014>
- Rosing, K., & Zacher, H. (2017). Individual ambidexterity: The duality of exploration and exploitation and its relationship with innovative performance. *European Journal of Work and Organizational Psychology*, *26*(5), 694–709. <https://doi.org/10.1080/1359432X.2016.1238358>
- Schumpeter, J. (1935). The analysis of economic change. *The Review of Economics and Statistics*, *17*(4), 2–10. <https://doi.org/10.2307/1927845>
- Tidd, J., & Bessant, J. (2018). Innovation management challenges: From fads to fundamentals. *International Journal of Innovation Management*, *22*(5), 1–13. <https://doi.org/10.1142/S1363919618400078>
- Todt, G., Weiss, M., & Hoegl, M. (2019). Leading through innovation project setbacks: How authentic leaders keep their innovators resilient. *Project Management Journal*, *50*(4), 409–417. <https://doi.org/10.1177/8756972819853124>
- Vrontis, D., Thrassou, A., Santoro, G., & Papa, A. (2017). Ambidexterity, external knowledge and performance in knowledge-intensive firms. *Journal of Technology Transfer*, *42*(2), 374–388. <https://doi.org/10.1007/s10961-016-9502-7>
- Wagner, T., Rose, M., Baccarella, C., & Voigt, K. I. (2015). Streaming killed the download star! How the business model of streaming services revolutionizes music distribution. *Journal of Organizational Advancement, Strategic and Institutional Studies*, *7*(1), 29–39. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2587176
- West, M. A., & Farr, J. L. (1990). *Innovation and creativity at work: Psychological and organizational strategies*. John Wiley & Sons.
- Xenikou, A. (2017). Transformational leadership, transactional contingent reward, and organizational identification: The mediating effect of perceived innovation and goal culture orientations. *Frontiers in Psychology*, *8*, 1754–1767. <https://doi.org/10.3389/fpsyg.2017.01754>
- Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal*, *36*(1), 54–68. <https://doi.org/10.1108/LODJ-11-2012-0141>
- Zhou, J., Ma, Y., Cheng, W., & Xia, B. (2014). Mediating role of employee emotions in the relationship between authentic leadership and employee innovation. *Social Behavior & Personality: An International Journal*, *42*(8), 1267–1278. <https://doi.org/10.2224/sbp.2014.42.8.1267>

It's Not Just Physical: Gender and Bias in Equity Crowdfunding



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Abstract This research considers if equity investors on crowdfunding platforms display the same bias against women as can be seen in venture capital alternatives. In this study we build a conceptual model in which we argue that increasing the number of women in a team is often associated with a decrease in funding success. We test this model using a dataset of 397 campaigns from a leading UK-based equity platform to elaborate further on the issues around gender and its impact upon entrepreneurial finance in the context of equity crowdfunding. From this research study, we conclude that the aggregated gender within the language used in the investors' comments has an influence upon the success of the funding obtained from equity investors. We demonstrate that not only does the physical gender of the team, and the gender of the primary signatory, influence the final decision, but also any gendered nuances in the language within the campaign can have a significant impact. The findings of this study therefore have an important role in helping us to understand why the size and frequency of equity crowdfunding achieved by women are lower when compared to the success achieved by men.

Keywords Gender · Equity crowdfunding · Investor comments · Bias

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1 Introduction

Crowdfunding is a term commonly used when people and organisations raise money from a wide range of different sources. Often these sources are individuals who are interested in being supportive. By each one contributing a small amount, when accumulated together, the total reaches a required target. Mollick extends this definition further by describing crowdfunding as being ‘the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries’ (2014, p. 2).

Raising capital through crowdfunding has become increasingly important in the recent years (Bruton et al., 2015; Mollick & Robb, 2016; Short et al., 2017). United Kingdom (UK) data indicates that the total annual equity-based crowdfunding grew from <£30 million in 2011 to >£360 million in 2018 (Statista, 2020), and although a typical investment in equity crowdfunding is smaller than in the case of venture capital (VCs), substantial amounts of equity can still be raised.

According to Ahlers et al. (2015), the motivations of investors on equity crowdfunding platforms are expectedly different to those of alternative approaches such as rewards-based crowdfunding. Equity platforms are known to attract a more diverse range of investors, including those who may not have the experience, or resources, to fully evaluate the ventures in which they invest. As a direct result, this may lead to the introduction of bias creeping within the decision-making that investors make on such platforms.

Mollick and Robb (2016) argue that all types of crowdfunding support female entrepreneurs because they are expected to democratise access by opening up the market. Conversely, other research proposed that it is rewards-based crowdfunding which may actually be democratising the opportunities for female entrepreneurs to access capital (Marom et al., 2016; Mollick & Robb, 2016). Although equity crowdfunding is fast emerging as a ‘highly distinctive, relational form of entrepreneurial finance’ (Brown et al., 2018, p. 187), it has not been widely studied in the context of democratizing access to finance (Hoegen et al., 2018). Crowdfunding research has primarily considered rewards-based crowdfunding (Belleflamme et al., 2013), and only recently has more interest in the context of equity crowdfunding emerged (Ahlers et al., 2015; Vulkan et al., 2016; Vismara, 2016, 2019; Brown et al., 2018; Geiger & Oranburg, 2018) because the market of equity crowdfunding is still not widely developed and is subject to stricter regulations.

Research previously undertaken demonstrates a desire to explore the potential linkages between both gender and funding (Greenberg & Mollick, 2016; Kanze et al., 2018; Mollick & Robb, 2016). There also have been a number of contradictory findings. For example, Marom et al. (2016) undertook research focussed upon Kickstarter campaigns. The conclusion was that women entrepreneurs experienced improved success rates in relation to their ability to meet funding targets, regardless of the size of the funding target. Furthermore, a recent study examining Kickstarter campaigns (Mollick & Robb, 2016) concluded that when data relate to both women

and men, there was no conclusive difference presented in respect of funding targets, nor did it relate to the amount of funding raised. Building upon preliminary and quite contrary results, there remains a clear justification for further research to be undertaken to analyse the potential role of gender within successful crowdfunding.

This paper reports on a new study which builds upon the previous work undertaken (Greenberg & Mollick, 2016; Kanze et al., 2018; Mollick & Robb, 2016) by adopting a new perspective to help expand our understanding regarding the role of gender and the use of gender-related language, within crowdfunding applications. As such, the paper makes an original contribution which extends the existing body of knowledge regarding the impact of gender upon the success, or otherwise, of applications for crowdfunding. How gender relates to the success of crowdfunding applications is important to know due to the potential impact which it may have upon future application strategies adopted by applicants.

To achieve this, a body of data from Crowdcube has been used. Located in the UK, Crowdcube is one of the most successful equity crowdfunding platforms. In this paper, we consider gender contained within the text of the comments, and the campaign description, using machine-based textual analysis to examine if gender of the language used has any effect on funding success of the campaign.

Through this paper we aim to contribute to the broader empirical literature on investor decision-making in the face of bias in the context of equity crowdfunding. We will also show that not only the physical gender of the team and the Gender of Primary Signatory (*GPS*) (Geiger & Oranburg, 2018) *are influential*, but also gendered nuances in the language can have an impact upon the success of funding. In this study we therefore address the following questions about gender bias in equity crowdfunding:

1. Does a higher number of women in a team indicate a lower chance of funding success?
2. Is there an effect of gender inherent 'within language' on the success of funding?

Firstly, this paper will consider crowdfunding and the role of gender and the use of language within it. The research approach will then be presented. Following this, the data collection and analysis undertaken will be examined. Discussion of what the research results may mean will be considered, followed by concluding remarks and observations offered by the authors of this study relating to the potential impact of the findings.

2 Considering Crowdfunding

Given the struggles in finding suitable forms of traditional sources of finance (Aldrich & Martinez, 2001), young firms and start-ups are now often relying on the power of the crowd to seek funding support (Belleflamme et al., 2013) to get their ideas off the ground. Research shows a rapid increase in interest, and the establishment of crowdfunding, as a suitable form of entrepreneurial finance (Stevenson &

Jarillo, 1990; Mollick, 2014; Lehner et al., 2015; Moritz et al., 2015; Block et al., 2017; Vismara, 2016), and this is largely due to the proliferation of Internet technology (Cumming et al., 2017).

Depending upon the business model of the crowdfunding platform, the common categories of crowdfunding (Mollick, 2014) are:

- Donation-based—backers expect no return for their donations.
- Rewards-based—backers receive rewards by supporting a project.
- Lending-based—backers provide finance as a loan with expectation of some financial return.
- Equity-based—backers are investors who receive equity stakes.

In the case of equity-based crowdfunding, any investors are awarded a portion of the equity in the company being supported. As such, this model resembles classical company financing which is often delivered by either business angels or venture capitalists (Belleflamme et al., 2013; Mollick, 2014; Ordanini et al., 2011). Equity-based crowdfunding platforms need regulatory approval to operate, whereas the rewards-based and donation-based alternatives are largely deregulated (Brown et al., 2018). Rewards-based platforms, such as Kickstarter in the USA, are very large and in fact represent some of the earliest crowdfunding platforms (Gerber et al., 2012; Mollick, 2014; Colombo et al., 2015; Lin & Viswanathan, 2015; Short et al., 2017; Balachandra et al., 2019). Equity-based crowdfunding is a growing business model, and investment via these platforms grew 22% year on year to reach £333 million in the UK during 2017 (Zhang et al., 2018). This total equates to as much as 12.9% of all of the UK's seed and early-stage funding offered during that year.

Much of the previous research on crowdfunding relates specifically to non-equity-based platforms. Research looking at equity-based crowdfunding is still in its infancy, but there is already a body of knowledge and understanding (Block et al., 2017; Vismara, 2016; Vulkan et al., 2016; Brown et al., 2018; Hoegen et al., 2018).

3 Gender and Crowdfunding

It is quite well evidenced now that there is a potential gender gap relating to entrepreneurship and entrepreneurial activities (Bruni et al., 2004; Ahl, 2006). Entrepreneurship is seen as a masculine domain (Bird & Brush, 2002; Marlow, 2002). Women are therefore thought to be disadvantaged when compared to men in regard to bank financing (Buttner & Rosen, 1988; Alesina et al., 2013; Stefani & Vacca, 2013; Eddleston et al., 2016) and with regard to organisational capital (Bigelow et al., 2014), with female firms often being activity discouraged from applying for bank loans, facing a higher probability of stricter lending conditions if they do apply and higher interest rates on any microfinance loans awarded. Furthermore, when considering the size of any loans agreed, an additional gender gap is becoming identifiable (Agier & Szafarz, 2013; Dorfleitner et al., 2016).

Evidence has also been discovered relating to a gender gap being present in private equity finance (Becker-Blease & Sohl, 2007), including venture capital (Peterson, 1981; Blanchflower et al., 2003; Cavalluzzo et al., 2002; Cavalluzzo & Wolken, 2005; Muravyev et al., 2009; Lins & Lutz, 2016; Kanze et al., 2018; Leitch, 2018), with women-led firms found to receive only 1.3% of the venture capital funding (Canning et al., 2012).

Considering equity-based crowdfunding, primary motivations for investors are often the potential for receiving a favourable return on investment (Cholakova & Clarysse, 2014; Vulkan et al., 2016). It is true to say that other motivations do exist, including social recognition and even personal interest, which together may influence any investment decisions (Bretschneider & Leimeister, 2017). Whilst the motivations of many equity investors are expected to be similar to that of venture capital funders (Ahlers et al., 2015; Geiger & Oranburg, 2018), they may in fact not be the same as other types of crowdfunding investors. As Vismara states, 'While the motivation to donate may be philanthropic, a marked characteristic of equity crowdfunding is the possibility of financial returns' (2019, p. 99).

In the crowdfunding research being reported, there are often conflicting findings in relation to gender and funding success. Equity crowdfunding regulation also varies by country (Borello et al., 2015; Cumming & Johan, 2013; Levin et al., 2013). Taking this country perspective, Geiger and Oranburg (2018) studied the equity platforms in the USA and discovered a distinct gender bias with female-dominated campaigns typically receiving lower funding in comparison to the target amount, when compared to male-dominated campaigns. This becomes even more evident as the amount of funding being sought gets higher. A study by Malaga et al. (2018) found that in the USA female-owned companies constitute only 15.2% of the ventures seeking funding via equity crowdfunding, and in contrast to other research, their study identified no evidence of gender influencing the likelihood of successful fundraising.

Conversely, with other types of crowdfunding platforms such as peer-to-peer lending (P2P), independent studies by Duarte et al. (2012) and Pope and Sydnor (2011) use data from the USA, and from this data they are able to demonstrate that with all else being equal, women are more likely to get funds on the platform than men. But a study on a German P2P lending platform, which considered the effect of personal characteristics on the borrowing success, found there is no effect of gender on the individual borrower's chance to receive funds on this platform (Barasinski & Schafer, 2014), but that female applicants do, on average, request smaller amounts.

Research undertaken (Marom et al., 2016) investigated the case of Kickstarter campaigns and concluded from the data that women entrepreneurs did experience higher rates of funding success rates, regardless of the funding targets, in comparison to their male counterparts. Other studies also confirm this finding (Chemin & De Laat, 2013; Colombo et al., 2015; Genevsky & Knutson, 2015), whilst Greenberg and Mollick (2016) determined no significance based upon gender (Barasinski & Schafer, 2014). It is also interesting to note that whilst some studies consider that females are more likely to achieve their funding goals due to female investors disparately supporting projects led by females compared to projects led by males

(Greenberg & Mollick, 2016), other studies point out that males still constitute the vast majority of funders across most crowdfunding platforms, with female funders more likely to fund projects led by males compared to project led by females (Marom et al., 2016; Allison et al., 2013; Johnson et al., 2018).

Crowdfunding offers opportunities for women, since more traditional venture capital is male dominated (Mollick & Robb, 2016). However, given the paucity of research in this field in regard to equity crowdfunding and the fact that many of the prior studies stem from the context of rewards-based crowdfunding and importantly occurrence of limited and often contrary results, there is a need for more research on gender and crowdfunding especially in the context of equity (Hoegen et al., 2018).

Funding outcome can also be seen as a manifestation of the investor decision-making process. Perceptions often guide the decision-making undertaken regarding whether to invest, and it is these perceptions that are often rooted in observable factors including ascriptive traits (Baron, 1998). Ascriptive characteristics (e.g., gender, age, race) may influence investor decisions (Biely & Baron, 1986; Baron et al., 2001). Gender is one of the most highly visible and stable ascriptive characteristics (Rudman & Phelan, 2008, p. 68; Lee & Huang, 2018). It can be argued that investors may use gender-based attributions to compensate for information that is unobservable (Fiske, 2000) and so make evaluations on the basis of such observable characteristics to reduce information uncertainty (Kunda & Spencer, 2003; Lee & Huang, 2018).

A study by Balachandra et al. (2019), in the VC context, examined the relationships between gender stereotypes and investor decisions and studied nonverbal signals in a pitch including masculine and feminine stereotypical behaviours. The research found that investors are not biased against women entrepreneur(s) who contradict gender stereotypes, but concluded that investors may demonstrate bias against ventures which emphasise overly feminine characteristics, irrespective of the gender of the person actually undertaking the pitch itself. As a result, instead of finding a physical gender-based bias, they instead found a 'significant feminine-based bias that appears to promote prejudice against those who display overly feminine-stereotyped behaviours' (Balachandra et al., 2019, p. 129). Similarly, Kanze et al. (2018) found that male and female entrepreneurs during a pitch are asked starkly different questions, with the men asked questions which are more forward-looking and/or promotion orientated and women asked questions which are more prevention focussed. The type of questions asked elicited responses that were promotional and preventative, respectively, and this ultimately led to a huge gap in funding awarded, with men receiving far greater amounts of money compared to women. In this context, Higgins' Regulatory Focus Theory (RFT) can be applied (Higgins, 1997). The theory reflects two separate regulatory concerns, these being promotion and prevention (Higgins, 1998), and the need to engage in goal-directed behaviours as motivation for attaining gains.

Entrepreneurship itself is often viewed as being a masculine domain (Marlow, 2002; Ahl, 2006), and female entrepreneurs who demonstrate overly feminine behaviours are deemed to possess lower overall business competence and leadership (Bird & Brush, 2002). The perceptions of entrepreneurs are rooted in information

about their character, intentions and integrity which are often in themselves associated with masculine traits (Steier & Greenwood, 1995; Eddleston et al., 2016).

Many studies suggest that the gender gap in funding persists, with some researchers arguing that this gap in outcomes achieved is the consequence of investors who select to support male entrepreneurs demonstrating their bias, on the basis that successful entrepreneurs are 'perceived' to be male (Balachandra et al., 2013; Brooks et al., 2014; Gupta et al., 2014; Eddleston et al., 2016). However, other researchers claim that female entrepreneurs seek less and therefore receive less capital as a result (Coleman & Robb, 2009; Morris et al., 2006). Consequently, we should question whether campaign teams which have more women within them have lower rates of funding success as a result.

4 Gender in Language and Crowdfunding

In crowdfunding, signals convey information to the potential investor about the quality of the offering. In the absence of objective information, the signals through visual imagery, written text, personal ascriptive characteristics of the team, etc. become significant in the investor's decision-making process (Fiske, 2000; Kunda & Spencer, 2003; Huang & Pearce, 2015; Wu, 2016). These evaluations of the offerings, under high level of uncertainty and limited information, become even more significant in the context of equity crowdfunding, where, unlike traditional investors, the offering is aimed at unsophisticated investors who possess limited knowledge and use proxies (and other evaluations) to make their decisions (Moritz et al., 2015).

Research undertaken by Moss et al. (2015) revealed that the language used in crowdfunding communication demonstrates signals about founder characteristics and so has a bearing on the investor decisions. Language and the expressed sentiment in the language of the communication, e.g., positive language in business plans and interactions on crowdfunding platforms (Courtney et al., 2017; Wang et al., 2018), are widely used to attract investors (Parhankangas & Ehrlich, 2014). Within project descriptions, linguistic style and the gender of author are often seen to be inextricably linked and therefore highly related (Cheng et al., 2011). Sentiments integrated within the interactions between the campaign team and the investors and the impact of affectual reactions may impact upon the ultimate funding success (Genevsky & Knutson, 2015; Dorfleitner et al., 2016; Courtney et al., 2017). Furthermore, aspects of the language used, such as the tone of the message (Areni & Cox, 1995), and the various linguistic styles used (Yuan et al., 2016; Parhankangas & Renko, 2017) are thought to also influence the investor decision-making process.

Gender identity can reveal itself in many ways including the way language is used and certain aspects of language such as the 'tone and pitch of voice, intonation patterns, choice of vocabulary, pronunciation and even grammatical patterns' (Alami, 2016, p. 248). There are therefore sociological differences in the use of

vocabulary and choice of words by men and women (Lakoff, 1975; Talbot, 1998). Other studies have also considered these aspects including research undertaken by Freeman and McElhinny (1996), Weatherall (2002) and Cheng et al. (2011). If this is true, and if potential investors are influenced unconsciously by the ascriptive characteristics, then we can assume that language of the text within the campaign will also be an influencing factor in the investor decision-making. Relatively little work has been done on gender identification from text (Vel et al., 2002), and so there is no evidence yet that individuals use language that is in line with their physical gender, i.e. that men use more male language and females use more female language.

In this study, we look at the language inherent within the online ‘pitch’, i.e. the description text, and examine whether there is gendered vocabulary in the language that may affect the overall funding outcome. Like Balachandra et al. (2019), we are trying to distinguish between the sex of the campaign lead and the gender displayed through the online ‘pitch’. We do this to examine if gendered vocabulary in communication within the text, and within the comments, has any bearing on the success of the campaign. The study of gender differences within language has a long, albeit at times considered controversial (Wood & Dindia, 1998; Canary & Dindia, 2009). Algorithms can now accurately identify differences in male and female language, and many studies (Leaper & Ayres, 2007; Newman et al., 2008; Fast & Funder, 2010) have evidenced gender-based language features including both words and phrases, used consistently by one gender and not by the other (Newman et al., 2008). There are differences in gender in the use of language where self-identified females were warmer and more compassionate, whilst self-identified males were using language that was colder, more hostile and impersonal (Park et al., 2016).

It is possible that the ‘femaleness’ of a campaign, or a female lead of a campaign, not only receives less funding when compared to their male counterpart but also that ‘femaleness in language’ of a campaign creates an environment which discourages investors. In the context of equity crowdfunding, gender is a very relevant construct influencing the success of funding, with gender not just referring to the physical gender of the *GPS* but also to the number of women in a team, to the gender of the language used in the communication via description text and to the communication undertaken with investors (aggregate).

Based upon the above discussions, the working hypotheses for this research study are:

- *Hypothesis 1.* Equity crowdfunding campaigns with a higher proportion of females in the team are disadvantaged.
- *Hypothesis 2.* The success of an equity crowdfunding campaign is related to any sense of gender inherent within the language of the campaign’s text description.
- *Hypothesis 3.* The success of an equity crowdfunding campaign is related to any sense of gender inherent within the language of the investor’s comments.

5 Research Design

The UK is the largest market for equity crowdfunding in the world and provides the best empirical opportunity to examine how investors consider the gender of ventures in their decision-making. Crowdcube is the ‘second’ largest platform in the UK and was established in 2011. The platform works on an ‘All-or-Nothing’ (AON) model which means that if the campaign fails to raise the total target amount in the specified time, then the campaign gets nothing, and the money that was secured is returned to investors. This study provides consistency with previous work also based upon the Crowdcube platform (Cumming et al., 2017; Signori & Vismara, 2018; Walthoff-Borm et al., 2018; Vismara, 2016, 2018, 2019).

This research study seeks to address the following research question: ‘in the context of equity crowdfunding campaigns, is the success of funding related to the gender in a team, and/or the gender of the language within the campaign?’. Analysis was performed with reference to one outcome variable (dependant variable), this being *SuccessRatio (SR)*. Instead of taking the discrete value of success as measured by whether a campaign has reached its target funding (Wang et al., 2018), we used the ratio stated below, to control for the absolute amount requested. Another reason for using success ratio is that it represents the project’s potential in relation to the original idea (Viotta Da Cruz, 2018), thereby demonstrating investor confidence.

Crowdfunding success is a scale/continuous ratio variable *SuccessRatio (SR)* which has been logarithmically transformed to linearise *SR* and to reduce its heteroscedasticity. We define the ratio variable *SuccessRatio SR* as being:

$$SR = \text{Amount of Funding Received} / \text{Amount of Funding Sought} \quad (1)$$

Examining the relationship between gender within team and language and the success of funding raised through equity crowdfunding campaigns, data from one of the UK’s leading equity crowdfunding platforms was used. In this study we have used Crowdcube’s equity crowdfunding campaigns. We collected publicly available data, using a web data extraction method from the full population of 768 successful campaigns on Crowdcube.

This full population contains data from its inception in February 2011 to the date of the research which was August 2019. Collecting data in this manner is a widely used method within similar investigations (Belleflamme et al., 2013; Mollick, 2014; Huhtamäki et al., 2015; Raab et al., 2017; Wang et al., 2018) and is therefore considered to be an acceptable process. Crowdcube was, as of March 2020, the world’s largest platform, with £1.6 million successfully raised in the third quarter of 2018 and with additional £50.4 million in pledged investments (Crowdcube, 2020). Previous research by Vismara (2019) excluded ‘mini-bond offerings, offerings of convertible bonds and equity offerings by companies that have previously raised capital through equity crowdfunding’ (p. 102) and so we have followed a similar approach for this study.

To analyse the gender distribution in the data, we used third-party services including Amazon Comprehend and Amazon Rekognition (AWS, 2020). In addition, genderapi.io was used to extract identifiers such as names and to predict the gender of the identified names primarily using a machine learning approach which was crucial for analysing non-binary data. uClassify Gender Analyser_V5 was used to gauge the gender by examining the writing style of the input text. We used multiple third-party software tools, to increase the validity and reliability of the data relating to gender of the language. Both uClassify and the Amazon services yielded similar results. Like the study by Alami (2016), we use machine learning-based software tools to identify the gender inherent within campaign text, and we argue that gender can be identified from the language and vocabulary used in such text.

For coding based upon gender, we followed established principles in line with Geiger and Oranburg who looked at the primary signatory gender, i.e. the individual most responsible (Geiger & Oranburg, 2018, p. 3). We also coded the gender of the campaign lead similarly and called this variable GPS, i.e. Gender of the Primary Signatory, in line with Geiger and Oranburg's methodology (Geiger & Oranburg, 2018). Where the machine-based gender tool yielded an 'unknown', we manually searched the respective campaign for the gender identifiers such as 'he' and 'she' (Geiger & Oranburg, 2018, p. 3).

Within each campaign, the comments from investors were collected. Out of the 768 campaigns, 419 had accessible interactions and comments that could theoretically be considered. Of the 419 campaigns, the total number of comments available to analyse were 33,064 comments from 397 campaigns. Similar to past studies, we aggregated the comments and replies into a single number (Mollick, 2014; Li & Jarvenpaa, 2015).

A textual gender analysis was applied for each investor interaction, using uClassify's Gender Analyser_V5 tool, to ascertain the 'maleness' and 'femaleness' of each interaction. This tool analyses text in terms of the vocabulary within it, and it is a software tool that is based on machine learning and has been trained on 11,000 blogs (uClassify, 2020). For example, a comment stating 'I am pleased with the details within your marketing budget for the campaign' has a 55% probability of being male and only a 45% probability of being female. For each campaign, we used the Gender Analyser_V5 output against both each individual investor comment and its corresponding response when applicable.

For each of the 33,064 comments collected and text analysed by the software tool above, we consider the ratio of the 'maleness' of each comment to the 'femaleness' of each comment. The gender analyser tool yields a percentage score for 'maleness' and 'femaleness' for each item of text analysed. We extended Courtney et al. (2017) calculation of 'backer sentiment' (p. 276) to our own generation of the continuous variable *DiscGen* that measures the overall gender reflected in the interactions:

Table 1 Variable definitions for this study

| Variable | Definition |
|----------------------|---|
| <i>SR</i> | Success ratio. The money awarded compared to the money requested |
| <i>EQT</i> | Equity offered as a percentage |
| <i>EIS</i> | Enterprise incentive scheme with 1 = <i>EIS</i> available and 0 = <i>EIS</i> not available |
| <i>INV</i> | Number of investors |
| <i>DisNum</i> | Number of discussion comments available in the campaign |
| <i>GPS</i> | Gender of the primary signatory with 0 = female and 1 = male |
| <i>TmT</i> | Team total. Number of the team members in the campaign |
| <i>FRT</i> | Number of women in the team compared to total team size |
| <i>DescGendR</i> | Description gender is a measure of how gender orientated the language used is within a campaign. This indicates the ratio of male- to female-based text in the description |
| <i>DiscGen</i> | A measure of the ratio of the total male to total female gender orientation in the comments from the backers, calculated for each comment and aggregated, at the overall the campaign level |
| <i>FRTxGPS</i> | Measures the moderating effect of <i>GPS</i> on the relationship between the dependent <i>SR</i> and independent <i>FRT</i> |
| <i>DiscGenxGPS</i> | Measures the moderating effect of <i>GPS</i> on the relationship between the dependent <i>SR</i> and independent <i>DiscGen</i> |
| <i>GPSxDescGendR</i> | Measures the moderating effect of <i>GPS</i> on the relationship between the dependent <i>SR</i> and independent <i>DescGendR</i> |

$$DiscGen = \frac{\sum MaleInt}{\sum FemaleInt} \tag{2}$$

In the development of this relationship, *MaleInt* is the Gender Analyser_V5 maleness score for each comment, and *FemaleInt* is the femaleness score for each comment and aggregated for each campaign. Similarly, for the text description on the campaign page, we used Gender Analyser_V5 to ascertain the maleness and femaleness of the text and created a continuous variable called:

$$DescGendR = MaleGendR/FemaleGendR \tag{3}$$

Here *MaleGendR* is the ‘maleness’ in the campaign text description, and *FemaleGendR* is the femaleness. Once we identified all these key aspects of the study, based on the number of comments from the interactions available to us, this yielded a sample of 397 campaigns. This selection included campaigns that are both closed and successful.

Table 1 provides the list and definitions of the independent variables which are defined in line with previous studies on equity crowdfunding undertaken by Ahlers et al. (2015), Courtney et al. (2017), Geiger and Oranburg (2018), Johnson et al. (2018) and Vismara (2018).

An assumption in this study is that women-led campaigns will have a lower success of funding than male-led campaigns. Our goal is to investigate whether the relative success of a campaign is influenced by:

- Gender of the campaign team
- Gender inherent within the language in the text description of the campaign
- Gender inherent within the investor comments

In this study we also look at funding outcome *SR* (measured in terms of amount of funding received in proportion to amount of funding sought) as a proxy to understanding the investor decision. However, investor decision is an aggregate of many different decision points over time and therefore also relates to other variables.

As a result, this study has included other variables to ensure that possible confounding effects are monitored and controlled as these variables have previously been found to influence crowdfunding success. Examples of these variables include:

- Number of comments *DisNum*—according to past studies, the number of posted comments has a positive effect on the funding performance (Li & Jarvenpaa, 2015; Ryu & Kim, 2016; Wang et al., 2018).
- Number of investors (*INV*) (Haifeng et al., 2018), Equity (*EQT*) (Lukkarinen et al., 2016; Vismara, 2019).
- Enterprise Incentive Scheme (*EIS*) (Chen et al., 2018; Vismara, 2019).
- Gender of Primary Signatory (*GPS*) (Geiger & Oranburg, 2018; Lee & Huang, 2018).
- Team size (*TmT*) (Belleflamme et al., 2013; Ahlers et al., 2015; Vismara, 2019).

Previous studies have also looked at the duration of campaign (Mollick, 2014; Wang et al., 2018), but for this study it was decided not to include this variable as all campaigns on the platform had the same maximum of 30 days for ‘pitching’. Furthermore, the sample of 397 used only included all closed *and* successful campaigns.

Studies looking at the language in the interactions between creators and backers, focussing on the sentiment of the language, have also looked at reply speed, reply length, signal quality via videos and pictures embedded within the campaign and number of updates (Chen et al., 2009; Frydrych et al., 2014; Mollick, 2014; Beier & Wagner, 2015; Wang et al., 2018). Again, we have not considered these additional variables in this study because our focus is only on the gender inherent within the language and how this may affect the outcome variable *SuccessRatio*. Barbi and Mattioli (2019) determined that the composition of the team plays a role despite the evidence being less clear-cut.

In our study, we have tested the assumption that increasing the number of females in a team decreases the success of funding using the independent variable *FRT*. We assumed, from the existing literature, that the gender of the language (Alami, 2016) in both the description *DescGendR* and the investor comments *DiscGen* would influence the funding success. This is because in crowdfunding, in the absence of objective and detailed information, investors (who are often unsophisticated) are thought to rely on ascriptive characteristics and information signals, to arrive at their decision about the potential venture quality, which in turn will influence their investment decisions.

Our preliminary examination demonstrated that women-led campaigns, i.e. campaigns in which women are the primary signatory, accounted for 130 out of the 397 campaigns. Approximately 50% of the campaigns in the sample successfully reached their target in line with estimates made by Vismara (2019). The average number of investors was 397.87 which is higher than that predicted by either Ahlers et al. (2015) or Vismara (2019). This is considered to be due to the larger sample size. This high number of average investors also indicates that the UK is more 'truly characterised by the presence of small investors, relative to other platforms' (Vismara, 2019, p. 141). Further characteristics of the data observed included:

- The number of team members (*TmT*) was an average of 4.42 ranging from 0 to 26. This is similar to the average of 4.5 reported by Vismara (2019), but higher than 3.6 by Ahlers et al. (2015).
- The average equity offered was 13.55%, and the average number of interactions in the comments section was 81.3, with a range from 1 to 434.

To test the hypotheses, OLS regression was undertaken with three sequentially added blocks of predictors. The research employed the 'naïve sequential approach' which involves fitting the regression models, using the covariates revealed by the end of the current stage, and we have been able to do this as the number of covariates, and the total number of stages, was not prohibitively large. The study utilised a stochastic control process, or prediction problem, in which an outcome depends on a set of non-random covariates, in such a way that at each stage a model (either explanatory or predictive) for the outcome was required (Moffatt & Scarf, 2016; p. 454). In our model, predictor variables were added as blocks in the sequential OLS regression, to assess the additional explanatory power of the predictor variables of interest, after accounting for the effect of the controls applied. Table 2 shows the mean, standard deviation and the correlation matrix.

6 Analysis of Results

From the working hypotheses, statistical hypotheses were developed to clarify our propositions in this study. Assumptions made included that femaleness of gender, both in terms of the composition of the team and the language used within the campaign in communication and in conversations with investors, will adversely affect the success of funding. We argue that both the gender composition of a team and the nuances in language and vocabulary used from a gender perspective may manifest themselves in unconscious bias and thereby disadvantage women on equity platforms. These assumptions stem from the existing evidence within the literature on gender issues within equity crowdfunding and allow us to probe further into factors that may impact upon investor decision-making:

Table 2 Correlation matrix

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---------------------|---------------------|--------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|----|----|
| logSR Mean 0.887 SD 0.233 | 1 | | | | | | | | | | |
| EQT Mean 13.540 SD 7.172 | 0.098 ^a | 1 | | | | | | | | | |
| EIS Mean 0.700 SD 0.457 | 0.018 | -0.018 | 1 | | | | | | | | |
| INV Mean 397.870 SD 569.743 | 0.371 ^b | -0.150 ^b | 0.05 | 1 | | | | | | | |
| TmT Mean 4.420 SD 2.890 | -0.002 | -0.182 ^b | 0.162 ^b | 0.114 | 1 | | | | | | |
| DisNum Mean 81.270 SD 69.628 | 0.301 ^b | -0.152 ^b | 0.094 ^a | 0.631 ^b | 0.099 ^a | 1 | | | | | |
| GPS Mean 0.810 SD 0.393 | 0.022 | 0 | -0.007 | 0.089 ^a | 0.046 | 0.137 ^a | -0.085 ^a | 1 | | | |
| FRT Mean 0.213 SD 0.236 | -0.173 ^b | -0.081 ^a | 0.035 | -0.137 ^a | 0.016 | -0.215 ^b | -0.005 | -0.651 ^b | 1 | | |
| DescGendR Mean 7.985 SD 14.520 | -0.044 | -0.046 | 0 | -0.010 | 0.083 ^a | 0.086 ^a | 0.029 | 0.096 ^a | -0.094 ^a | 1 | |

| | | | | | | | | | | | |
|----------------|--------------------|---------------------|--------|-------|--------------------|-------|--------|--------------------|---------------------|--------------------|---|
| DiscGen | 0.153 ^b | -0.155 ^b | -0.021 | 0.115 | 0.084 ^a | 0.062 | -0.016 | 0.204 ^b | -0.115 ^a | 0.169 ^b | 1 |
| Mean 1.618 | | | | | | | | | | | |
| SD 0.378 | | | | | | | | | | | |
| N = 397 | | | | | | | | | | | |

^a Statistical significance at 5%

^b Statistical significance at 1%

- *Hypothesis 1*: In equity crowdfunding campaigns, the number of women in a team has a negative effect on the success of funding. $H_0, \beta_{FRT} = 0, H_1, \beta_{FRT} < 0$.
- *Hypothesis 2*: In equity crowdfunding campaigns, the ‘femaleness’ of the gender of the language in the description of the campaign has a negative effect on the success of funding. $H_0, \beta_{DescGendR} = 0, H_1, \beta_{DescGendR} < 0$.
- *Hypothesis 3*: In equity crowdfunding campaigns, the ‘femaleness’ of the gender of the language in the comments of the campaign has a negative effect on the success of the funding. $H_0, \beta_{DiscGen} = 0, H_1, \beta_{DiscGen} < 0$.

In Table 3 we report the results from the sequential regressions comprising of sub-models (which we refer to as Block 1, 2 and 3) and Model 4. In this context, the word ‘block’ has been used to differentiate from ‘model’ used previously. A block in this sense is a subcomponent of a model.

The overarching research question considers if there is an inherent bias against campaigns that are more female, in terms of number of women in the teams and the vocabulary used, and the impact of these factors on the subsequent success of the funding. The dependent variable used is *LogSR*. The research examines the extent to which the number of women in a campaign predicts the success of the funding raised. Additionally, we also considered if the gender inherent in the language used within the campaign description, and within the investors’ comments, may predict success. Furthermore, the gender of the campaign lead as a predictor of success was considered.

In our model, the distribution of (prediction) residuals has acceptable normality with no outliers influential enough to be considered for removal. The variance inflation factors (VIFs) associated with each model specification all fall well below the acceptable threshold of 10, indicating multicollinearity is not a concern.

Block 1 of Table 3, as part of our sequential set of variable blocks, deals with non-gendered control variables that have been tested empirically in previous studies (Table 1). This accounted for about 17% of the total variance of success of funding ($R^2 = 0.172$).

We found positive significance for the variables *EQT* ($\beta = 0.161, p < 0.01$), $p < 0.01$); we also found a positive relationship between *INV* and success ($\beta = 0.317, p < 0.01$) and *DisNum* ($\beta = 0.129, p < 0.05$), thereby confirming our understanding of the impact of the control variables on the outcome variable.

Although *GPS* is an existing variable in previous study (Geiger & Oranburg, 2018) and hence ought to be in Block 1, we left the inclusion of any gendered variable until Block 2.

In Block 2, we added the gendered variables which accounted for an additional 4% of the total variance of funding raised ($R^2 = 0.218$). To test the direct relationship between the number of women in a team and the success ratio, we added the variable *FRT* to Block 2. The results showed a significant negative relationship between the number of women in a team and the success ratio of a campaign ($\beta = -0.194, p < 0.01$). This finding supports *Hypothesis 1*.

In Block 2 we also entered the gender variables for the text description *DescGendR* and the investors’ comments *DiscGen*, as well as the gender of the

Table 3 Gender and the success of the campaign

| | Model 1 | Model 2 | Model 3 | Model 4 |
|-------------|------------------|------------------|------------------|------------------|
| EQT | 0.161 | 0.163 | 0.174 | 0.184 |
| | 0.001 | <0.001 | <0.001 | <0.001 |
| | <u>3.393</u> | <u>3.470</u> | <u>3.755</u> | <u>4.023</u> |
| | <i>(0.002)</i> | <i>(0.002)</i> | <i>(0.002)</i> | <i>(0.002)</i> |
| EIS | -0.004 | 0.007 | 0.020 | |
| | 0.940 | 0.887 | 0.657 | |
| | <u>-0.750</u> | <u>0.142</u> | <u>0.444</u> | |
| | <i>(0.026)</i> | <i>(0.025)</i> | <i>(0.025)</i> | |
| INV | 0.317 | 0.288 | 0.289 | 0.292 |
| | <0.001 | <0.001 | <0.001 | <0.001 |
| | <u>5.313</u> | <u>4.904</u> | <u>5.020</u> | <u>5.103</u> |
| | <i>0.000</i> | <i>0.000</i> | <i>0.000</i> | <i>0.000</i> |
| TmT | -0.022 | -0.016 | -0.076 | |
| | 0.651 | 0.737 | 0.114 | |
| | <u>-0.453</u> | <u>-0.337</u> | <u>-1.584</u> | |
| | <i>(0.005)</i> | <i>(0.005)</i> | <i>(0.005)</i> | |
| DisNum | 0.129 | 0.123 | 0.124 | 0.110 |
| | 0.032 | 0.039 | 0.036 | 0.045 |
| | <u>2.154</u> | <u>2.067</u> | <u>2.103</u> | <u>1.903</u> |
| | <i>0.000</i> | <i>0.000</i> | <i>0.000</i> | <i>0.000</i> |
| GPS | | -0.172 | -0.142 | |
| | | 0.004 | 0.514 | |
| | | <u>-2.858</u> | <u>-0.653</u> | |
| | | <i>(0.037)</i> | <i>(0.134)</i> | |
| FRT | | -0.194 | -0.513 | -0.447 |
| | | 0.002 | <0.001 | <0.001 |
| | | <u>-3.182</u> | <u>-5.009</u> | <u>-5.125</u> |
| | | <i>(0.063)</i> | <i>(0.105)</i> | <i>(0.102)</i> |
| DescGendR | | -0.072 | -0.141 | |
| | | 0.119 | 0.483 | |
| | | <u>-1.561</u> | <u>-0.702</u> | |
| | | <i>(0.001)</i> | <i>(0.004)</i> | |
| DiscGen | | 0.164 | 0.333 | 0.347 |
| | | 0.001 | 0.001 | <0.001 |
| | | <u>3.470</u> | <u>3.260</u> | <u>5.552</u> |
| | | <i>(0.032)</i> | <i>(0.069)</i> | <i>(0.068)</i> |
| FRTxGPS | | | 0.336 | 0.275 |
| | | | <0.001 | <0.001 |
| | | | <u>3.953</u> | <u>3.765</u> |
| | | | <i>(0.133)</i> | <i>(0.126)</i> |
| DiscGenxGPS | | | -0.448 | -0.527 |
| | | | 0.038 | <0.001 |

(continued)

Table 3 (continued)

| | Model 1 | Model 2 | Model 3 | Model 4 |
|----------------|---------|---------|---------------|---------------|
| | | | <u>-1.949</u> | <u>-5.110</u> |
| | | | (0.077) | (0.076) |
| GPSxDescGendR | | | 0.078 | |
| | | | 0.706 | |
| | | | <u>0.378</u> | |
| | | | (0.004) | |
| Constant | 0.743 | 0.701 | 0.737 | 0.679 |
| | (0.04) | (0.077) | (0.129) | (0.12) |
| Model R^2 | 0.172 | 0.218 | 0.257 | 0.246 |
| Adjusted R^2 | 0.161 | 0.200 | 0.234 | 0.231 |
| ΔR^2 | 0.172 | 0.046 | 0.039 | 0.051 |

Note: Table 3 includes sequential regressions for LogSR—sample = 397 equity crowdfunding offerings listed on Crowdcube between 2011 and 2019, with standardised coefficients, robust standard errors in parentheses, p-values in bold and t-values in underline

primary lead of the campaign *GPS*. We found a significant positive relationship, with a success ratio of funding for the aggregated gender of the investors’ comments *DiscGen* ($\beta = 0.164, p < 0.01$). This finding supports *Hypothesis 2*.

However, importantly we did not find evidence of a link between the gender of the language within the text description and the success of funding *LogSR*. Instead from the findings, we identified a significant negative relationship for *GPS* ($\beta = -0.172, p < 0.01$), with *LogSR* in line with existing evidence in the literature.

In Block 3, we entered the control variables along with the gendered variables as per Block 2. This model accounted for an additional 4% of the total variance of funding raised ($R^2 = 0.257$). Hence, in Model 3 we entered the interaction between *GPS* and *FRT* (named as *FRTxGPS*) to see if the interaction with *FRT* was causing the significant effect on *GPS* as a predictor. We found this to be the case with a significance at $\beta = 0.336$ and $p < 0.01$. Here the moderator is the binary variable *GPS*. To examine the significant interaction, we first explored the magnitude of the effect of the number of women in a team, as a function of gender of the primary signatory, by plotting an interaction for both male-led teams and female-led teams. By exploring the significant interactions in this manner, we improved our ability to interpret the effects (Geiger & Oranburg, 2018). As displayed in Figs. 1 and 2, when the *GPS* is female, an increasing proportion of women in the team is associated with a decrease in success ratio of funding. And when *GPS* is male, similarly, an increasing number of women in the team is associated with a decrease in success ratio, albeit the effects of the *GPS* male is weaker than *GPS* female. This lends support to *Hypothesis 1* that an increasing number of women in a team do lower the chances of success of funding. Here *GPS* male, compared to *GPS* female, increases the success ratio (*SR*) by $0.336 \times FRT$.

In Block 3 we also entered the interactions between *GPS* and Description Gender, i.e. *GPSxDescGendR*, and *GPS* and gender aggregate of the comments, i.e., *DiscGenxGPS*. The results showed a significant negative relationship with funding

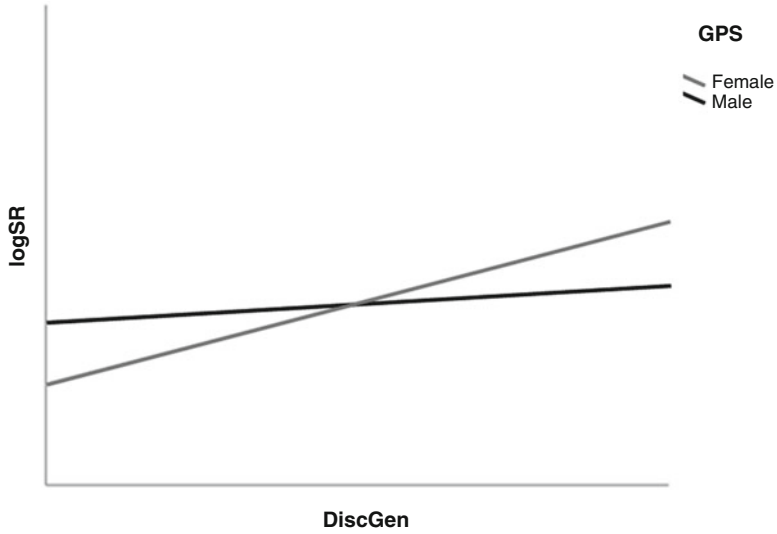


Fig. 1 Interaction plot—relationship between logSR and FRT

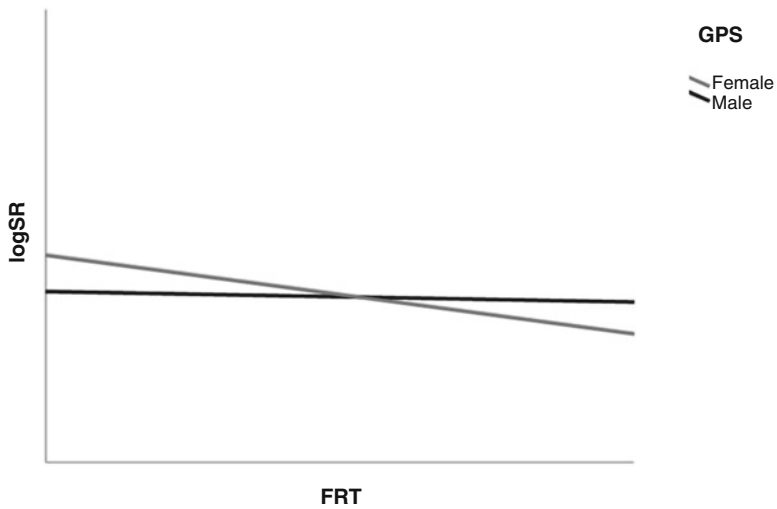


Fig. 2 Interaction plot—relationship between logSR and DiscGen

raised for the interaction term $DiscGen \times GPS$ ($\beta = -0.448, p < 0.05$). These findings can be explained—if GPS is female, there is a moderate increase in success ratio as the proportion of ‘maleness’ in language increases; when GPS is male, the same effect is present, but this effect is much weaker. This explains why the coefficient of the interaction is negative because compared to female a male GPS tends to reduce

SR. We find no significant relationship between the interaction term *GPSxDescGendR* and *LogSR*.

And finally, in Model 4, we tested again Model/block 3 without the non-significant predictors *EIS*, *TmT*, *GPS*, *DescGendR* and the non-significant interactions *GPSxDescGendR*. Here we removed the non-significant predictors. We note that this model did not differ substantively from the end point of the sequential blocks ($R^2 = 0.246$ and Adjusted $R^2 = 0.232$). As expected, significant variables in Model 3 of the sequential model are significant in this model too. Here *EQT* ($\beta = 0.184, p < 0.05$), *INV* ($\beta = 0.292, p < 0.01$), *FRT* ($\beta = -0.447, p < 0.01$), *DiscGen* ($\beta = 0.347, p < 0.01$), *FRTxGPS* ($\beta = 0.275, p < 0.01$) and *DiscGenxGPS* ($\beta = -0.527, p < 0.01$).

7 Discussion

Equity crowdfunding is different to other crowdfunding methods. Firstly the motivations of the investor are likely to be starkly different to say a rewards-based or a donation-based crowdfunding supporter. ‘Supporter’ in the context of both rewards- and donation-based crowdfunding opportunities is investors who are not allowed to own a stake or shares in the company. From an investor point of view, equity crowdfunding can be seen to be similar to more traditional forms of entrepreneurial finance such as venture capital funding (Ahlers et al., 2015; Geiger & Oranburg, 2018; Vismara, 2019). Gender has been previously found to be a critical factor in investor decision-making in entrepreneurial finance (Blanchflower et al., 2003; Lins & Lutz, 2016; Kanze et al., 2018; Leitch, 2018), and there is a body of literature on gender issues in crowdfunding context too, but many of these studies are in the context of non-equity-based crowdfunding, and there are conflicting findings ranging from ‘crowdfunding being an advantage for women’ to there being no reportable difference in funding success based upon gender.

Given the conflicting nature of findings to date, there is a need to add further evidence to extend the existing body of literature. In this study, crowdfunding decisions are explored in relation to gender in teams and gender in language, thereby combining these two themes which are each considered to be of great relevance. Our study makes several contributions. Firstly, we find significant evidence that crowdfunding campaigns with an increasing number of women in a team lead to a decreased success of funding for both male and female team leads. This relationship is stronger when a female leads a team, but also present when a male leads a team. This supports a previous study by Geiger and Oranburg (2018) which indicated the impact of physical gender of both team and team lead on the success of an equity crowdfunding campaign. We found a negative relationship between the gender of the campaign lead and the success of funding in line with Geiger and Oranburg (2018). We have provided empirical evidence that the composition of the team, in terms of gender of team members, affects funding success, and this reinforces the

direct relationship between gender and the success ratio of funding, within equity crowdfunding campaigns.

A further contribution comes from the gender of the language used within the investors' comments. As investors are making decisions in the absence of objective information and evidence, often attributions such as gender become an important factor in evaluation of the campaign quality (Huang & Pearce, 2015; Wu, 2016). Gender can be manifested in a variety of ways, including the use of language and the choice of vocabulary (Alami, 2016, p. 248). If men and women use language differently has been investigated by Cheng et al. (2011), and this is very relevant because if there are gender differences in the use of language, including vocabulary, then we can expect this to have an influence on investor decision-making, even though the physical gender of the individual may have no influence on the language gender that they use.

We have concluded that, for aggregate investors' comments (Li & Jarvenpaa, 2015; Mollick, 2014), the gender of the language used is a significant predictor of the success ratio. Where the comments are overwhelmingly male, it has a positive relationship with increasing success ratio of funding, and conversely, where the comments are overwhelmingly female, there is a decreasing success ratio of funding. Although the way a campaign is described on the investor facing page, including the content (Ordanini et al., 2011), language (Moss et al., 2015) and tone (Parhankangas & Ehrlich, 2014), has been found to be related to the success of funding, we found no support for our assumption that the gender of language in the campaign text description has a bearing on success of funding.

There are a few contradictions to the existing literature as it is normal in these studies. We find positive relationship between equity offered (*EQT*) and success of funding, thereby contradicting Vismara's (2019) study which reports a negative significance. In line with Haifeng et al. (2018), we found positive relationships between *INV* and success and *DisNum* and success (Wang et al., 2018), thereby confirming our understanding of the impact of the control variables on the outcome variable. However, we did not find any significance for *TmT*, which is found by Ahlers et al. (2015) and Vismara (2019). Additionally, we did not find any significance for *EIS* which supports Vismara (2019) findings in which no relationship between tax incentives and success was obvious. However, our findings do contradict Chen et al. (2018) who themselves concluded that investors allocate more funds to campaigns that are eligible for tax incentives such as *EIS*. Looking at the nature of findings across equity crowdfunding studies, these contradictions are not problematic, or unusual, due to the nature of the sample and the variables studied.

Finally, our study has useful implications for entrepreneurs and individual investors, as well as policymakers regulating the market for equity crowdfunding. Our study extends current research by addressing the influence of gender on crowdfunding success. This is more significant in the context of equity crowdfunding where investors are seeking a financial return on their contributions. We can therefore draw direct comparisons between their motivations and that of venture capital investors. This study provides empirical evidence that gender bias is strongly present in the context of equity crowdfunding and shows that equity

crowdfunding is more similar to venture capital funding, than to other rewards-based crowdfunding, as far as the success of funding as a function of gender is concerned. In this study we have successfully advanced the knowledge of gender in entrepreneurial finance, by examining the unconscious biases at play when decisions are made.

8 Conclusion

This research considers if equity investors on crowdfunding platforms display the same bias against women compared to venture capital alternatives. A conceptual model was applied to a dataset of 397 campaigns, from a leading UK-based equity platform, to investigate the issues around gender and its impact on entrepreneurial finance in the context of equity crowdfunding. This study investigates the manifestation of gender in both the physical sense of the term and in language and its impact on the outcomes in an equity crowdfunding context.

From this research study, it is possible to conclude that the aggregated gender of the investors' comments does have an influence upon the success of the funding obtained from equity investors. We have demonstrated that not only does the physical gender of the team, and the gender of the primary signatory, influence the final decision, but also any gendered nuances in the language within the campaign can have a significant impact. We found that the gender composition of the team can strongly predict the successful outcome of an equity campaign and gender within language of investors' comments can also strongly predict the success of a campaign.

The researchers found that for campaigns where the lead entrepreneur, referred to as the Gender of the Primary Signatory (GPS), was female, the campaign attracted less funding. Furthermore, we also found that as the target amount increased, the amount received decreased when the GPS was female. It is argued that not only does the gender of the primary signatory have an impact on the success of funding, but also the number of women in a team. It is also presented that given that the motivations of equity investors are similar to that of venture capital (VC) investors (Geiger & Oranburg, 2018; Kanze et al., 2018), it would be reasonable to expect to see bias against women on the equity crowdfunding platforms in a similar manner to that in venture capital studies.

Through this paper we aim to contribute to the broader body of knowledge relating to investor decision-making in the face of bias in the context of equity crowdfunding. From this study we expect to stimulate further research in the areas of gender (both physical and the more esoteric, within signals) and equity crowdfunding and the role of gender in both the decision-making process and the amount of funding being secured.

9 Limitations and Future Research

Challenges and limitations of this research are in line with those faced by many other similar studies also considering equity-based crowdfunding platforms:

- Data available only represents those who have successfully raised money. Data representing unsuccessful campaigns is unavailable for analysis.
- From the data it is evident that women are significantly under-represented in the population of fund seekers. This does not necessarily point to the bias against women, but could be a representation of the entire population of fund seekers, meaning that elements of the entrepreneurship gender gap are present before any investor involvement (Ewens & Townsend, 2020).
- No information on gender-based characteristics of investors is available in this dataset. It is therefore not possible to establish if female investors prefer to support women or vice versa.
- In a previous study, Marom et al. (2016) found that women founders are more likely to pair with women investors, but Kanze et al. (2018) concluded that in the context of VCs, both male and female investors were biased against women founders.

We took the first step to examine the gender effects of investor comments and within the text description. Our measure of gender in language is reasonable, but imperfect due to the error margin that any machine learning-based software has. Also, we are using a single number for the aggregated interactions in the comments, which risks limiting our understanding about the holistic effects of the interactions on crowdfunding success (Wang et al., 2018). We thus call for future research that examines the gender nuances in language within the campaign and within the interactions. There is also potential for further research linked to Kanze et al. (2018) in looking at the individual interactions in the investor comment section, to see if Regulatory Focus Theory can explain the nature of responses and sentiments within it. For example, promotion-based questions and prevention-focussed questions may be present in these interactions too.

In this study we found that having a higher number of women in a team elicits an unfavourable response from the investors in the form of reduced success of funding. These findings support previous research that suggests that women are disadvantaged when it comes to raising funds for their entrepreneurial ventures (Geiger & Oranburg, 2018; Kanze et al., 2018). Further research utilising data from campaigns that have failed on the equity platforms and/or campaigns that are not selected to be launched on the equity platforms can offer more insights into the gender issues. This can be in the form of additional inquiry, through qualitative design, into motivations and perceptions of lead of failed/unselected campaigns.

The study recognises the difficulty and data protection issues around equity-based studies in the UK and EU. However, under the 1997 UK Copyright and Rights in Database Regulations Act, a database made available to the public may have

elements of its contents extracted for the purpose of teaching and/or research, as long as the source is clearly indicated.

References

- Agier, I., & Szafarz, A. (2013). Microfinance and gender: Is there a glass ceiling on loan size? *World Development*, 42, 165–181. <https://doi.org/10.1016/j.worlddev.2012.06.016>
- Ahl, H. (2006). Why research on women entrepreneurs needs new directions. *Entrepreneurship Theory and Practice*, 30(5), 595–621. <https://doi.org/10.1111/j.1540-6520.2006.00138.x>
- Ahlers, G., Cumming, D., Gunther, C., & Schweizer, D. (2015). Signalling in equity crowdfunding. *Entrepreneurship Theory and Practice*, 39(4), 955–980. <https://doi.org/10.1111/etap.12157>
- Alami, M. (2016). Approaches to gender studies: A review of literature. *Applied Linguistics and Language Research*, 3(3), 247–256.
- Aldrich, H., & Martinez, M. (2001). Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory Practice*, 25(4), 41–56. <https://doi.org/10.1177/104225870102500404>
- Alesina, A., Lotti, F., & Mistrulli, P. (2013). Do women pay more for credit? Evidence from Italy. *European Economic Association*, 11, 45–66. <https://doi.org/10.1111/j.1542-4774.2012.01100.x>
- Allison, T., McKenny, A., & Short, J. (2013). The effect of entrepreneurial rhetoric on microlending investment, an examination of the warm-glow effect. *Business Venturing*, 28, 690–707. <https://doi.org/10.1016/j.jbusvent.2013.01.003>
- Areni, C., & Cox, C. (1995). Assessing the impact of message cues and arguments in persuasion: Conceptual and methodological issues. *Advances in Consumer Research*, 22, 198–202. CN010095141.
- AWS. (2020). *Amazon comprehend*. <https://aws.amazon.com/comprehend/>. Accessed 14 March 2020.
- Balachandra, L., Briggs, A., Eddleston, K., & Brush, C. (2013). Pitch like a man: Gender stereotypes and entrepreneur pitch success. *Frontiers of Entrepreneurship Research*, 33(2) CN088072818.
- Balachandra, L., Briggs, T., Eddleston, K., & Brush, C. (2019). Don't pitch like a girl! How gender stereotypes influence investor decisions. *Entrepreneurship Theory and Practice*, 43(1), 116–137. <https://doi.org/10.1177/1042258717728028>
- Barasinski, N., & Schafer, D. (2014). Is crowdfunding different? Evidence on the relation between gender and funding success from a German peer-to-peer lending platform. *German Economic Review*, 15(4), 436–452. <https://doi.org/10.1111/geer.12052>
- Barbi, M., & Mattioli, S. (2019). Human capital, investor trust, and equity crowdfunding. *Research in International Business and Finance*, 49, 1–12. <https://doi.org/10.1016/j.ribaf.2019.02.005>
- Baron, R. (1998). Cognitive mechanisms in entrepreneurship, why and when entrepreneurs think differently than other people. *Business Venturing*, 13(4), 275–294. [https://doi.org/10.1016/S0883-9026\(97\)00031-1](https://doi.org/10.1016/S0883-9026(97)00031-1)
- Baron, R., Markman, G., & Hirska, A. (2001). Perceptions of women and men as entrepreneurs: Evidence for differential effects of attributional augmenting. *Applied Psychology*, 86, 923–929. <https://doi.org/10.1037/0021-9010.86.5.923>
- Becker-Blease, J., & Sohl, J. (2007). Do women-owned businesses have equal access to angel capital? *Business Venturing*, 22, 503–521. <https://doi.org/10.1016/j.jbusvent.2006.06.003>
- Beier, M., & Wagner, K. (2015). Crowdfunding success: A perspective from social media and e-commerce. In *Proceedings of the 36th international conference on information systems (ICIS)* (pp. 1–22).
- Belleflamme, P., Lambert, T., & Schwienbacher, A. (2013). Crowdfunding: Tapping the right crowd. *Business Venturing*, 29, 585–609. <https://doi.org/10.1016/j.jbusvent.2013.07.003>

- Bielby, W., & Baron, J. (1986). Men and women at work: Sex segregation and statistical discrimination. *American Journal of Sociology*, 91(4), 759–799. [dsjrs.2779958](https://doi.org/10.1177/0149206312441624).
- Bigelow, L., Lundmark, L., Parks, J., & Wuebker, R. (2014). Skirting the issues: Experimental evidence of gender bias in IPO prospectus evaluations. *Management*, 40, 1752–1753. <https://doi.org/10.1177/0149206312441624>
- Bird, B., & Brush, C. (2002). A gendered perspective on organizational creation. *Entrepreneurship Theory and Practice*, 26(3), 41–65. <https://doi.org/10.1177/104225870202600303>
- Blanchflower, D., Levine, P., & Zimmerman, D. (2003). Discrimination in the small-business credit market. *Review of Economics and Statistics*, 85(4), 930–943. <https://doi.org/10.1162/003465303772815835>
- Block, J., Hornuf, L., & Moritz, A. (2017). Which updates during an equity crowdfunding campaign increase crowd participation? *Small Business Economics*, 50, 3–27. <https://doi.org/10.1007/s11187-017-9876-4>
- Borello, G., De Crescenzo, V., & Pichler, F. (2015). The funding gap and the role of financial return crowdfunding: Some evidence from European platforms. *Internet Banking and Commerce*, 20(1), 1–20.
- Bretschneider, U., & Leimeister, J. (2017). Not just an ego-trip: Exploring backers' motivation for funding in incentive-based crowdfunding. *Strategic Information Systems*, 26(4), 246–260. <https://doi.org/10.1016/j.jsis.2017.02.002>
- Brooks, A., Huang, L., Kearney, S., & Murray, F. (2014). Investors prefer entrepreneurial ventures pitched by attractive men. *Proceedings of the National Academy of Sciences*, 111(12), 4427–4431. <https://doi.org/10.1073/pnas.1321202111>
- Brown, R., Mawson, S., Rowe, A., & Mason, C. (2018). Working the crowd: Improvisational entrepreneurship and equity crowdfunding in nascent entrepreneurial ventures. *International Small Business*, 36(2), 169–193. <https://doi.org/10.1177/0266242617729743>
- Bruni, A., Gherardi, S., & Poggio, B. (2004). Doing gender, doing entrepreneurship: An ethnographic account of intertwined practices. *Gender, Work and Organization*, 11(4), 406–429. <https://doi.org/10.1111/j.1468-0432.2004.00240.x>
- Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015). New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations. *Entrepreneurship Theory and Practice*, 39, 9–26. <https://doi.org/10.1111/etap.12143>
- Buttner, E., & Rosen, B. (1988). Bank loan officers' perceptions of the characteristics of men, women, and successful entrepreneurs. *Journal of Business Venturing*, 3, 249–258. [https://doi.org/10.1016/0883-9026\(88\)90018-3](https://doi.org/10.1016/0883-9026(88)90018-3)
- Canary, D., & Dindia, K. (2009). *Sex differences and similarities in communication*. Routledge.
- Canning, J., Haque, M., & Wang, Y. (2012). *Women at the wheel—do female executives drive start-up success?* Dow Jones.
- Cavalluzzo, K., Cavalluzzo, L., & Wolken, J. (2002). Competition, small business financing, and discrimination: Evidence from a new survey. *Business*, 75, 641–680. <https://doi.org/10.1086/341638>
- Cavalluzzo, K., & Wolken, J. (2005). Small business loan turndowns: Personal wealth and discrimination. *Business*, 78, 2153–2177. <https://doi.org/10.1086/497045>
- Chemin, M., & De Laat, J. (2013). Can warm glow alleviate credit market failures? Evidence from online peer-to-peer lenders. *Economic Development and Cultural Change*, 61(4), 825–858. [RN336071286](https://doi.org/10.1017/S0013708212000000).
- Chen, W., Lin, M., & Zhang, B. (2018). Lower taxes smarter crowd? The impact of tax incentives on equity crowdfunding. *Georgia Tech Scheller College of Business Research Paper*, 18–27.
- Chen, X., Yao, X., & Kotha, S. (2009). Entrepreneur passion and preparedness in business plan presentations: A persuasion analysis of venture capitalists' funding decisions. *Academy of Management*, 52, 199–214. <https://doi.org/10.5465/AMJ.2009.36462018>
- Cheng, N., Chandramouli, R., & Subbalakshmi, K. (2011). Author gender identification from text. *Digital Investigation*, 8, 78–88. <https://doi.org/10.1016/j.diin.2011.04.002>

- Cholakova, M., & Clarysse, B. (2014). Does the possibility to make equity investments in crowdfunding projects crowd out reward-based investments? *Entrepreneurship Theory, and Practice*, 39(1), 145–172. <https://doi.org/10.1111/etap.12139>
- Coleman, S., & Robb, A. (2009). A comparison of new firm financing by gender: Evidence from the Kauffman firm survey data. *Small Business Economics*, 33, 397–411. <https://doi.org/10.1007/s11187-009-9205-7>
- Colombo, M., Franzoni, C., & Rossi-Lamastra, C. (2015). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice*, 39, 75–100. <https://doi.org/10.1111/etap.12118>
- Courtney, C., Dutta, S., & Li, Y. (2017). Resolving information asymmetry: Signalling, endorsement, and crowdfunding success. *Entrepreneurship Theory and Practice*, 265–290. <https://doi.org/10.1111/etap.12267>
- Crowdcube. (2020). Crowdcube is UK's largest crowdfunding site in 2018. <https://www.crowdcube.com/explore/blog/crowdcube/report-crowdcube-is-uks-biggest-crowdfunding-site-in-2018>. Accessed 10 January 2020.
- Cumming, D., & Johan, S. (2013). Demand-driven securities regulation: Evidence from crowdfunding. *Venture Capital*, 15(4), 361–379. <https://doi.org/10.1080/13691066.2013.847635>
- Cumming, D., Leboeuf, G., & Schwienbacher, A. (2017). Crowdfunding cleantech. *Energy Economics*, 65, 292–303. <https://doi.org/10.1016/j.eneco.2017.04.030>
- Dorflleitner, G., Priberny, C., Schuster, S., Stoiber, J., & de Castro, W. (2016). Description-text peer-to-peer lending—evidence from two leading European platforms. *Journal of Banking and Finance*, 64, 169–187. <https://doi.org/10.1016/j.jbankfin.2015.11.009>
- Duarte, J., Siegel, S., & Young, L. (2012). Trust and credit: The role of appearance in peer-to-peer lending. *Review of Financial Studies*, 25(8), 2455–2484. <https://doi.org/10.1093/rfs/hhs071>
- Eddleston, K., Ladge, J., Mitteness, C., & Balachandra, L. (2016). Do you see what I see? Signalling effects of gender and firm characteristics on financing entrepreneurial ventures. *Entrepreneurship Theory and Practice*, 40, 489–514. <https://doi.org/10.1111/etap.12117>
- Ewens, M., & Townsend, R. (2020). Are early stage investors biased against women? *Financial Economics*, 135(3), 653–677. <https://doi.org/10.1016/j.jfineco.2019.07.002>
- Fast, L., & Funder, D. (2010). Gender differences in the correlates of self-referent word use: Authority, entitlement, and depressive symptoms. *Personality*, 78(1), 313–338. <https://doi.org/10.1111/j.1467-6494.2009.00617.x>
- Fiske, S. (2000). Stereotyping, prejudice, and discrimination at the seam between the centuries: Evolution, culture, mind, and brain. *Social Psychology*, 30(3), 299–322. [https://doi.org/10.1002/\(SICI\)1099-0992\(200005/06\)30:3<299::AID-EJSP2>3.0.CO;2-F](https://doi.org/10.1002/(SICI)1099-0992(200005/06)30:3<299::AID-EJSP2>3.0.CO;2-F)
- Freeman, R., & McElhinny, B. (1996). Language and gender. In S. L. McKay & N. H. Hornberger (Eds.), *Sociolinguistics and language teaching* (pp. 218–280). Cambridge University Press.
- Frydrych, D., Bock, A., Kinder, T., & Koeck, B. (2014). Exploring entrepreneurial legitimacy in reward-based crowdfunding. *Venture Capital*, 16, 247–269. <https://doi.org/10.1080/13691066.2014.916512>
- Geiger, M., & Oranburg, S. (2018). Female entrepreneurs and equity crowdfunding in the US: Receiving less when asking for more. *Business Venturing Insights*, 10. <https://doi.org/10.1016/j.jbvi.2018.e00099>
- Genevsky, A., & Knutson, B. (2015). Neural affective mechanisms predict market-level microlending. *Psychological Science*, 26(9), 1411–1422. <https://doi.org/10.1177/0956797615588467>
- Gerber, E., Hui, J., and Kuo, P., 2012. Crowdfunding: Why people are motivated to post and fund projects on crowdfunding platforms. In: *Proceedings of the international workshop on design, influence, and social technologies, techniques, impacts and ethics*, 211.
- Greenberg, J., & Mollick, E. (2016). Activist choice homophily and the crowdfunding of female founders. *Administrative Science Quarterly*, 62(2), 341–374. <https://doi.org/10.1177/0001839216678847>

- Gupta, V., Goktan, A., & Gunay, G. (2014). Gender differences in evaluation of new business opportunity: A stereotype threat perspective. *Business Venturing*, 29, 273–288. <https://doi.org/10.1016/j.jbusvent.2013.02.002>
- Haifeng, L., Chen, X., Zhang, Y., Hai, M., & Hu, H. (2018). A new factor in the effect of crowdfunding projects. *Procedia Computer Science*, 139, 114–119. <https://doi.org/10.1016/j.procs.2018.10.226>
- Higgins, E. (1997). Beyond pleasure and pain. *The American Psychologist*, 52, 1280–3000. <https://doi.org/10.1037//0003-066x.52.12.1280>
- Higgins, E. (1998). Promotion and prevention: Regulatory focus as a motivational principle. *Advances in Experimental Social Psychology*, 30, 1–46. RN042350217.
- Hoegen, A., Steininger, D., & Veit, D. (2018). How do investors decide? An interdisciplinary review of decision-making in crowdfunding. *Electron Markets*, 28, 339–365. vdc.100104428393.0x000001.
- Huang, L., & Pearce, J. (2015). Managing the unknowable: The effectiveness of early-stage investor gut feel in entrepreneurial investment decisions. *Administrative Science Quarterly*, 60(4), 634–670. <https://doi.org/10.1177/0001839215597270>
- Huhtamäki, J., Lasrado, L., Menon, K., Kärkkäinen, H., & Jussila, J. (2015). Approach for investigating crowdfunding campaigns with platform data: Case Indiegogo. In *Proceedings of the 19th international academic Mindtrek conference*. 24–25 September (pp. 183–190). Association of Computing Machinery.
- Johnson, M., Stevenson, R., & Chaim, R. (2018). A woman's place is in the ...startup! Crowdfunder judgments, implicit bias, and the stereotype content model. *Business Venturing*, 33, 813–831. <https://doi.org/10.1016/j.jbusvent.2018.04.003>
- Kanze, D., Huang, L., Conley, M., & Higgins, E. (2018). We ask men to win and women not to lose: Closing the gender gap in startup funding. *Academy of Management*, 61(2), 586–614. <https://doi.org/10.5465/amj.2016.1215>
- Kunda, Z., & Spencer, S. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychology Bulletin*, 129(4), 522. <https://doi.org/10.1037/0033-2909.129.4.522>
- Lakoff, R. (1975). *Language and woman's place*. Harper and Row.
- Leaper, C., & Ayres, M. (2007). A meta-analytic review of gender variations in adults' language use: Talkative-ness, affiliative speech, and assertive speech. *Personality and Social Psychology Review*, 11(4), 328–363. <https://doi.org/10.1177/1088868307302221>
- Lee, M., & Huang, L. (2018). Gender bias, social impact framing, and evaluation of entrepreneurial ventures. *Organization Science*, 29(1), 1–16. <https://doi.org/10.1287/orsc.2017.1172>
- Lehner, O., Grabmann, E., & Ennsgraber, C. (2015). Entrepreneurial implications of crowdfunding as an alternative funding source for innovations. *Entrepreneurial Finance*, 17(1), 171–189. <https://doi.org/10.1080/13691066.2015.1037132>
- Leitch, C. (2018). Women entrepreneurs' financing revisited: Taking stock and looking forward. *Venture Capital*, 20(2), 103–114. <https://doi.org/10.1080/13691066.2018.1418624>
- Levin, R., Nowakowski, J., & O'Brien, A. (2013). The JOBS act—implications for raising capital and for financial intermediaries. *Taxation and Regulation of Financial Institutions*, 26(5), 21–29.
- Li, Z., & Jarvenpaa, S. (2015). Motivating IT-mediated crowds: The effect of goal setting on project performance in online crowdfunding. In *Proceedings of the 36th international conference of information systems*. Association for Information Systems. 13–16 December.
- Lin, M., & Viswanathan, S. (2015). Home bias in online investments: An empirical study of an online crowdfunding market. *Management Science*, 62(5), 1393–1414. <https://doi.org/10.1287/mnsc.2015.2206>
- Lins, E., & Lutz, E. (2016). Bridging the gender funding gap: Do female entrepreneurs have equal access to venture capital? *Entrepreneurship and Small Business*, 27(2–3), 347–365. <https://doi.org/10.1504/IJESB.2016.073993>

- Lukkarinen, A., Teich, J., Wallenius, H., & Wallenius, J. (2016). Success drivers of online equity crowdfunding campaigns. *Decision Support System, 87*, 26–38. <https://doi.org/10.1016/j.dss.2016.04.006>
- Malaga, R., Mamonov, S., & Rosenblum, J. (2018). Gender difference in equity crowdfunding: An exploratory analysis. *Gender and Entrepreneurship, 10*(4), 332–343. <https://doi.org/10.1108/IJGE-03-2018-0020>
- Marlow, S. (2002). Women and self-employment: A part of or apart from theoretical construct? *International Journal of Entrepreneurship and Innovation, 3*(2), 83–91. <https://doi.org/10.5367/000000002101299088>
- Marom, D., Robb, A., & Sade, O. (2016). Gender dynamics in crowdfunding (Kickstarter): Evidence on entrepreneurs, investors, deals and taste based discrimination. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2442954>
- Moffatt, J., & Scarf, P. (2016). Sequential regression measurement error models with application. *Statistical Modelling, 16*(6), 454–476. <https://doi.org/10.1177/1471082X16663065>
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Business Venturing, 29*, 1–16. <https://doi.org/10.1016/j.jbusvent.2013.06.005>
- Mollick, E., & Robb, A. (2016). Democratizing innovation and capital access: The role of crowdfunding. *California Management Review, 58*(2), 72–87. <https://doi.org/10.1525/cmvr.2016.58.2.72>
- Moritz, A., Block, J., & Lutz, E. (2015). Investor communication in equity-based crowdfunding: A qualitative-empirical study. *Qualitative Research in Financial Markets, 7*(3), 309–342.
- Morris, M., Miyasaki, N., Watters, C., & Coombes, S. (2006). The dilemma of growth: Understanding venture size choices of women entrepreneurs. *Small Business Management, 44*(2), 221–244. <https://doi.org/10.1111/j.1540-627X.2006.00165.x>
- Moss, T., Neubaum, D., & Meyskens, M. (2015). The effect of virtuous and entrepreneurial orientations on microfinance lending and repayment: A signaling theory perspective. *Entrepreneurship Theory and Practice, 39*(1), 27–52. <https://doi.org/10.1111/etap.12110>
- Muravyev, A., Talavera, O., & Schaefer, D. (2009). Entrepreneurs' gender and financial constraints: Evidence from international data. *Comparative Economics, 37*, 270–286. <https://doi.org/10.1016/j.jce.2008.12.001>
- Newman, M., Groom, C., Handelman, L., & Pennebaker, J. (2008). Gender differences in language use: An analysis of 14,000 text samples. *Discourse Processes, 45*(3), 211–236. <https://doi.org/10.1080/01638530802073712>
- Ordanini, A., Miceli, L., Pizzetti, M., & Parasuraman, A. (2011). Crowd-funding: Transforming customers into investors through innovative service platforms. *Service Management, 22*(4), 443–470. RN298189470.
- Parhankangas, A., & Ehrlich, M. (2014). How entrepreneurs seduce business angels: An impression management approach. *Business Venturing, 29*, 543–564. <https://doi.org/10.1016/j.jbusvent.2013.08.001>
- Parhankangas, A., & Renko, M. (2017). Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Business Venturing, 32*, 215–236. <https://doi.org/10.1016/j.jbusvent.2016.11.001>
- Park, G., Yaden, D., Schwartz, H., Kern, M., Eichstaedt, J., & Kosinski, M. (2016). Women are warmer but no less assertive than men: Gender and language on Facebook. *PLoS One, 11*(5). <https://doi.org/10.1371/journal.pone.0155885>
- Peterson, R. (1981). An investigation of sex discrimination in commercial banks' direct consumer lending. *Bell Journal of Economics, 12*, 547–561. <https://doi.org/10.2307/3003571>
- Pope, D., & Sydnor, J. (2011). What is in a picture? Evidence of discrimination from prosper.com. *Human Resources, 46*, 53–92. <https://doi.org/10.3368/jhr.46.1.53>
- Raab, M., Friedrich, T., Schlauderer, S., & Overhage, S. (2017). Understanding the role of social presence in crowdfunding: Evidence from leading US and German platforms. In *Proceedings of the 25th European conference on information systems, (ECIS)*, June 5–10 (pp. 1758–1774).

- Rudman, L., & Phelan, J. (2008). Backlash effects for disconfirming gender stereotypes in organizations. *Research in Organisational Behaviour*, 28, 61–79. <https://doi.org/10.1016/j.riob.2008.04.003>
- Ryu, S., & Kim, Y. (2016). A typology of crowdfunding sponsors: Birds of a feather flock together? *Electronic Commerce Research and Applications*, 16, 43–54. <https://doi.org/10.1016/j.elerap.2016.01.006>
- Short, J., Ketchen, D., McKenny, A., Allison, T., & Ireland, R. (2017). Research on crowdfunding: Reviewing the (very recent) past and celebrating the present. *Entrepreneurship Theory and Practice*, 41, 149–160. <https://doi.org/10.1111/etap.12270>
- Signori, A., & Vismara, S. (2018). Does success bring success? The post-offering lives of equity-crowdfunded firms. *Corporate Finance*, 50, 575–591. <https://doi.org/10.1016/j.jcorpfin.2017.10.018>
- Statista. (2020). Annual market value of equity crowdfunding in the UK from 2013 to 2018. <https://www.statista.com/statistics/797673/equity-based-crowdfunding-uk/>. Accessed 6 May 2020.
- Stefani, M., & Vacca, V. (2013). Credit access for female firms: Evidence from a survey on European SMEs. *Questioni di Economia e Finanza (Occasional Papers)*, 176, Bank of Italy, Economic Research and International Relations Area.
- Steier, L., & Greenwood, R. (1995). Venture capitalist relationships in the deal structuring and post-investment stages of new firm creation. *Management Studies*, 32(3), 337–357. <https://doi.org/10.1111/j.1467-6486.1995.tb00779.x>
- Stevenson, H., & Jarillo, J. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management*, 11(5), 17–27. https://doi.org/10.1007/978-3-540-48543-8_7
- Talbot, M. (1998). *Language and gender: An introduction*. Polity Press.
- Uclassify. (2020). GenderAnalyzer_V5. https://www.uclassify.com/browse/uclassify/genderanalyzer_v5. Accessed 1 May 2019.
- Vel, O., Corney, M., Anderson, A., & Mohay, G. (2002). Language and gender author cohort analysis of e-mail for computer forensics. In *Proceedings of digital forensic research workshop*. 6–9 August.
- Viotta da Cruz, J. (2018). Beyond financing: Crowdfunding as an informational mechanism. *Business Venturing*, 33, 371–393. <https://doi.org/10.1016/j.jbusvent.2018.02.001>
- Vismara, S. (2016). Equity retention and social network theory in equity crowdfunding. *Small Business Economics*, 46(4), 579–590. <https://doi.org/10.1007/s11187-016-9710-4>
- Vismara, S. (2018). Information cascades among investors in equity crowdfunding. *Entrepreneurship Theory and Practice*, 42(39), 467–497. <https://doi.org/10.1111/etap.12261>
- Vismara, S. (2019). Sustainability in equity crowdfunding. *Technological Forecasting and Social Change*, 141, 98–106. <https://doi.org/10.1016/j.techfore.2018.07.014>
- Vulkan, N., Åstebro, T., & Sierra, M. (2016). Equity crowdfunding: A new phenomena. *Business Venturing Insights*, 5, 37–49. <https://doi.org/10.1016/j.jbvi.2016.02.001>
- Walthoff-Borm, X., Schwienbacher, A., & Vanacker, T. (2018). Equity crowdfunding: First resort or last resort? *Venturing*, 33(4), 513–533. <https://doi.org/10.1016/j.jbusvent.2018.04.001>
- Wang, N., Li, Q., Lian, H., Ye, T., & Ge, S. (2018). Understanding the importance of interaction between creators and backers in crowdfunding success. *Electronic Commerce Research and Applications*, 27, 106–117. <https://doi.org/10.1016/j.elerap.2017.12.004>
- Weatherall, A. (2002). *Gender, language and discourse*. Routledge.

- Wood, J., & Dindia, K. (1998). What's the difference? A dialogue about differences and similarities between women and men. In *Sex differences and similarities in communication*. Lawrence Erlbaum Associates.
- Wu, A. (2016). Organizational decision-making and information: Angel investments by venture capital partners. *Academy of Management*. <https://doi.org/10.5465/ambpp.2016.4>
- Yuan, H., Lau, R., & Xu, W. (2016). The determinants of crowdfunding success: A semantic text analytics approach. *Decision Support System*, 50(1), 258–269. <https://doi.org/10.1016/j.dss.2016.08.001>
- Zhang, B., Ziegler, T., Mammadova, L., Johanson, D., Gray, M., & Yerolemu, N. (2018). *The 5th UK alternative finance industry report*. Cambridge Centre for Alternative Finance.

Part III
Eurasian Business Perspectives:
Management

Development of Organizational Trust Questionnaire



Silja Kask and Eneken Titov

Abstract The objective of the article is to develop an organizational trust questionnaire that would make it possible to measure institutional and interpersonal elements of trust, including both impersonal and personal facets of thereof. Based on the analyzed sources and the instruments used to measure trust, an organizational trust questionnaire was prepared based on three source questionnaires to achieve the objective. A survey was carried out for data collation, which was used to carry out a factor analysis to assess how accurately the questionnaire measures the phenomenon for which it was intended. New factor identifiers were formed upon the interpretation of the factor analysis so that each initial characteristic would be linked as strongly as possible to only one of the generated factors. As a result of the research, the organizational trust questionnaire was conducted where the factor structure consists of 8 factors and includes 36 statements. The questionnaire enables a measurement of organizational and interpersonal trust elements like fairness and honesty in the organization; trust in the supervisor, top management, and co-workers; etc.

Keywords Trust · Organization trust · Impersonal trust · Scale development

1 Introduction

Trust is a capital of critical importance for the achievement of an organization's consistent success, which must be nurtured and grown (Harary, 2019). Organizations with higher levels of trust have considerable competitive advantages and lower operating expenses (Lins et al., 2017). Research indicates that the share index of organizations with high levels of trust is 5% higher than the sector's average (Harary, 2019). In recent decades, the development of technology and globalization have also led to the increasing spread of virtual organization of work and the

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emergence of virtual teams in organizations (Powell et al., 2004). The success of virtual teams is based on trust between the team members, which does not develop easily, however (Greenberg et al., 2007). The development of technology has resulted in a sharp increase in the sharing economy, where trust is one of the key factors and which is therefore also called the economy of trust (Coolican & Coffman, 2016). The more employees trust an organization, the more they contribute for the benefit of that organization. The productivity of organizations with a high culture of trust is 50% higher, the employees are 76% more involved, the stress level is 74% lower, there are 13% fewer sick days, employee satisfaction is 29% higher, and there is 40% less burnout (Zak, 2017).

Trust is a mutual process, but management plays the key role in the establishment of a trustworthy organization. Trust grows when an employee feels that he or she is trusted and treated as trustworthy (Starnes et al., 2016). The trust of an employee in managers and corporate governance is not related to a specific manager or managers, but it is trust in the (management) system as a whole (Hulsart & McCarthy, 2009; Starnes et al., 2016). Based on the above, it can be said that two types of trust are distinguished in an organization: the interpersonal trust between the members of the organization and trust in the system, i.e., institutional trust. All elements of organizational trust must be taken into account when the rate of trust in an organization is assessed (Costa, 2017).

When measuring organizational trust, it was previously concentrated on interpersonal trust measuring, in other words measuring employee's trust in line managers and management board (Bachmann, 2006), and it was found that the social measuring instruments in use are not sufficient enough to measure all elements of organizational trust (Vanhala et al., 2011). The measuring scales have been developed further as follows and include elements of institutional trust, but the development activities are to be continued (Vanhala, 2019).

As a consequence of the importance of organizational trust and the need to continue the development of measuring organizational trust, it is the author's goal to compose a questionnaire which enables to measure the institutional and interpersonal trust elements, which includes the facets of both impersonal and personal trust.

To achieve the goal, the author has compiled an organizational trust questionnaire based on three initial questionnaires. The author conducted a survey to evaluate the construct validity and internal reliability of the measuring instrument and conducted a factor analysis.

The result of the research is a reliable measuring instrument which covers all organizational trust elements whereby it's possible to measure trust level in organizations. Compiling a validated questionnaire is an important contribution and a step forward in measuring organizational trust. It's important to measure organizational trust because on the basis of measuring results, the organizations can make improvement activities on organizational, managerial, and interpersonal level, aiding the achievement of goals set and increasing the competitiveness. In the theoretical part of the research article, the author explains the essence and classification of trust and gives an overview of organizational trust and its measuring instruments. Then the

author describes the process of questionnaire development and research methodology, reflects on the results, and presents the development suggestions.

2 Nature, Development, and Classification of Trust

Trust has been discussed most prevalently in sociology, psychology, and the economy (Hall & Mcquay, 2010). Various scientists have studied the concept of trust extensively, but there is no consensus in defining it. Scientists define trust differently according to their scientific approach and point of view (Mascarenhas, 2019). Taking a broader look at the concept of trust, Rousseau et al. (1998) points out the probability of risk, i.e., loss, mutual dependence, or reliance on others. Similarly, to Rousseau et al. (1998), Mayer et al. (1995) also argues that trust involves risk and adds that trustworthiness is expressed via three factors:

- Ability: based on the competence of the trustee.
- Benevolence: the trustor’s presumption that the trustee has positive intentions regarding the trustor; the self-centered desire to earn profit is disregarded.
- Integrity: whether the trustee is honest and direct in respect of the trustor.

Blomqvist (2002) argues that trusting is natural for people, and trust is expressed via four dimensions: capability, goodwill, behavior, and self-reference.

An analysis of the approaches to trust of different researchers reveals that they outline the different dimensions of the nature of trust, so it can be said that trust is a multidimensional phenomenon. The different dimensions of trust are given in Table 1.

Rousseau et al. (1998) approaches trust as a psychological condition. Rotter (1980) argues that people have a certain tendency to trust; trust develops on the basis of earlier situations and experiences related to trust and is a relatively permanent natural characteristic. Sztompka (2014) agrees with Rotter (1980) and also claims that trust develops on the basis of experience, but adds that a positive experience increases trust, while a negative experience increases trust.

Trust is an emotional area, so trust and/or mistrust can be easily generalized to relationships and situations that have not occurred yet (Sztompka, 2014). Blomqvist (2002) thinks similarly with Rotter (1980) and Sztompka (2014) that trust is based

Table 1 Dimensions of trust

| Rousseau et al. (1998) | Blomqvist (2002) | Mayer et al. (1995) |
|--------------------------|------------------|---------------------|
| Vulnerability | Capability | (Perceived) risk |
| Positive expectation | Goodwill | Capability/ability |
| Risk/probability of loss | Behavior | Benevolence |
| Mutual dependence | Self-reference | Integrity |

Source: prepared by the authors on the basis of Rousseau et al. (1998), Blomqvist (2002), Mayer et al. (1995)

on prior experience but adds that trust can change over time depending on the conditions and situations. Changes occur because of monitoring and interpreting behavior (Whitener et al., 1998). Sonnenwald (2004) relies on Whitener et al. (1998) opinion and finds, similar to Rousseau et al. (1998), that trust and mistrust are not behavioral, but a psychological state. Sonnenwald (2004) explains that a person's behavior is affected by the psychological state. The behavior of one person has an impact on the behavior of others, but both individuals can be individually assessed. Assessments are primarily based on prior experience, knowledge, past situations, and personal convictions. The perception of trust and mistrust and future assessments depend on the results of the assessment, as they proceed from the reassessment of past experiences, situations, and convictions or, vice versa, their re-establishment. Thus, trust and mistrust have an impact on the behavior of a person themselves as well as that of others, the assessment of which in turn determines the existence of trust and mistrust.

The above indicates that similar to the definition of trust, there is no common understanding of the nature of trust and its development, and the interpretation of the latter is based on one's own theoretical starting points and convictions. The classification of trust is discussed below, and, based on the orientation of the article, the focus will be on the approaches that cover the organizational context. McAllister (1995) classifies trust in organizations via two dimensions: trust based on emotions and cognition. Trust based on emotions develops via communication over time and is based on benevolence, caring, and emotional connections. Cognitive trust is related to performance and covers competence, craftsmanship, and trustworthiness.

Cummings and Bromiley (1996) classify trust via three levels, emotional, cognitive, and behavioral, and highlight the dimensions of benevolence, integrity, competence, and predictability. Gallivan (2001) classifies trust via five levels: trust based on knowledge, characteristics-based trust, institutional-based trust, and justice-based trust, focuses on the nature of virtual teams, and points out the rapid classification of trust as a difference—it swift trust, but is fragile in its essence. The classification suggested by Paine (2003) also covers five dimensions: multilevel, cultural, communication-based, dynamic, and multidimensional level. Marc et al. (2015) categorize trust in four dimensions. The tendency to trust, i.e., trust based on experience, proceeds from convictions and prior experience. Rational trust is based on mutual or expected usefulness, i.e., what is useful to both parties and based on predictability and prior experience. Trust based on relationships proceeds from the trustor's understanding, the trustee's benevolence, and social characteristics. The foundation of procedural trust or system-based trust is the interaction between trustworthy systems.

The fact that all researchers, excluding Paine (2003), highlight the category of emotional and cognitive trust can be considered the largest common part of the classifications discussed above. It is worth mentioning that irrespective of the fact that the approach of McAllister (1995) and Cummings and Bromiley (1996) covers the organizational context, there is no organizational level in their classification. This is why their classification has fewer categories (types) and the reach of the classification is smaller when compared to the others. On the other hand, the classification

of Gallivan (2001), Paine (2003), and Marc et al. (2015) in the organizational approach is even deeper and, in addition to trust inside an organization, highlights the trust between organizations/systems. In other words, the classification covers the levels inside and outside an organization, as well as the level between organizations.

In summary, the understanding scientists have of the concept, development, and classification of trust is different; therefore, finding a big commonality is not as important as acknowledging that trust is interpreted and classified differently depending on the approach. It is important to be aware of different theoretical approaches and viewpoints. It is worth mentioning that trust is multidimensional, which is expressed at the level of people and organizations and is the function of at least two things: character and competence. Character covers ethics, integrity, and intentions concerning oneself and others. Competence covers capabilities, skills, results, and achievements (Mascarenhas, 2019).

3 Theoretical Framework of Organizational Trust

Organizational trust can be viewed as trust in an organization or between two organizations, which helps guarantee the success of both parties. Some scientists approach internal trust as trust between employees and their line managers; others focus on trust in the relationship of employees and top management (Dirks & Ferrin, 2002). Trusting relationships with colleagues, i.e., interpersonal trust, are also a part of organizational trust (Dirks, 1999).

Interpersonal trust in an organization is determined by these three main factors: the trustor's qualities, the trustee's qualities, and the perceived risk. The level of trust depends on the trustor's rate of trust and the trustworthiness of the trustee. The personal characteristics of the trustor create the basis of whether they trust others; some persons are more trusting than others. The larger the perceived trust, and the lower the risk in a situation, the more likely it is that risks will be taken in a relationship of trust. The trustworthiness of a person depends on three factors: capability, benevolence, and integrity. Capability indicates whether the trustee is competent in their field; benevolence is the trustor's assumption that the trustee's intentions toward him or her are positive and they are not proceeding from their personal goals. Integrity indicates whether the trustee is honest and direct in respect of the trustor and follows the common agreed principles (Mayer et al., 1995).

Lateral trust emerges between colleagues who are at the same level in an organization, i.e., equals. Trust that is manifested through hierarchy or the trust of employees in their managers is vertical trust. Lateral and vertical trust divide in trust concerning the competence, benevolence, and trustworthiness of the other party (Vanhala, 2019). In addition to interpersonal trust, it is possible to differentiate trust in an organization, which is based on the trustworthy functioning of the system, including the personality of the manager(s), the decision-making, and organizational culture (Blomqvist, 1997).

The third dimension of organizational trust specified above is impersonal trust. The latter is often also named institutional trust, which indicates the trust of employees in the functioning of the system and reflects whether or not employees feel that the organization is taking their interests into account (Tan & Tan, 2000; Atkinson & Butcher, 2003, cited via Vanhala, 2019).

On the one hand, institutional or the impersonal element of trust reflects the management capability of the organization and, on the other hand, the perception of the employees of whether the organization treats them fairly. This reflects the expectations employees have regarding the organization's capability and fairness (Vanhala, 2019). Trust in an organization is also expressed in collective (team) relationships and becomes evident in three different ways: at the levels of the individual, the team, and the organization (Fulmer & Gelfand, 2012). Thus, a relationship of trust between colleagues in teams is multidimensional, covering processes at the levels of the individual, team, and organization, which interact with each other. The level of individual trust has a direct impact on the trust between team members and, indirectly, trust in the team. The level of trust in a team has a direct impact on the trust between the members of a team (Costa et al., 2018).

At the level of a team, trust helps strengthen the interdependence of the members, which is necessary for the achievement of personal and the organization's overall goals. The existence of trust reduced the need to check on other team members, and people assume that everyone acts in the interests of the established goals, not just in their own personal interests (Schiller et al., 2014).

In conclusion, there are two types of trust in organizations—the trust between the members of the organization and institutional trust (Costa, 2017). Interpersonal trust divides in lateral (trust between equals) and vertical trust arising from hierarchy, which is based on the other party's competence, benevolence, and trustworthiness (Vanhala, 2019). In collective relationships, trust manifests itself at the levels of the individual, the team, and the organization (Fulmer & Gelfand, 2012).

4 Tools for Measuring Organizational Trust

The first known trust questionnaire dates back to 1942 (Walsh, 1944, cites via Bauer, 2015). In 1956, Rosenberg (1956) constructed the first measurement instrument of systematic trust, the elements of which are still used today to measure trust, including balanced statement such as “generally speaking, most people can be trusted” and “you cannot be too careful in dealing with people.” Luhmann (1979) highlighted in his theoretical approach that trust in the management and trust in the organization are different; trust is expressed in the framework of their interaction, which is influenced by persons as well as the social system. Based on the above, it can be said that the different facets of organizational trust were already differentiated, i.e., system versus people (Luhmann, 1979). However, organizational trust measurement instruments focused only on measuring the trust between people, which is proven by the questionnaires developed by McAllister (1995), Cummings and Bromiley (1996).

Only a few researchers tried to understand the system of elements of organizational trust, i.e., the facets of impersonal trust. The impersonal facets of organizational trust were highlighted, but scientists only treated them as trust in top-level management (Tan & Tan, 2000; Costigan et al., 1998). Measuring organizational trust still focused on measuring the relationships of trust between people, especially trust in managers (Paine, 2003). It was thought that trust in managers and the organization must be differentiated, but they are closely related to each other. Trust in managers is related to capability, benevolence, and integrity. Trust in an organization is related to perceived support and fairness, i.e., assessment of the trustworthiness that employees feel and the security that their well-being is taken into account. First-level managers as well as the level of the organization must be considered when trust is measured (Tan & Tan, 2000). It was found in 2006 that the concept and fundamentals of organizational trust had still not been defined and the impersonal facets had not been adequately approached (Bachmann, 2006).

To increase trust, the activities of the organization must be transparent to the employees, as insufficient transparency decreases trust (Rawlins, 2008). Rawlins (2008) developed a questionnaire in 2008, which makes it possible to measure the transparency of an organization as well as the trust of employees. The questionnaire includes facets of system trust and interpersonal trust but focuses on measuring an organization's transparency and the trust of employees.

Vanhala et al. (2011) focused on measuring the impersonal of organizational trust and developed a questionnaire in 2011, which can be used to measure the trust of employees in the employer as an organization. According to social psychology, the aspect of fairness and the mutual obligations of the employer and the employee must be separated from the elements of trust, as they are defined as the impersonal facet of organizational trust. The impersonal dimension arises from the organization's roles, rules, and structured relationships, but the relationship of trust between people is based on the interaction of individuals. In other words, impersonal trust in the context of an organization consists of two main dimensions: the organization's capability and fairness (Vanhala et al., 2011; MIDSS, 2011). The factor of trust in line managers with the subscales of competence, benevolence, and trustworthiness as well as scales of job satisfaction and commitment was added to the questionnaire during further development (Vanhala, 2019). The objective of the trust measurement scale created in Turkey in 2012 is to measure the facets of organization's members and institutional trust. The measurement instrument consists of dimensions: trust in the management, trust between colleagues, trust between manager and employee, and institutional trust. The scale was developed especially for the measurement of organizational trust in Turkey, considering their cultural and social characteristics (Islamoglu et al., 2012). Paliszkievicz (2013) studied the connection between trust and the economic performance of an organization and built a model for measuring it. The measuring instrument consists of three dimensions: trust in the organization, trust in the management, and the organizational performance. The understanding today is that organizations with a high culture of trust have three distinguishing features: trustworthiness, integrity, and fair treatment of employees (Hitch, 2012).

The measurement of trust in organizations must proceed from the levels of managers, employees, teams/colleagues, and the organization (Costa, 2017).

5 Preparation of Questionnaire, Methodology, and Pilot Survey

The questionnaire development and validation process consisted of different steps, which are presented in Fig. 1.

The authors analyzed the theoretical approaches of various measuring instruments, including the elements of trust that they consisted of, as well as their methodology, development activities, and cultural and linguistic equivalence. As a result of the analysis, the version of the Impersonal Trust Scale (ITS) perfected in 2019 (Vanhala, 2019) was selected as the base questionnaire, as the measuring instrument covers most of the elements of organizational trust.

The ITS lacks the factor used to study the facet of horizontal trust between the members of the organization, which is why the factor of “trust between colleagues” in the Copenhagen Psychosocial Questionnaire (COPSOQ II) is added to the test questionnaire. The latter studies the extent to which employees can trust each other (COPSOQ, 2018).

The ITS questionnaire also lacks statements that would approach the trust of the management in the employees. As the author wants to highlight the facets of trust between the members of an organization in greater detail, the COPSOQ II factor of “trust between management-employees” will be added to the questionnaire, as it shows the assessment of trust at the respondent’s workplace in general and also includes statements that study the trust of the management in the employees (COPSOQ, 2018). The factor of “competitiveness” was removed from the ITS questionnaire because the factor wasn’t statistically significant. For the same reasons, it was recommended to rephrase or remove the statements of the factor “organizational integrity” (Vanhala, 2019). The factor of “trust in line manager” in the ITS questionnaire and its subscales (trustworthiness, benevolence, and competence) consist of 11 statements. The author removed three statements from said subscales, because their nature could not be understood in consideration of cultural

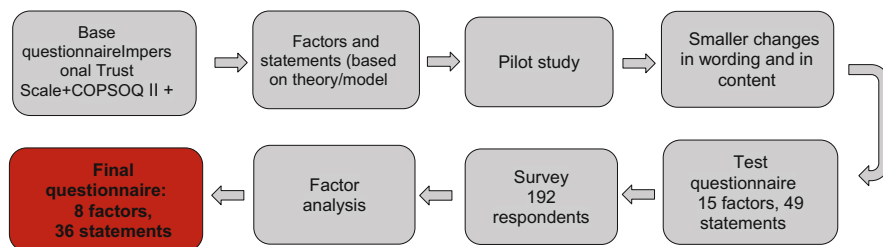


Fig. 1 Structure of institutional trust. *Source:* compiled by the author

and linguistic equivalence. The COPSOQ II statement “my immediate superior can solve conflicts well” was added to the subscale of manager’s competence, because the statement reflects the employee’s opinion of the management skills of their line manager.

It has been proven with surveys that trust and control are inversely related (Costa, 2017). The existence of trust reduces the need for control. It is assumed that everyone acts according to the established goals, not in a manner that benefits them (Schiller et al., 2014). There is a statement in the ITS that only concerns the organization of work—“work organization in the organization is good.” There are no statements that would study whether the capability of employees to control themselves is trusted, which is why the subscale of “control” of the indicator tool of the work stress management standard of the UK was added to the test questionnaire. The HSE Management Standards Indicator Tool is a measurement tool developed in 2004 in the UK by the Health and Safety Executive. The mapper is theory-based and relies on several pilot studies (MacKay et al., 2004).

A pre-pilot survey of five people was carried out to test whether the statements in the questionnaire are understandable to the respondents. Based on their feedback, the statement “the organization has guidelines that help cope with emergencies” was removed, as its content was not understandable. The statement “it’s easy for things to get done in the organization” was also dropped, as according to the respondents it was analogous to the statement “work organization in the organization is good.” The wording of four statements and the nature of three statements were changed to make them more understandable.

The statements and scales were harmonized after the preparation of the test questionnaire. As a result of coding and to ensure the positivity of the scale, the five-point scale of the base questionnaire (ITS) was implemented: 1 (disagree fully) to 5 (agree fully). The test questionnaire consists of 49 statements and 6 sociodemographic questions, which comprise 15 factors in total. The author uses factor analysis in order to analyze on the basis of the collected data whether and how accurately the questionnaire measures the phenomenon for the measurement of which it has been created and to find factors that would explain the common variance as much as possible.

The number of respondents in the survey carried out with the test questionnaire was 192, which makes 12.8 data objects per factor. The adequacy of the size of the sample was checked via the Kaiser-Meyer-Olkin (KMO) adequacy measure, and the result was 0.91. The reliability or trustworthiness of the questionnaire (Cronbach’s α) is 0.93. The method of rotation of the main components was used to determine the suitable quantity of factors and find the general structure of characteristics, which resulted in the separation of 11 factors that describe 72.9% of the total variance. The communalities of the statements ranged from 0.85 to 0.53, so the common parts of the statements are adequate, and there is no reason to drop any of the statements from the questionnaire based on communalities.

The orthogonal varimax method was used to find the factors correlated with a small number of statements, i.e., the variance of factor loadings would be maximal (Costello & Osborne, 2005). The Pearson correlation coefficient was used to

measure the correlation between the statements, and the strength of the correlation was assessed based on the price coefficient.

6 Results

In addition to the corrections made during the interpretation of the factor analysis, the questionnaire describes 64.21% of the total variance of the initial characteristics, which is a very good result. Thirteen statements were dropped during the assessment of the factor analysis, and the number of factors was reduced by seven. This is a reliable measuring tool, as the internal reliability of the questionnaire is 0.93 (>0.9) and the construct validity was checked via the correlation matrix on the basis of the correlation coefficient. The new organizational trust questionnaire consists of 36 statements and divides into 8 main factors: factor 1 trust in line manager, factor 2 fairness in the organization, factor 3 communication, factor 4 organizational management, factor 5 control, factor 6 technology, factor 7 trust between colleagues, and factor 8 integrity in the organization. The organizational trust questionnaire is given in Appendix 1.

In addition to the correlation of the statements in a factor, the correlation between the factors themselves was also considered, but it will not be approached in depth due to the objective of the article. The factor correlation matrix is given in Table 2.

According to the correlation analysis, factors' correlation coefficients are positive (except factor 7—trust between colleagues). The previous factor analysis found that the factor 7 statements factor loading is negative (-0.86 ; -0.80). In other words the statements indicate the reverse connection to the other claims made in the questionnaire. Based on the above, it is justifiable why the direction of elements of the trust between colleagues is negative compared to other factors. As the coefficient of this factor is lower than -0.3 , it can be concluded that there is no relationship with other factors.

Analyzing the rest of the factors, the increase in the value of any element of organizational trust does not lead to a decrease of another element of trust, i.e., a

Table 2 The factor correlation matrix

| | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 | Factor 7 | Factor 8 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Factor 1 | 1.000 | 0.475 | 0.457 | 0.412 | 0.419 | 0.262 | -0.260 | 0.512 |
| Factor 2 | 0.475 | 1.000 | 0.633 | 0.641 | 0.430 | 0.479 | -0.179 | 0.591 |
| Factor 3 | 0.457 | 0.633 | 1.000 | 0.701 | 0.405 | 0.423 | -0.168 | 0.570 |
| Factor 4 | 0.412 | 0.641 | 0.701 | 1.000 | 0.380 | 0.442 | -0.156 | 0.577 |
| Factor 5 | 0.419 | 0.430 | 0.405 | 0.380 | 1.000 | 0.276 | -0.131 | 0.425 |
| Factor 6 | 0.262 | 0.479 | 0.423 | 0.442 | 0.276 | 1.000 | -0.077 | 0.353 |
| Factor 7 | -0.260 | -0.179 | -0.168 | -0.156 | -0.131 | -0.077 | 1.000 | -0.174 |
| Factor 8 | 0.512 | 0.591 | 0.570 | 0.577 | 0.425 | 0.353 | -0.174 | 1.000 |

Source: compiled by the authors

negative correlation coefficient. Therefore, all elements of organizational trust are related to each other positively.

For example, if the level of integrity in organization increases, then the level of all the other elements of trust (trust in line manager, fairness, communication, management of organization, control, technology, and integrity) will also rise.

It is also important to look at the magnitude of the absolute value of the correlation coefficient in Table 2, which reflects the strength of the correlation between the confidence elements. The strongest connection between the trust elements is:

- The organizational management and communication ($r = 0.70$)
- The organizational management and fairness in organization ($r = 0.64$)
- The communication and fairness in organization ($r = 0.63$)

This means that improvement in the level of management in an organization leads to a substantial improvement in the level of communication and increases fairness. As the communication in an organization improves, the level of fairness will also improve significantly. In contrast, the increase in the level of trust in technology is not related to trust in line manager ($r = 0.26$), and the elements have just weak correlation between technology and control ($r = 0.27$).

In conclusion, based on the sum of the trust elements' absolute value, the justice in an organization, communication, management of an organization, and honesty in an organization have correlated the most with the other elements. Therefore, based on the correlation between the elements of the organizational trust in raising the level of trust in an organization, it is important to pay attention to the abovementioned connections.

7 Conclusion

Two types of trust are distinguished in an organization: the interpersonal trust between the members of the organization and trust in the system, i.e., institutional trust. A relationship of trust between persons divides into an employee's trust in managers and in colleagues at the same level. Institutional trust is based on the functioning of an organization as a social system (Costa, 2017).

The author selected three base questionnaires for the preparation of the questionnaire: Impersonal Trust Scale (ITS), COPSOQ II, and HSE Management Standards Indicator Tool. The author carried out a survey of 192 respondents and a factor analysis based on the collected data. An organizational trust questionnaire was prepared as a result of the survey, which consists of 36 statements and 8 main factors. This is a reliable measuring instrument whose alpha-coefficient is 0.93 ($\alpha > 0.9$), i.e., very good.

It has been proven that vertical trust (the trust of employees in managers and the trust of managers in employee) is two-directional (Krot & Lewicka, 2012). The questionnaire studies the trust of managers in employees (management-employee

trust), and it is recommended to add statements that study whether line managers trust their employees to the measuring instrument in follow-up surveys. Statements that measure the trust of line managers in employees could be added to the first factor. The seventh factor includes two statements with negative factor weight. During development, it is advisable to rephrase them in the same direction with other statements or to add statements that would be positively correlated with the factor. Rephrasing and/or adding statements would give a more reliable picture of the latent phenomenon of the factor. The eighth factor covers statements that measure integrity in an organization, but do it through a single characteristic, which is salary. It is advisable to add statements within the scope of follow-up surveys, which would study the integrity of an organization via more characteristics and which would also increase the reliability of the factor. The internal reliability of the factor is 0.82, which good ($0.8 \leq \alpha < 0.9$), but still the lowest indicator among the ones in the questionnaire.

Appendix

Organizational trust questionnaire

| Trust in line manager | | (Sub)scale |
|-------------------------------------|---|-----------------|
| 1 | My line manager keeps his/her promises | Trustworthiness |
| 2 | My line manager is fair in communication with others | Trustworthiness |
| 3 | My line manager is competent in his/her work | Competence |
| 4 | My line manager can solve conflicts well | Competence |
| 5 | My line manager is mostly helpful and does not put his/her wellbeing first | Benevolence |
| 6 | My line manager would never do anything that would hurt me | Benevolence |
| <i>Fairness in the organization</i> | | |
| 7 | Skilled employees are offered opportunities to climb the corporate ladder | Fair treatment |
| 8 | I am offered opportunities to learn new skills and professional development | Fair treatment |
| 9 | The promises related to my professional and personal development have been kept | Fair treatment |
| 10 | The employees who deserve recognition are rewarded in the organization | Fair treatment |
| 11 | My future prospects in the organization are good | Sustainability |
| 12 | Employees have good career opportunities in the organization | Sustainability |
| 13 | The knowledge of employees is efficiently applied | Sustainability |
| <i>Communication</i> | | |
| 14 | The information I receive about my organization is up to date | Communication |
| 15 | I receive information on changes that are important to me | Communication |
| 16 | The information required for my work is easily accessible | Communication |

(continued)

| Trust in line manager | | (Sub)scale |
|--------------------------------------|--|---------------------------|
| 17 | I can trust the information coming from the management | Management-employee trust |
| 18 | Employees can express their opinions and emotions | Management-employee trust |
| 19 | The management trusts that employees do their work well | Management-employee trust |
| <i>Organizational management</i> | | |
| 20 | The organization has a certain business strategy that helps to maintain focus and support the achievement of goals | Corporate governance |
| 21 | The management has a clear vision of the future | Corporate governance |
| 22 | The organization adapts well to (external) changes | Corporate governance |
| 23 | The organization of work in the organization is good | Corporate governance |
| 24 | The management does not make decisions that could threaten the further activities of the organization | Trust in the management |
| 25 | The management has the necessary competence | Trust in the management |
| 26 | The management keeps the organization on the right track | Trust in the management |
| <i>Control</i> | | |
| 27 | I can decide myself what I do at work | Control |
| 28 | I can decide myself how to organize my work | Control |
| 29 | I can organize my working time flexibly | Control |
| <i>Technology</i> | | |
| 30 | Computer hardware and software works reliably | Technology |
| 31 | The work equipment required for everyday work is in working order | Technology |
| 32 | If necessary, I always get help in the case of technical problems | Technology |
| <i>Trust between colleagues</i> | | |
| 33 | Employees hide information that is important to them from one another | Trust between colleagues |
| 34 | Employees hide information from the management | Trust between colleagues |
| <i>Integrity in the organization</i> | | |
| 35 | My salary is equal to the salary of employees whose job is similar to mine | Integrity |
| 36 | My salary corresponds to my contribution and skills | Integrity |

Source: compiled by the author

References

- Atkinson, S., & Butcher, D. (2003). Trust in managerial relationships. *Journal of Managerial Psychology*, *18*(4), 282–304.
- Bachmann, R. (2006). Trust and/or power: Towards a sociological theory of organizational relationships. In *Handbook of trust research* (pp. 393–408). <https://doi.org/10.4337/9781847202819.00031>
- Bauer, P. C. (2015). *Three essays on the concept of trust and its foundations* (Doctoral dissertation, Universität Bern).
- Blomqvist, K. (1997). The many faces of trust. *Scandinavian Journal of Management*, *13*(3), 271–286. [https://doi.org/10.1016/S0956-5221\(97\)84644-1](https://doi.org/10.1016/S0956-5221(97)84644-1)
- Blomqvist, K. (2002). *Partnering in the dynamic environment: The role of trust in asymmetric technology partnership formation*. Lappeenranta University of Technology.
- Coolican, D. L., & Coffman. (14 July 2016). *Trust, the sharing economy and behavioral economics*, [online] Available at: <https://www.behavioraleconomics.com/trust-the-sharing-economy-and-behavioral-economics/>. Accessed 15 February 2020.
- COPSOQ international Network. (2018). *Scales and items of COPSOQ III questionnaire*, [online] Available at: <https://www.copsoq-network.org/guidelines/>. Accessed 3 March 2020.
- Costa, A. C. (2017). Trust in organizations. In *Reference module in neuroscience and biobehavioral psychology* (pp. 1–9). Elsevier. <https://doi.org/10.1016/B978-0-12-809324-5.05741-2>
- Costa, A. C., Fulmer, C. A., & Anderson, N. R. (2018). Trust in work teams: An integrative review, multilevel model, and future directions. *Journal of Organizational Behavior*, *39*, 169–184. <https://doi.org/10.1002/job.2213>
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, *10*(7), 1–9.
- Costigan, R., Lter, S. S., & Berman, J. J. (1998). A multi-dimensional study of trust in organizations. *Journal of Managerial Issues*, *10*(3), 303–317.
- Cummings, L. L., & Bromiley, P. (1996). The organizational trust inventory (OTI). *Trust in Organizations: Frontiers of Theory and Research*, *302*(330), 39–52.
- Dirks, K. (1999). The effects of interpersonal trust on work group performance. *The Journal of Applied Psychology*, *84*(3), 445–455. <https://doi.org/10.1037/0021-9010.84.3.445>
- Dirks, K., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *The Journal of Applied Psychology*, *87*(4), 611–628. <https://doi.org/10.1037/0021-9010.87.4.611>
- Fulmer, C. A., & Gelfand, M. J. (2012). At what level (and in whom) we trust: Trust across multiple organizational levels. *Journal of Management*, *38*, 1167–1230. <https://doi.org/10.2139/ssrn.1873149>
- Gallivan, M. (2001). Striking a balance between trust and control in a virtual organization: A content analysis of open source software case studies. *Information Systems Journal*, *11*(4), 277–304. <https://doi.org/10.1046/j.1365-2575.2001.00108.x>
- Greenberg, P., Greenberg, R., & Antonucci, Y. (2007). Creating and sustaining trust in virtual teams. *Business Horizons*, *50*(4), 325–333. <https://doi.org/10.1016/j.bushor.2007.02.005>
- Hall, T. S., & Mcquay, W. (2010). Review of trust research from an interdisciplinary perspective—psychology, sociology, economics, and cyberspace. In *Proceedings of the IEEE 2010. National aerospace and electronics conference, NAECON 2010* (pp. 18–25). <https://doi.org/10.1109/NAECON.2010.5712918>
- Harary, A. (2019). *2019 Edelman trust barometer, executive summary*, [online] Available at: https://www.edelman.com/sites/g/files/aaatuss191/files/2019-02/2019_Edelman_Trust_Barometer_Executive_Summary.pdf. Accessed 19 February 2020.
- Hitch, C. (2012). *How to build trust in an organization*. Available at: <https://execdev.kenan-flagler.unc.edu/hubfs/White%20Papers/How%20to%20Build%20Trust%20in%20an%20Organization.pdf>. Accessed 2 March 2020.

- Hulsart, R., & McCarthy, V. (2009). Educators' role in promoting academic integrity. *Academy of Educational Leadership Journal*, 13(4), 49.
- Islamoglu, G., Birsal, M., Boru, D., & Campus, B. (2012). Trust scale development in Turkey. Proceedings from E-Leader Berlin. Istanbul, Turkey.
- Krot, K., & Lewicka, D. (2012). The importance of trust in manager-employee relationships. *International Journal of Electronic Business Management*, 10, 224–233.
- Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *Crisis*, 72(4), 1785–1824. <https://doi.org/10.1111/jofi.12505>
- Luhmann, N. (1979). *Trust and power*. Wiley.
- MacKay, C. J., Cousins, R., Kelly, P. J., Lee, S., & McCaig, R. H. (2004). 'Management standards' and work-related stress in the UK: Policy background and science. *Work & Stress*, 18(2), 91–112.
- Marc, J., Kimberly, S., & Coleman, J. (2015). The multidimensionality of trust: Applications in collaborative natural resource management. *Society & Natural Resources*, 28(2), 116–132. <https://doi.org/10.1080/08941920.2014.945062>
- Mascarenhas, S. (2019). *The ethics of corporate trusting relations* (pp. 77–111). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-78756-191-520191004>
- Mayer, R., Davis, J., & Schoorman, F. (1995). An integrative model of organizational trust. *The Academy of Management*, 20(3), 709–734. <https://doi.org/10.2307/258792>
- McAllister, D. (1995). Affect- and cognition-based trust formations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38, 24–59. <https://doi.org/10.2307/256727>
- MIDS (Measurement Instrument Database for the Social Sciences). (2011). *The impersonal trust scale (ITS)*. [online] Available at: <http://www.midss.org/content/impersonal-trust-scale-its>. Accessed 14 January 2020.
- Paine, K. D. (2003). *Guidelines for measuring trust in organizations* (pp. 9–10). The Institute for Public Relations.
- Paliszkievicz, J. (2013). The importance of building and rebuilding trust in organizations. In *Diversity, technology, and innovation for operational competitiveness: proceedings of the 2013 international conference on technology innovation and industrial management* (pp. 269–278).
- Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: A review of current literature and directions for future research. *Data Base*, 35, 6–36.
- Rawlins, B. (2008). Measuring the relationship between organizational transparency and employee trust. *Public Relations Journal*, 2(2), 1–22.
- Rosenberg, M. (1956). Misanthropy and political ideology. *American Sociological Review*, 21(6), 690–695.
- Rotter, J. B. (1980). Interpersonal trust, trustworthiness and gullibility. *The American Psychologist*, 26, 1–7. <https://doi.org/10.1037/0003-066X.35.1.1>
- Rousseau, D., Sitkin, S., Burt, R., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23(3). <https://doi.org/10.5465/AMR.1998.926617>
- Schiller, S., Mennecke, B., Nah, F., & Luse, A. (2014). Institutional boundaries and trust of Virtual Teams in collaborative design: An experimental study in a virtual world environment. *Computers in Human Behavior*, 49, 565–577. <https://doi.org/10.1016/j.chb.2014.02.051>
- Sonnenwald, D. (2004). *Managing cognitive and affective trust in the Conceptual R&D organization* (pp. 1–18). <https://doi.org/10.4018/9781591401261.ch004>
- Starnes, B. J., Stephen, A. T., & McCarthy, V. (2016). *A primer on organizational trust: How trust influences organizational effectiveness and efficiency, and how leaders can build employee-employer relationships based on authentic trust* (pp. 1–17). <https://doi.org/10.13140/RG.2.1.1785.5768>
- Sztompka, P. (2014). Trust. In *Concise encyclopedia of comparative sociology* (pp. 492–498). https://doi.org/10.1163/9789004266179_052

- Tan, H., & Tan, C. S. F. (2000). Toward the differentiation of trust in supervisor and trust in organization. *Genetic, Social, and General Psychology Monographs*, 126(2), 241–260.
- Vanhala, M. (2019). Trust as an organizational knowledge sharing enabler—validation of the impersonal trust scale. *VINE Journal of Information and Knowledge Management Systems*. <https://doi.org/10.1108/VJKMS-12-2018-0119>
- Vanhala, M., Puumalainen, K., & Blomqvist, K. (2011). Impersonal trust: The development of the construct and the scale. *Personnel Review*, 40, 485–513. <https://doi.org/10.1108/00483481111133354>
- Walsh, W. B. (1944). What the American people think of Russia. *Public Opinion Quarterly*, 8(4), 513–522.
- Whitener, E., Bridt, S., Korsgaard, M., & Werner, J. (1998). Managers as initiators of trust: An exchange relationship framework for understanding managerial trustworthy behavior. *Academy of Management Review*, 23(3), 513–530. <https://doi.org/10.5465/AMR.1998.926624>
- Zak, P. J. (2017). The neuroscience of trust. *Harvard Business Review*, 95(1), 84–90.

Specific Factors Influencing Patient Satisfaction in Swiss Ophthalmology Private Practice



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Abstract Over the last decades, robust evidence linking patient satisfaction to hospital reputation and profitability has accrued, and patient satisfaction has now become a key focus in the healthcare industry. A review of the literature identified pre-established factors that were shown to influence patient satisfaction in different settings and could be categorized as patient-related factors, personnel-related factors and external factors. A specific questionnaire was designed, including items from previously validated questionnaires with the addition of questions covering each of the factors identified in the literature review. This resulted in a 66-item patient experience questionnaire that all patients attending two large private ophthalmology clinics in Switzerland were offered to take on a voluntarily basis. In all, 132 surveys were completed and analysed, resulting in four major findings: (1) patients in Switzerland were highly satisfied with their private eyecare provider, (2) demographics and cultural backgrounds only had a weak effect on overall patient satisfaction in this setting, but (3) patients' nationalities significantly affected the aspect

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of their healthcare experience they valued most. Finally, satisfaction in every subgroup of patients was shaped by a different ensemble of factors of varying importance (4).

Keywords Healthcare · Management · Quality · Patient satisfaction · Ophthalmology · Switzerland

1 Introduction

The study of patient satisfaction dates to the 1950s, where its impact on the healthcare industry was first examined (Abdellah & Levine, 1957). Acknowledging the importance of patients' satisfaction in healthcare has led to a gradual shift of standards and practice, with patients being more and more considered consumers of healthcare services (Needham, 2012). Studies have shown that present-day patients tended to be more educated and expect more from their doctors than before (Cockburn & Pit, 1997). Concomitantly, these new consumers have developed similar expectations to that of other service industries, such as comfort, convenience and value for money. Like in all service industries, improved patient experience has been linked to increased patient satisfaction and fidelity and better financial results (Cliff, 2012). Indeed, direct associations between patient satisfaction and hospital reputation, revenue and malpractice claims were documented in several studies (Hall, 2008; Cliff, 2012). With substantial financial implications for the healthcare industry, it is no wonder why patient satisfaction has become a key issue in modern healthcare management (Garman et al., 2004).

Intuitively, one may associate patient satisfaction with clinical performance, yet studies have shown that many factors play a considerably greater role in influencing patient satisfaction and may be classified as patient-related, personnel-related or external factors (Grøndahl et al., 2013). Furthermore, these factors are not set and may vary depending on the country, setting and patient values (Fenton et al., 2012; Ziaei et al., 2011; Schoenfelder et al., 2011; McMullen & Netland, 2013). Indeed, Sutton et al. (2017) and Ziaei et al. (2011) have shown that patients may value specific aspects of their environment and care in different medical specialties or countries. Yet, the specific factors defining patients' expectations and satisfaction in different settings remain mostly unknown. For example, Switzerland tends to have a higher percentage of patient satisfaction and staff satisfaction than most Western countries (Aiken et al., 2012). Yet, Sebo et al. (2015) have highlighted some clear discrepancies between Swiss doctors' concerns and patients' expectations.

To the best of our knowledge, no studies have yet investigated these factors in Swiss private ophthalmology clinics. The present study will therefore contribute novel primary data from an understudied setting. This is particularly relevant, not only because medical fields and patients' cultures were shown to directly impact patient satisfaction but also because the Swiss eyecare system may differ from other countries by nature. Indeed, contrary to many other countries, ophthalmology in Switzerland is a primary care service, offering specialist diagnoses, referral-free eye checks and spectacles prescription. For this reason, 90% of Swiss ophthalmologists

work in community practices or private clinics (Ruedin et al., 2007; Hostettler & Kraft, 2020).

In a review of the literature, the present article will first explore the role of patient satisfaction in healthcare, then review the different factors that were described in the literature as influencing patient satisfaction and finally assess the currently accepted tools to evaluate patient satisfaction. We will then lay out our main research theories and methods, present our results and conclude with a discussion of the empirical and academic implications of the present study.

2 Patience Satisfaction

Satisfaction is a subjective concept and may differ widely between individuals. For this reason, there has been a considerable shift, in the service industry, from generalization towards the individualization of services, in an attempt to satisfy as many customers as possible. The healthcare industry, however, appears to be lagging behind and still relies extensively on generalization and basic satisfaction surveys (Powers et al., 2013).

2.1 Multifactorial Aspects of Patient Satisfaction

Fenton et al. (2012) have researched the correlation between clinical performance and patient satisfaction. Curiously, they demonstrated a direct association between higher patient satisfaction and higher mortality rates, suggesting that clinical performance may not be the most determinant factor in patient satisfaction. This illustrates how intuitive assumptions concerning patient satisfaction may be erroneous. Since then, several studies have studied the specific factors influencing patient satisfaction in healthcare. These may be classified as patient-related, personnel-related or external (Grøndahl et al., 2013). Table 1 summarizes the factors identified in this review of the literature.

2.1.1 Patient-Related Factors

Otani et al. (2012) have shown that patients' perceived health influences their perception of healthcare services. In their study, they demonstrated that patients suffering from more severe illnesses tended to trust their doctors more and considered the patient-doctor relationship as the most important aspect of healthcare. Another study by Murdock and Griffin (2013) identified patient education as a strong determinant for patient satisfaction. Furthermore, the level of patient education had a significant impact on their treatment compliance, appointment attendance and rates of night-time admissions, all of which may translate into reduced

Table 1 Summary of the patient-related, personnel-related, external and national factors identified as influencing patient satisfaction in the literature

| Summary of identified factors influencing patient satisfaction | |
|--|----------------------------------|
| <i>Patient-related factors</i> | <i>Personnel-related factors</i> |
| Perceived own health | Psychological well-being |
| Cultural background | Perceived kindness |
| Age | Patient-doctor relationship |
| Education | Politeness/bedside manners |
| Expectations (idealized image) | Involvement of patients/family |
| Perceived treatment efficacy | Doctor's communication |
| | Doctor's attentiveness |
| <i>External factors</i> | <i>National specificities</i> |
| Perceived technology level | Doctors' qualifications |
| Perceived cleanliness | Cost of insurance |
| Décor | |
| Staff appearance | |
| Waiting time | |
| Perceived satisfaction of other patients | |
| Accessibility | |
| Convenience | |
| Cost of consultation | |

Source: Authors' own work

satisfaction. Senitan et al. (2018) also described a significant effect of patients' demographics on satisfaction in a primary care setting. Finally, in a study of Russian and Israeli patients, Baider et al. (1995) proved that cultural background had a strong influence on patients' expectations and satisfaction. Using identical questionnaires to describe their ideal doctor, the authors observed significant differences in the descriptions made by both groups of different nationalities.

2.1.2 Personnel-Related Factors

While the healthcare industry is intrinsically built around a patient-doctor relationship, several other protagonists contribute to shaping patients' experience, including receptionists, nurses, associate healthcare professionals and other patients. Lanser (2015) estimated that as much as 60% of a patient's satisfaction or lack thereof results from their relationship with the healthcare team and particularly their perceived attitude. Shannon (2013) identified doctors' psychological well-being as a key factor of patients' perception of the quality of service, and Schoenfelder et al. (2011) described the perceived kindness of nurses as the most determinant factor of patient satisfaction. Similarly, Ossoff and Thomason (2012) suggested that doctors' bedside manners, defined as the way they listen and communicate, deliver information and involve patients and their families in clinical decision-making.

2.1.3 External Factors

Beyond healthcare professionals and patients themselves, Prakash (2010) suggested a number of external factors that may play a role in patient satisfaction. These included the perceived level of technology of the hospital, its cleanliness and décor, whether the personnel was deemed appropriately dressed and the time spent in the waiting room. Another study by Hantel and Benkenstein (2020) has suggested that this latter factor may have even greater importance if several patients are kept waiting for extensive periods of time, as satisfaction may also be shaped by one's perception of others.

2.1.4 Role of National Specificities

The influence of cultural factors, individual expectations and wide external factors explains why patient satisfaction may vary so widely across the world. Patient satisfaction with healthcare services in Switzerland is one of the highest in the Western world (Aiken et al., 2012). Yet, recent studies suggest that Swiss doctors largely misunderstand their patients' expectations. Indeed, Sebo et al. (2015) have shown that doctors tend to overemphasize diagnostic technologies leading to over-investigations, while patients are more concerned with their doctors' professional qualifications.

2.2 *Healthcare Satisfaction Evaluation Tools*

Most published studies on patient satisfaction rely on the analysis of short satisfaction questionnaires. Yet, several authors acknowledged the inherent limitations of this method, namely, the scarcity of specific data beyond simple demographics and levels of satisfaction, limiting the interpretation of results (Senitan & Gillespie, 2020). A handful of smaller studies opted for a narrative qualitative approach (Popay et al., 2006). However, these suffer the major drawback of being subject to subjective interpretation bias. Furthermore, the heterogeneity of the non-standardized answers makes statistical and association analyses impractical (Ali et al., 2020). For these reasons, most authors seeking to explore the roots of patient satisfaction in healthcare settings have opted for "patient experience" surveys. The most commonly used patient experience measurement tool is the Agency for Healthcare Research and Quality's (AHRQ) Consumer Assessments of Healthcare Providers and Systems (CAHPS) questionnaire (Holt, 2019). The survey consists of 15 questions assessing patients' experience in the following domains: access to care, doctor's communication, follow-up on test results, receptionist's behaviour and overall satisfaction (AHRQ, 2020). While Rothman et al. (2008) validated the questionnaire through an extensive review of 40,172 CAHPS surveys,

they also reported that the addition of more detailed questions further increased the correlation between “patient experience” items and overall satisfaction ratings. This was further supported by Martino et al. (2017) who reported the increased reliability of surveys when questions providing a more detailed account of patients’ experience were added. The difference was particularly significant in those with poor reported health. A longer questionnaire, the PSQ-18, was designed and validated to assess patient satisfaction in healthcare (Marshall & Hays, 1994) with questions encompassing seven different domains: technical, financial, interpersonal, communication, convenience, accessibility and availability. Yet, when used to assess eyecare settings in Iran, despite the noted association between overall patient satisfaction and both accessibility and technical aspects, the PSQ-18 questionnaire could only predict 60% of the answers (Ziaei et al., 2011). Interestingly, another study carried out in German eye clinics identified stronger correlations with treatment outcomes and the perceived kindness of the nurses in charge of the patients (Schoenfelder et al., 2011), while a third study studying patient satisfaction in a private eye clinic in Indiana, USA, identified shorter waiting time as the strongest drive for overall satisfaction (McMullen & Netland, 2013). This illustrates the impact of the clinical setting and cultural variations on patient satisfaction and further highlights the fact that factors influencing patient satisfaction have not all yet been identified. Thus, the design of a more comprehensive questionnaire tool is warranted to identify the missing links between patients’ personal experience of healthcare and satisfaction.

3 Purpose and Hypotheses

The present study aims to identify the main factors influencing the satisfaction of patients attending private ophthalmology clinics in Switzerland and provide concrete recommendations for their improvement.

3.1 Patient Satisfaction

Aiken et al. (2012) had previously identified Switzerland as one of the countries where patients were most satisfied with healthcare services. Our first aim, therefore, is to confirm this finding by assessing the level of satisfaction of patients in the specific setting of Swiss private eye clinics.

3.2 Hypotheses Development

3.2.1 Patients' Demographics and Satisfaction

Several authors have described the impact of patients' demographics on their satisfaction (Senitan et al., 2018), as well as the influence of their perceived health (Otani et al., 2012). Specifically, studies have suggested that older patients with lower levels of education tend to be more satisfied with their primary care provider (Al-Ali & Elzubair, 2013). While a number of these studies were carried out in Saudi Arabia and in primary health centres, we hypothesise that the same may hold true in an ophthalmology setting, in Switzerland.

H1: Patients' demographic parameters and perception of their own health directly affect their overall satisfaction with their ophthalmic care provider.

3.2.2 The Most Significant Predictors of Satisfaction

The strongest drive for patient satisfaction in an eyecare setting was shown to vary depending on the country and culture. In a study of patient satisfaction in Germain eye clinics, Schoenfelder et al. (2011) identified that, out of all the studied aspects of patients' experience, their relationship with the nurse or assistant was the strongest predictor of overall satisfaction. While this was never studied in Switzerland, some cultural and behavioural aspects were observed between Switzerland, Germany and France (Faeh et al., 2009). We, therefore, hypothesise that principal factors influencing patients' satisfaction are similar in ophthalmology settings in Germany and Switzerland.

H2: The relationship between patients and the nurse/doctors' assistant is the main factor affecting patients' overall satisfaction with their ophthalmic care provider.

3.2.3 Demographics and Determining Factors of Satisfaction

As different demographic and cultural factors were reported to influence the overall satisfaction of patients regardless of their experience, we speculated that different groups of patients may value different aspects of their healthcare experience. We thus hypothesise that demographic characteristics may not only impact overall satisfaction directly but also influence what factors are most determinant in achieving satisfaction.

H3: The main factors affecting patients' overall satisfaction vary in different subgroups of patients.

4 Methods and Methodology

The present study aimed to identify the factors influencing patient satisfaction in private ophthalmology clinics in Switzerland. The subject of patient satisfaction has been extensively studied in the literature using mainly two validated questionnaires: CAHPS and PSQ-18 (Holt, 2019; Marshall & Hays, 1994). To date, however, no data exist in the specific setting of Swiss private ophthalmology clinics, and no published study has yet been able to identify all the factors influencing patient satisfaction. These observations shaped the methods of this study in two ways: (1) using similar methods to previously published studies was crucial to allow result comparison and assess whether the findings of other research are generalizable to the present context, and (2) refining current questionnaires with the addition of new items would be necessary to capture and identify new or context-specific factors influencing patient satisfaction and achieve a good predicting power.

4.1 *Sample Selection*

The study of patient satisfaction in Swiss private ophthalmology clinics implied the selection of a sample representative of the market. To achieve this, the two largest groups of private ophthalmology clinics in the country (Clinique A, Clinique B) were contacted and agreed to participate. These companies were chosen because, together, they have a dominant share of the private ophthalmology market in Switzerland, serving a population of over two million people at 16 outreach clinics. This wide range of clinics presents the advantage of serving a broad population at various locations, both urban and rural, and from a variety of socioeconomic backgrounds. Furthermore, the selected clinics encompass all subspecialties of ophthalmology, including casualties, emergency surgery, elective procedures, clinics for chronic diseases and routine eye checks. Therefore, patients attending these clinics are deemed to be representative of the market as a whole. Indeed, contrary to some other countries, in Switzerland, ophthalmology is a primary care service that can be attended without being referred by a general practitioner.

To ensure a fair representation, every patient who attended one of the participating clinics during the recruitment period was offered the opportunity to participate in the study if they met the inclusion criteria. Exclusion criteria were defined to safeguard vulnerable patients and are outlined in Table 2 (World Medical Association, 2013). Furthermore, the online measurement tool was designed to ensure all enrolled patients could participate in the study, regardless of their health condition or visual impairment, and special attention was given to its accessibility. Finally, demographic questions were included in the questionnaire to assess the sample heterogeneity and test for any potential recruitment bias.

Table 2 Summary of the inclusion and exclusion criteria

| Inclusion criteria | Exclusion criteria |
|---|---|
| <ul style="list-style-type: none"> • Attendance at one of the 16 participating clinics during the recruitment period, for any reason • Informed consent • Voluntary completion of the online questionnaire by 10 November (midnight) | <ul style="list-style-type: none"> • Age under 18 years • No capacity • Unable to understand their rights • Unable to consent • Non-French speaking • Previous inclusion in the present study |

Source: Authors’ own work

The minimum sample size was determined as 112 valid responses to identify a correlation coefficient (*r*) of 0.3 at 90% power with a significance level of 5% (*p*-value = 0.05) (Bujang & Baharum, 2016).

4.2 Data Collection

4.2.1 Methods

The present study follows the tenets of the Declaration of Helsinki, and enrolment was conditional to patients providing informed consent. The study was based on an anonymous and voluntary survey of patients’ satisfaction and perceptions regarding healthcare. Patients were made aware of their rights to withdraw from the study at any point without any justification and of the fact that their participation or lack thereof would not affect their medical care. Patients under the age of 18 years, lacking capacity, unable to understand their rights or unable to consent were excluded. The study protocol received ethical approval from the respective committee of the University of London.

Over a randomly selected calendar month (October 2020), every patient who matched the inclusion criteria and attended an appointment at one of the 16 participating clinics was offered voluntary enrolment into the study at the end of their appointment. They were provided either by a trained medical secretary or by the principal investigator, verbal instructions as well as an information leaflet explaining the study. The leaflet included a unique link to an online questionnaire. Patients were instructed to wait at least 48 h after their appointment to complete the survey if they decided to enrol. The questionnaire could either be accessed from a smartphone or a computer and was live between 1 October and 10 November 2020. Each questionnaire could only be completed once, and patients who attended several appointments during the recruitment period were only offered to participate once.

4.2.2 Measurements

The questionnaire was based on the validated CAHPS and PSQ-18 questionnaires (Holt, 2019; Marshall & Hays, 1994), but additional questions were designed to cover most pre-identified factors of influence. It comprised 7 successive sections and 66 questions. Whenever possible, answers were scored on a modified ten-point Likert scale. This specific scale design was chosen for several reasons. First, semantic differential scales using bipolar adjectives are intuitive to most responders and provide a robust base for parametric tests such as Pearson correlation analysis (Murray, 2013). Second, an odd number of options was specifically chosen to omit the neutral answer, thus reducing central tendency bias and misuse of the midpoint under social desirability pressure (Chyung et al., 2017). Finally, as strong participant and acquiescence biases were anticipated among patients being actively treated at one of the participating clinics, potentially resulting in a concentration of responses within the high end of the scale, a ten-point scale was selected to provide greater variability in responses (Joshi et al., 2015). For some answers, such as demographics, a drop-down list was used for subjects to select the most appropriate answer.

All information and survey questions were provided in French. Questions' wording was kept concise and jargon-free. An alternate of positive and negative statements was used to reduce acquiescence bias. The questionnaire was tested on a panel of five French-speaking healthcare workers from different nationalities and cultural backgrounds, and the wording of items was adapted until all panellists were satisfied with their clear meaning (Noelle-Neumann, 1970). The information leaflets and questionnaires were designed by low vision specialists and relied on a combination of contrasts and large prints to ensure accessibility to visually impaired patients (Kaczmirek & Wolff, 2007).

4.3 Data Analysis

Incomplete questionnaires were excluded from the analysis. The mean and the standard deviation were calculated for normally distributed values, while median and interquartile ranges were used for non-normally distributed values, to obtain a clear statistical representation of the samples' demographics. Pearson correlation coefficients were used to calculate odds ratios and assess for potential associations between overall satisfaction and demographic or other recorded factors (Gillmann et al., 2020). Correlations were considered weak, moderate and strong when coefficients (r) were <0.3 , between 0.3 and 0.7 and >0.7 , respectively (Dancey & Reidy, 2007). Student t-tests were used to compare the scores for all items between highly satisfied responders and others, the threshold being set as the mean score for overall satisfaction. P -values <0.05 were considered statistically significant. All

calculations were performed with commercially available software (Stata version 14.1; StataCorp, College Station, TX).

5 Results and Findings

5.1 Descriptive Findings

5.1.1 Demographic Characteristics

In total, 262 patients accessed the online surveys via their personal link, of which 50.4% responded ($n = 132$). While 60% took the anticipated 10–30 min to complete the survey, 25.5% were faster and a small proportion (5.5%) took over an hour. Of those who responded, 58.2% were women, and the most represented age group was 66–75 years (21.8%). Table 3 shows the age distribution of responders. Most responders were Swiss (70.9%), the rest being made of French (10.9%), British (7.3%), Italian (3.6%), Spanish (3.6%) and Portuguese (3.6%) nationals. In terms of education (Table 4), 50.4% had a university degree, with a predominance of administrative backgrounds (20.0%).

Table 3 Age distribution of all responders

| Age groups | N | % |
|------------|----|-------|
| 18–25 | 7 | 5.30 |
| 26–35 | 12 | 9.09 |
| 36–45 | 12 | 9.09 |
| 46–55 | 22 | 16.67 |
| 56–65 | 24 | 18.18 |
| 66–75 | 29 | 21.97 |
| 76–85 | 24 | 18.18 |
| 85+ | 2 | 1.52 |

Source: Authors' own work

Table 4 Education expressed as the level of the highest achieved degree

| Education | N | % |
|---------------------------|----|-------|
| Doctorate/PhD | 12 | 9.09 |
| Master's degree | 24 | 18.18 |
| Bachelor/licence | 22 | 16.67 |
| A-levels/baccalaureate | 26 | 19.7 |
| High school | 12 | 9.09 |
| Vocational/apprenticeship | 36 | 27.27 |

Source: Authors' own work

5.1.2 Health-Related Values

Overall, most responders considered themselves in good physical health, with a mean score on a scale from 1 to 10 of 8.0 ± 1.7 . Similarly, on average, they rated their ocular health a 6.3 ± 2.1 out of 10. The most common reason for their appointments was routine eye checks (34.5%) followed by a follow-up for chronic eye disease (27.3%), eye surgery (20.0%) and casualties (18.2%). On a scale from 1 to 10 (1 for benign to 10 for sight-threatening), patients self-assessed the seriousness of their presenting complaint as 6.1 ± 2.7 on average and evaluated their eyesight as crucial (9.7 ± 0.6). The majority of responders never had an eye condition in the past (40.0%), while 23.6% reported frequent eye-related complaints, and 10.9% even attended an ophthalmologist monthly (vs. 65.5% once a year or less).

5.1.3 Patient Satisfaction in a Swiss Private Eyecare Setting

On average, out of 10, responders rated their overall satisfaction an 8.9 ± 1.4 , with 64.2% of them scoring 9 or more. In terms of willingness to recommend their doctor and the clinic, mean scores were 9.0 ± 1.8 and 9.2 ± 1.7 , respectively. Table 5 shows the average scores on the main factors assessed by the patients.

Some questionnaire items were collapsed into broader headings. The score for each heading was calculated as the mean score for all items within the heading. Broad headings were defined as follows:

Table 5 Average scores of the main headings

| Heading | Mean score \pm SD | Heading | Mean score \pm SD |
|--|---------------------|---|-----------------------|
| Booking convenience | 8.87 ± 1.72 | Perceived satisfaction of others | 7.62 ± 1.60 |
| Ease of access | 8.98 ± 1.46 | Satisfactory management of clinical problem | 8.75 ± 1.90 |
| Waiting time (<i>low scores represent longer waiting time</i>) | 6.36 ± 3.16 | Quality of communication and explanations | 8.87 ± 1.64 |
| Comfort | 8.04 ± 2.33 | Appointment duration | 22.36 ± 16.13 min |
| Technology and equipment | 9.34 ± 0.92 | Perceived cleanliness | 9.53 ± 0.82 |
| Respect of confidentiality | 9.04 ± 1.33 | Overall satisfaction | 8.9 ± 1.4 |
| Measures to safeguard from COVID | 9.21 ± 1.33 | Willingness to recommend the clinic | 9.0 ± 1.8 |
| Politeness of staff | 9.57 ± 0.82 | Willingness to recommend the doctor | 9.2 ± 1.7 |
| Appropriateness of doctors' outfit | 9.55 ± 0.95 | | |

All scores are out of 10 except for the mean appointment duration, in minutes

Source: Authors' own work

- Booking convenience: item 28
- Ease of access: item 29, 33
- Waiting time: item 30
- Comfort: item 31, 32, 35
- Technology and equipment: item 34
- Respect of confidentiality: item 36
- Measures to safeguard from COVID: item 37
- Politeness of staff: item 38
- Appropriateness of doctors' outfit: item 40, 43, 44
- Perceived satisfaction of others: item 39, 42, 46
- Satisfactory management of clinical problem: item 47
- Quality of communication and explanations: item 48, 49, 50, 52
- Appointment duration: item 53
- Perceived cleanliness: item 55
- Overall satisfaction: item 64
- Willingness to recommend clinic: item 65
- Willingness to recommend doctor: item 66

5.2 Proposition Testing 1: Patients' Demographics and Satisfaction (H1)

The demographic make-up and main health-related values of highly satisfied patients were not found to be significantly different from that of less satisfied patients (Table 6).

Table 7 presents the correlation between demographic characteristics of ophthalmology patients and their overall satisfaction and willingness to recommend their doctor or clinic.

The second proposition aimed at evaluating the impact of patients' demographic parameters and perception of their own health on their overall satisfaction with their ophthalmic care provider. The results show no strong correlation between any of these parameters and overall satisfaction or willingness to recommend either their clinic or their doctor. Only a fair correlation was observed between patients' perceived general health and overall satisfaction, suggesting that patients considering themselves healthy tend to be more satisfied with their ophthalmic care. Interestingly, the association was stronger between satisfaction and general health than ocular health ($r = 0.313$ vs. 0.233).

Table 6 Comparison of the demographics and health-related values of highly satisfied and less satisfied patients

| | Highly satisfied patients | Less satisfied patients | <i>p</i> -value |
|------------------------|---|---|-----------------|
| Gender | 61.8% Female | 52.6% Female | 0.527 |
| Age | 64.3 ± 19.9 years | 60.3 ± 16.8 years | 0.462 |
| Nationality | 73.5% Swiss 5.9% French 0.0% Spanish | 68.4% Swiss 15.8% French 10.5% Spanish | 0.843 |
| Education | 35.3% Apprentice 14.7% High school 17.6% Bachelor 8.8% Master 14.7% Doctorate | 15.8% Apprentice 26.3% High school 15.8% Bachelor 31.6% Master 0.0% Doctorate | 0.723 |
| General health | 8.1 ± 1.9 | 7.9 ± 1.2 | 0.734 |
| Ocular health | 6.3 ± 2.2 | 6.3 ± 2.1 | 0.972 |
| Severity | 5.8 ± 2.8 | 6.5 ± 2.4 | 0.403 |
| Importance of eyesight | 9.7 ± 0.6 | 9.6 ± 0.7 | 0.691 |
| Outfit preference | 82.4% Whitecoat 5.9% Scrubs 2.9% Casual 8.8% Suit | 89.5% White coat 5.3% Scrubs 5.3% Casual 0.0% Suit | 0.387 |

Student's *t*-test and analysis of variance (ANOVA)

Source: Authors' own work

Table 7 Correlation matrix for patient demographics and overall satisfaction

| | Gender | Age | National | Education | Health | Ocular health |
|-------------------------------------|--------------|--------|----------|-----------|---------------|---------------|
| Overall satisfaction | 0.105 | -0.047 | 0.039 | 0.052 | <u>0.313*</u> | 0.233 |
| Willingness to recommend the clinic | <u>0.244</u> | -0.06 | 0.079 | 0.154 | 0.069 | 0.016 |
| Willingness to recommend the doctor | <u>0.25</u> | -0.097 | 0.126 | 0.216 | 0.075 | 0.01 |

Pearson's correlation coefficients. The highest intragroup correlation coefficients are underlined. (* $p < 0.05$, correlation).

Source: Authors' own work

5.3 Proposition Testing 2: Most Significant Predictor of Satisfaction (H2)

Table 8 presents the correlation between each of the main factors assessed and patients' overall satisfaction and willingness to recommend their doctor or clinic.

The third proposition aimed at assessing the correlation between individual patient experience factors and their overall satisfaction or willingness to recommend the service provider. The results showed highly variable correlations with different factors. The most important factor associated with patient satisfaction with Swiss private eyecare was their perception of satisfactory management of their clinical

Table 8 Correlation matrix for specific aspects of patient experience and overall satisfaction

| | Booking | Access | Wait | Comfort | Tech. | Confid. | COVID |
|-------------------------------------|----------------|---------------|---------------|-----------------|--------------|-----------------|---------------|
| Overall satisfaction | 0.400* | 0.346* | 0.388* | 0.177 | 0.517* | 0.735** | 0.388* |
| Willingness to recommend the clinic | 0.517* | 0.265 | 0.280 | 0.153 | 0.495* | 0.544* | 0.210 |
| Willingness to recommend the doctor | 0.470* | 0.180 | 0.164 | 0.043 | 0.343* | 0.486* | 0.110 |
| | Polite | Outfit | Others | Clinical | Expl. | Duration | Clean. |
| Overall satisfaction | 0.610* | 0.494* | 0.484* | <u>0.742**</u> | 0.721** | 0.309* | 0.484* |
| Willingness to recommend the clinic | 0.876** | 0.656* | 0.532* | <u>0.887**</u> | 0.791** | 0.277 | 0.555* |
| Willingness to recommend the doctor | 0.862** | 0.601* | 0.472* | <u>0.892**</u> | 0.849** | 0.310* | 0.517* |

Pearson’s correlation coefficients. The highest intragroup correlation coefficients are underlined. (Booking, appointment booking convenience; Access., ease of access to the clinic; Wait, waiting time; Tech., quality of the equipment available; Confid., respect of patient confidentiality; COVID, quality of measures taken to safeguard patients from COVID; Polite, staff politeness; Outfit, appropriateness of doctors’ outfit; Others, perceived satisfaction of other patients; Clinical, acceptable management of the presenting complaint; Expl., quality of the communication and explanations; Duration, length of the appointment; Clean., perceived cleanliness; * $p < 0.05$, ** $p < 0.01$, correlation)

Source: Authors’ own work

problem ($r = 0.747$), followed by the respect of their confidentiality ($r = 0.735$), the quality of the explanations they received ($r = 0.742$) and the politeness of the staff ($r = 0.610$). Other factors only correlated weakly or fairly with satisfaction. While the main factors determining patients’ willingness to recommend their clinic or doctor were similar to that influencing their satisfaction, the perception of their doctor’s outfit strongly correlated with these two outcomes ($r = 0.656$ and 0.601 , respectively).

5.4 Proposition Testing 3: Demographics and Determining Factors of Satisfaction (H3)

Table 9 presents the differences in correlation factors between patients of different age groups, genders, nationalities, education and satisfaction levels.

The fourth proposition aimed at exploring the differences in factors influencing overall satisfaction across different subgroups of patients. This highlighted significant discrepancies in the expectations of different groups. While younger patients

Table 9 Correlation matrix for specific aspects of patient experience and overall satisfaction across several subgroups of patients

| Subgroups | Booking | Access. | Wait | Comfort | Tech. | Confid. | COVID | Polite | Outfit | Others | Clinical | Expl. | Dur. | Clean. |
|--------------|---------------|---------------|---------------|---------------|---------------|-----------------|---------------|----------------|---------------|---------------|-----------------|----------------|---------------|---------------|
| <65-year-old | <i>0.263</i> | <i>0.512*</i> | <i>0.287</i> | <i>-0.014</i> | <i>0.523*</i> | <i>0.723***</i> | <i>0.305*</i> | <i>0.683**</i> | <i>0.647*</i> | <i>0.406*</i> | <i>0.827***</i> | <i>0.877**</i> | <i>0.313*</i> | <i>0.468*</i> |
| >65-year-old | <i>0.627*</i> | <i>0.145</i> | <i>0.496*</i> | <i>0.486*</i> | <i>0.588*</i> | <i>0.658*</i> | <i>0.663*</i> | <i>0.554*</i> | <i>0.403*</i> | <i>0.640*</i> | <i>0.654*</i> | <i>0.589*</i> | <i>0.337*</i> | <i>0.516*</i> |
| Female | <i>0.356*</i> | <i>0.593*</i> | <i>0.385*</i> | <i>0.185</i> | <i>0.419*</i> | <i>0.732***</i> | <i>0.372*</i> | <i>0.377*</i> | <i>0.480*</i> | <i>0.418*</i> | <i>0.707**</i> | <i>0.701*</i> | <i>0.339*</i> | <i>0.375*</i> |
| Male | <i>0.436*</i> | <i>0.063</i> | <i>0.409*</i> | <i>0.241</i> | <i>0.623*</i> | <i>0.737***</i> | <i>0.405*</i> | <i>0.825**</i> | <i>0.523*</i> | <i>0.688*</i> | <i>0.833***</i> | <i>0.784**</i> | <i>0.238*</i> | <i>0.623*</i> |
| V. Satisfied | <i>-0.150</i> | <i>0.061</i> | <i>0.014</i> | <i>-0.138</i> | <i>0.400*</i> | <i>0.460*</i> | <i>0.466*</i> | <i>0.153</i> | <i>0.084</i> | <i>0.308*</i> | <i>0.453*</i> | <i>0.713**</i> | <i>-0.042</i> | <i>0.072</i> |
| Dissatisfied | <i>0.428*</i> | <i>0.487*</i> | <i>0.216</i> | <i>-0.028</i> | <i>0.068</i> | <i>0.660*</i> | <i>0.273</i> | <i>0.387*</i> | <i>0.272</i> | <i>0.277</i> | <i>0.561*</i> | <i>0.497*</i> | <i>0.071</i> | <i>0.263</i> |
| Swiss | <i>0.494*</i> | <i>0.547*</i> | <i>0.330*</i> | <i>0.127</i> | <i>0.566*</i> | <i>0.796***</i> | <i>0.643*</i> | <i>0.663*</i> | <i>0.524*</i> | <i>0.512*</i> | <i>0.766**</i> | <i>0.735**</i> | <i>0.289</i> | <i>0.626*</i> |
| Foreigners | <i>-0.035</i> | <i>-0.107</i> | <i>0.650*</i> | <i>0.423*</i> | <i>0.362*</i> | <i>0.529**</i> | <i>0.387*</i> | <i>0.306*</i> | <i>0.294</i> | <i>0.405*</i> | <i>0.579*</i> | <i>0.636*</i> | <i>0.409*</i> | <i>-0.048</i> |
| University | <i>0.292</i> | <i>0.202</i> | <i>0.486*</i> | <i>0.343*</i> | <i>0.401*</i> | <i>0.652*</i> | <i>0.379*</i> | <i>0.478*</i> | <i>0.479*</i> | <i>0.216</i> | <i>0.631*</i> | <i>0.522*</i> | <i>0.189*</i> | <i>0.220</i> |
| High school | <i>0.593*</i> | <i>0.479*</i> | <i>0.316*</i> | <i>0.388*</i> | <i>0.625*</i> | <i>0.788***</i> | <i>0.519*</i> | <i>0.708**</i> | <i>0.514*</i> | <i>0.644*</i> | <i>0.814**</i> | <i>0.831**</i> | <i>0.399*</i> | <i>0.680*</i> |

Pearson's correlation coefficients. The highest intragroup correlation coefficients are underlined. Wide intergroup discrepancies (>0.3) are shown in italics. (* $p < 0.05$, ** $p < 0.01$, correlation) Source: Authors' own work

were more influenced by the equipment and comfort of the clinic ($r = 877$ and 827 , respectively), the satisfaction of patients over 65 years old was more influenced by the measures taken to safeguard them from COVID-19 and confidentiality issues ($r = 663$ and 658 , respectively). Similarly, the overall satisfaction of Swiss nationals was significantly more influenced by the convenience of the booking process ($r = 0.494$ vs. -0.035), clinic accessibility ($r = 547$ vs. -0.107), staff politeness ($r = 0.663$ vs. 0.306) and perceived cleanliness ($r = 0.626$ vs. -0.048). On the other hand, the main factor influencing the satisfaction of foreigners was the time they spent in the waiting room ($r = 0.650$ vs. 0.330). This confirms the impact of demographics and culture, not on satisfaction itself, but on the factors influencing it, and further highlights the importance of segmentation and tailoring services to patients.

6 Summary, Discussion and Conclusion

Over the last century, the importance of patient satisfaction has significantly evolved to become one of the key focuses of the healthcare industry (McLaughlin, 2009). Indeed, there is now ample evidence that patient satisfaction is intrinsically linked to profitability and reputation (Hall, 2008; Cliff, 2012). Yet, satisfaction is an elusive concept, the origins of which were shown to vary depending on the setting and the country (Baider et al., 1995). This research was therefore conducted to explore the factors responsible for patient satisfaction in a private ophthalmology setting in Switzerland, where no previous data were available.

With a total of 132 surveys completed, the participation threshold set by power analysis was met, and all responses were analysed. The exploration of four hypotheses showed the following: (1) The observation made by Aiken et al. (2012) in the primary care setting that patients in Switzerland were highly satisfied with their healthcare providers holds true for the private eyecare setting, with overall satisfaction scores of 8.9 ± 1.4 in the studied sample. (2) It had been suggested that demographics and cultural factors had a direct effect on patient satisfaction (Senitan et al., 2018; Baider et al., 1995). Yet, the present study found only weak correlations between such factors and overall patient satisfaction with Swiss private healthcare providers ($r = 0.039$ to 0.105), and there was no statistically significant difference in the demographic make-up of highly satisfied and less satisfied patients ($p = 0.463$ to 0.843). (3) Baider et al. (1995) had shown the role of culture in shaping the expectations of patients, resulting in wide variations in values and beliefs depending on their nationalities. The present study confirmed this by identifying “perceived clinical performance” as the most determinant factor of satisfaction with ophthalmic care ($r = 0.742$) in the whole cohort, which differs from previous findings in Iran, Germany and the USA, where Ziaei et al. (2011), Schoenfelder et al. (2011) and McMullen and Netland (2013) had identified accessibility, nurse kindness and waiting time, respectively, as the main factors influencing patient satisfaction in eyecare settings. Furthermore, subgroup analysis elicited major discrepancies in

patients' most valued aspects of their experience depending on their nationality, with Swiss nationals valuing their confidentiality the most ($r = 0.796$) and foreign patients being more attentive to waiting times ($r = 0.650$). (4) Finally, other sub-groups of patients were all shown to value different aspects of their experience of care, depending on their age, gender, nationality or education. This introduces the concept of variable factor patterns: individual patterns within which the importance of specific aspects of the healthcare experience varies depending on several personal characteristics, thus influencing patient satisfaction.

6.1 Implications

The present research identified clinical performance, confidentiality and the quality of doctors' explanations as the most determinant factors for patient satisfaction in the Swiss private eyecare setting. No previous data existed. Practically, this finding may be utilized by clinic managers seeking to improve patient satisfaction by planning performance audits and staff training programs with specific attention to these elements. Indeed, while clinical performance tends to be highly doctor-related is often guaranteed by their credentials, staff's handling of confidentiality and communication may be more multifactorial and deeply linked with institutional processes and organizations (Bose, 2003; Terry & Francis, 2007; D'Agostino et al., 2017). Recognizing the importance of these issues to patients is the first step towards improving them and potentially achieving better patient satisfaction, which may translate into a better reputation and financial performance (Cliff, 2012).

Furthermore, this research introduces the concept of variable factor patterns, acknowledging that while patients from different cultural backgrounds or nationalities value different aspects of their healthcare experience, so is true for a multitude of other differences such as age, gender or education. From an academic point of view, this suggests a new area of research. While most research on patient satisfaction to date had focused on identifying the most determinant factor of satisfaction in different countries or settings, this suggests that factors influencing patient satisfaction may vary more finely within the population, and it may therefore be useful to investigate the fundamental origin for these variations.

6.2 Limitations

The present study has several limitations. First, it relies heavily on correlation coefficients that are commonly subject to what Field (2010) described as the "third variable problem". Indeed, correlation analyses do not control for other measured or unmeasured variables and, as such, may incidentally reflect changes in other factors. This is notably palpable in the study of interlinked concepts such as, in the present study, scores for "communication" and for "consultation time" that had a fair level of

correlation. Second, the high overall satisfaction scores may be, in part, due to a selection bias. Indeed, while attempting to include every attending patient ensures a fair representation of the practice's overall population through all demographic groups, it may also favour the inclusion of satisfied patients who are more likely to attend regularly and may thus dilute dissatisfied patients. To minimize this bias, the least satisfied patients' responses were analysed as a separate subgroup. Furthermore, even though the survey was completely anonymous, and responders were made aware that no identifiable information would be collected, some patients may still have been subject to participant and acquiescence biases (Brito, 2017). While the wording of the survey was carefully designed to be balanced, with an alternate of positive and negative statements, to minimize these biases, responders could not be blinded to the purpose of their overall satisfaction score. Besides, despite the anonymization process, responders that were actively treated or awaiting a surgical procedure may have been unconsciously biased to depict their treating ophthalmologist in a positive light (Santry & Wren, 2012).

6.3 Conclusion

The present research identified clinical performance, confidentiality and the quality of doctors' explanations as the most determinant factors for patient satisfaction in the Swiss private eyecare setting. This may serve to improve patient satisfaction through tailored training and interventions. Furthermore, acknowledging that the main factors influencing patient satisfaction are different depending on their age, gender, nationality and education is key to understanding patients' varying expectations and tailoring services to a specific group of patients. This also suggests a new area for research in the field: beyond identifying the most determinant factor of satisfaction, identifying fundamentally how the importance of factors influencing patient satisfaction varies within a population.

References

- Abdellah, F. G., & Levine, E. (1957). Developing a measure of patient and personnel satisfaction with nursing care. *Nursing Research*, 5(3), 100–108.
- AHRQ. (2020). CAHPS Clinicians & Group Survey. Agency for Healthcare Research and Quality, Rockville, MD. (Accessed on 25.10.2020, from <https://www.ahrq.gov/cahps/surveys-guidance/cg/index.html>).
- Aiken, L. H., Sermeus, W., Van den Heede, K., et al. (2012). Patient safety, satisfaction, and quality of hospital care: Cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*, 344, e1717.
- Al-Ali, A. A., & Elzubair, A. G. (2013). Establishing rapport: Physicians' practice and attendees' satisfaction at a primary health care center, Dammam, Saudi Arabia. *Journal of Family and Community Medicine*, 23(1), 12–17.

- Ali, E., Norris, J. M., Hall, M., & White, D. E. (2020). Single-room maternity care: Systematic review and narrative synthesis. *Nursing Open.*, 7(6), 1661–1670.
- Baider, L., Ever-Hadani, P., & De-Nour, A. K. (1995). The impact of culture on perceptions of patient-physician satisfaction. *Israel Journal of Medical Sciences.*, 31(2–3), 179–185.
- Bose, R. (2003). Knowledge management-enabled health care management systems: Capabilities, infrastructure, and decision-support. *Expert Systems with Applications*, 24(1), 59–71.
- Brito, C. F. (2017). Demonstrating experimenter and participant bias. In J. R. Stowell & W. E. Addison (Eds.), *Activities for teaching statistics and research methods: A guide for psychology instructors* (pp. 94–97). American Psychological Association.
- Bujang, M. A., & Baharum, N. (2016). Sample size guideline for correlation analysis. *World Journal of Social Science Research*, 3(1), 37–46.
- Chyung, S. Y., Roberts, K., Swanson, I., & Hankinson, A. (2017). Evidence-based survey design: The use of a midpoint on the Likert scale. *Performance Improvement*, 56(10), 15–23.
- Cliff, B. (2012). Excellence in patient satisfaction within a patient-centered culture. *Journal of Healthcare Management*, 57(3), 157–159.
- Cockburn, J., & Pit, S. (1997). Prescribing behaviour in clinical practice: Patients' expectations and doctors' perceptions of patients' expectations—a questionnaire study. *BMJ*, 315(7107), 520–523.
- D'Agostino, T. A., Atkinson, T. M., Latella, L. E., Rogers, M., Morrissey, D., DeRosa, A. P., & Parker, P. A. (2017). Promoting patient participation in healthcare interactions through communication skills training: A systematic review. *Patient Education and Counseling*, 100(7), 1247–1257.
- Dancey, C. P., & Reidy, J. (2007). *Statistics without maths for psychology*. Pearson Education.
- Faeh, D., Minder, C., Gutzwiller, F., et al. (2009). Culture, risk factors and mortality: Can Switzerland add missing pieces to the European puzzle? *Journal of Epidemiology & Community Health*, 63, 639–645.
- Fenton, J. J., Jerant, A. F., Bertakis, K. D., & Franks, P. (2012). The cost of satisfaction: A National Study of patient satisfaction, health care utilization, expenditures, and mortality. *Archives of Internal Medicine.*, 172(5), 405–411.
- Garman, A. N., Garcia, J., & Hargreaves, M. (2004). Patient satisfaction as a predictor of return-to-provider behavior: Analysis and assessment of financial implications. *Quality Management in Health Care.*, 13(1), 75–80.
- Gillmann, K., Bravetti, G. E., Rao, L. H., Mermoud, A., & Mansouri, K. (2020). Bilateral XEN stent implantation: A long-term prospective study of the difference in outcomes between first-operated and fellow eyes. *Journal of Glaucoma*, 29(7), 536–541.
- Grøndahl, V. A., Hall-Lord, M. L., Karlsson, I., Appelgren, J., & Wilde-Larsson, B. (2013). Exploring patient satisfaction predictors in relation to a theoretical model. *International journal of health care quality assurance.*, 26(1), 37–54.
- Hall, M. F. (2008). Looking to improve financial results? Start by listening to patients: Improving patient satisfaction can have a direct impact on your hospital's reputation—and financial results. *Healthcare Financial Management.*, 62(10), 76–80.
- Hantel, S., & Benkenstein, M. (2020). The stranger in my room: The fellow patient as the fourth dimension of patient satisfaction. *Health Services Management Research*, 33(3), 136–142.
- Holt, J. M. (2019). Patient experience in primary care: A systematic review of CG-CAHPS surveys. *Journal of Patient Experience*, 6(2), 93–102.
- Hostettler, S., & Kraft, E. (2020). Statistique médicale 2019 de la FMH: Forte dépendance de l'étranger. *Bulletin des Médecins Suisses*, 101(13), 450–455. 2019 Statistics of the Swiss Medical Association.
- Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *Current Journal of Applied Science and Technology*, 7(4), 396–403.
- Kaczmarek, L., & Wolff, K. G. (2007). Survey design for visually impaired and blind people. In *International conference on universal access in human-computer interaction* (pp. 374–381). Springer.

- Lanser, M. E. (2015). Diagnosing the patient experience. *Healthcare Executive*, 30(4), 20–30.
- Marshall, G. N., & Hays, R. D. (1994). *The patient satisfaction questionnaire short-form (PSQ-18)*. Rand Publication.
- Martino, S. C., Shaller, D., Schlesinger, M., et al. (2017). CAHPS and comments: How closed-ended survey questions and narrative accounts interact in the assessment of patient experience. *Journal of Patient Experience*, 4(1), 37–45.
- McLaughlin, H. (2009). What's in a name: 'Client', 'Patient', 'Customer', 'Consumer', 'Expert by Experience', 'Service User'—What's next? *The British Journal of Social Work*, 39(6), 1101–1117.
- McMullen, M., & Netland, P. A. (2013). Wait time as a driver of overall patient satisfaction in an ophthalmology clinic. *Clinical Ophthalmology*, 7, 1655–1660.
- Murdock, A., & Griffin, B. (2013). How is patient education linked to patient satisfaction? *Nursing*, 43(6), 43–45.
- Murray, J. (2013). Likert data: What to use, parametric or non-parametric? *International Journal of Business and Social Science*, 4(11), 258–264.
- Needham, B. R. (2012). The truth about patient experience: What we can learn from other industries, and how three P's can improve health outcomes, strengthen brands, and delight customers. *Journal of Healthcare Management*, 57(4), 255–263.
- Noelle-Neumann, E. (1970). Wanted: Rules for wording structured questionnaires. *Public Opinion Quarterly*, 34(2), 191–201.
- Ossoff, R. H., & Thomason, C. D. (2012). The role of the physician in patient satisfaction. *Journal of Health Care Compliance*, 14(1), 57–72.
- Otani, K., Waterman, B., & Dunagan, W. C. (2012). Patient satisfaction: How patient health conditions influence their satisfaction. *Journal of Healthcare Management*, 57(4), 276–292.
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., & Britten, N. (2006). Guidance on the conduct of narrative synthesis in systematic reviews. A product from the ESRC methods programme, Version 1, b92.
- Powers, B., Navathe, A. S., & Jain, S. (2013). How to deliver patient-centered care: Learn from service industries. *Harvard Business Review*. <https://hbr.org/2013/04/how-to-deliver-patient-centere.html>
- Prakash, B. (2010). Patient satisfaction. *Journal of Cutaneous and Aesthetic Surgery*, 3(3), 151–155.
- Rothman, A. A., Park, H., Hays, R. D., Edwards, C., & Dudley, R. A. (2008). Can additional patient experience items improve the reliability of and add new domains to the CAHPS® hospital survey?. *Health Services Research*, 43(6), 2201–2222.
- Ruedin, H. J., Roth, M., Kraft, E., & Hersperger, M. (2007). Analyse de l'effectif des médecins hospitaliers en Suisse en 2005 (p. 34).
- Santry, H. P., & Wren, S. M. (2012). The role of unconscious bias in surgical safety and outcomes. *Surgical Clinics of North America*, 92(1), 137–151.
- Schoenfelder, T., Klewer, J., & Kugler, J. (2011). Analysis of factors associated with patient satisfaction in ophthalmology: The influence of demographic data, visit characteristics and perceptions of received care. *Ophthalmic and Physiological Optics*, 31, 580–587.
- Sebo, P., Herrmann, F. R., & Haller, D. M. (2015). How do GPs in Switzerland perceive their patients' satisfaction and expectations? An observational study. *BMJ Open*, 5, e007085.
- Senitan, M., Alhaiti, A. H., & Gillespie, J. (2018). Patient satisfaction and experience of primary care in Saudi Arabia: A systematic review. *International Journal of Quality in Health Care*, 30, 751–759.
- Senitan, M., & Gillespie, J. (2020). Health-care reform in Saudi Arabia: Patient experience at primary health-care centers. *Journal of Patient Expectations*, 7(4), 587–592.
- Shannon, D. (2013). Physician well-being: A powerful way to improve the patient experience. *Physician Executive*, 39(4), 6–12.

- Sutton, A. V., Ellis, C. N., Spragg, S., et al. (2017). Improving patient satisfaction in dermatology: A prospective study of an urban dermatology clinic. *Cutis*, *99*(4), 273–278.
- Terry, N. P., & Francis, L. P. (2007). Ensuring the privacy and confidentiality of electronic health records. *University of Illinois Law Review*, *681*(2), 1–48.
- World Medical Association. (2013). Declaration of Helsinki: Ethical principles for medical research involving human subjects. *Journal of the American Medical Association*, *310*(20), 2191–2194.
- Ziaei, H., Katibeh, M., Eskandari, A., Mirzadeh, M., Rabbanikhah, Z., & Javadi, M. A. (2011). Determinants of patient satisfaction with ophthalmic services. *BMC Research Notes*, *4*(7), 1–4.

Part IV
Eurasian Business Perspectives: Tourism

An Evaluation of Green Certification Program: A Study of Two Island Resorts in Malaysia and Indonesia



Mohd Fadil Mohd Yusof, Sapsean Dwi Agustina, Hairul Nizam Ismail, and Ghazali Ahmad

Abstract Tourism contributes to the economic growth of many countries by generating revenues and creating employment opportunities. However, the industry's success is achieved at the cost of environmental degradation and pollution, one of the contributing factors of climate change. This study aims to examine the sustainable hotel practices through a green hotel certification program of resorts within Malaysia and Indonesia, two developing ASEAN (Association of Southeast Asian Nations) countries. We investigate two island resorts in terms of the issues and challenges in implementing the ASEAN Green Hotel Standard certification program which promotes environmentally friendly and energy conservation activities. We use a case study approach to compare how resorts practice the green approach within the island perspective. In-depth interviews with owners and managers in charge of those two resorts were arranged. Two resorts that are similar in size, star rating category, and market segmentation were analyzed. The analysis of both resorts revealed different ways of implementing green practices, and both properties appear to gain benefits from implementing environmental practices as outlined in the standard certification program. This study suggests that the ASEAN Green Hotel Standard is an essential strategy for resorts within ASEAN countries to promote sustainable development and mitigate climate change.

Keywords Green resorts · ASEAN green hotel standard · ASEAN · Sustainable practices · Climate change

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1 Introduction

Developing the tourism industry is one of the important agendas of the Association of Southeast Asian Nations (ASEAN) to promote economic growth and create more employment opportunities among their citizens. ASEAN was established in 1967 as an economic union which originally comprised five countries. Over the years its membership has grown to ten Southeast Asian states, namely, Indonesia, Malaysia, Singapore, the Philippines, Thailand, Brunei, Cambodia, Laos, Myanmar, and Vietnam. ASEAN also promotes intergovernmental cooperation ranging from economic, political to educational and cultural integration among its members. ASEAN countries are among the popular tourism destinations in the world due to their tourist attractions in the form of abundant cultural and natural resources. Tourism is one of the priority sectors for ASEAN economic development. The latest tourist statistics compiled by the ASEAN Tourism Statistic Database shows that the number of international tourists visiting the ASEAN region grew from 105 million in 2014 to 108 million in 2015 (ASEAN ORG, 2021). Tourism is drawing attention not only from the usual markets in Europe and North America but also from Asia's economic giants and emerging markets. Around 40% of tourists visiting ASEAN countries are intra-ASEAN and around 60% are extra-ASEAN tourists. Tourism has been, as seen above, not only recognized as a key revenue generator by every ASEAN country but also still accounts for a large part of the global economy and employment.

The development that tourism brings, however, is not always positive as the industry also contributes to many negative effects such as environmental and social problems (Graci & Dodds, 2008). Several countries in Southeast Asia are in an environmentally critical situation, especially in the famous beach resort destinations such as Bali, Indonesia; Pattaya, Thailand; and Boracay Island, the Philippines (Geddie & Lefevre, 2018). Due to record visitor numbers to such destinations, some of the island destinations such as Boracay Island and Maya Bay in the Phi Phi islands have had to be temporarily closed down for a few months to prevent further damage to the environment. The overflow of tourists to these areas contributes to the environmental pollution and puts a strain on the existing infrastructure. Due to the Covid-19 pandemic which started in early 2020, most of tourist destinations have been empty due to the closing of international borders and movement control orders imposed by most national governments to curb the virus spread. Fortunately, this pandemic has significantly reduced the environmental problems previously experienced by tourism destinations in Southeast Asian regions.

Tourism contributes to economic growth and provides a major source of income to the countries, generating massive employment opportunities. Tourism's economic benefits however lead to unplanned growth of tourism infrastructures and attract mass tourism in many countries, bringing negative effects to the environment and social problems among communities (Furqan et al., 2010). Due to the negative impact of tourism development associated with mass tourism, environmental sustainability has emerged as one of the most popular and important concepts in the tourism and hospitality sector (Bruns-Smith et al., 2015; Geerts, 2014). Tourism

activities and hotel business have also been identified as playing a role in the impact of climate change by contributing to global greenhouse gas emissions (Gössling & Peeters, 2015). For example, hotel property construction is responsible for the indirect emission of greenhouse gases due to the energy consumption and waste disposal (Reid et al., 2017). Hotels and resorts worldwide also contribute to climate change through their massive consumption of water and energy as well as their waste management issues.

There are many studies about sustainable tourism development mentioned in the literature, but somehow the impact of operations is often neglected (Reid et al., 2017). The awareness among hospitality industry practitioners toward the impact of climate change is increasing, but they are not really committed to address the issues seriously (Su et al., 2013). However, the issue of climate change is critical and is one of the potential threats to the survival and success of the tourism and hospitality industry (Simpson et al., 2008; Scott et al., 2012). This paper fills this gap by examining the sustainable resort practices within island resorts in Malaysia and Indonesia through the ASEAN Green Hotel Standard, a sustainable certification program to promote environmentally sustainable practices within the industry. The findings will provide valuable insights for industry practitioners, policy makers, and tourism-related agencies particularly in developing countries in promoting sustainable environmental practices among island resorts.

The remainder of the paper is organized as follows. Section 2 describes the literature on green hotel practices, various sustainable certification programs, as well as the issues and challenges in implementing such practices. Section 3 explains the methodology and the context of the study. Section 4 provides results and discussion. Finally, Section 5 concludes the paper by providing recommendations and future research direction.

2 Literature Review

2.1 *Green Practices in the Accommodation Sector*

The accommodation sector including hotels and resorts is one of the important segments of the tourism industry. The hotel industry in particular has gradually adopted more green practices to accommodate demand from an increasing number of hotel guests that require green services (Hays & Ozretić-Došen, 2014). Eco-friendly hotels are hotel properties that introduce water and energy conservation and waste management system. There are several advantages for hotel and resort properties in choosing to go green. First, going green may provide long-term cost reduction by implementing energy-saving and waste management control. Second, hotels and resorts are building and managing green hotels that attract a growing market of customers seeking green services. In short, going green is one of the strategic moves by hotels or resorts to enhance their service values, differentiate

from their competitors, create a positive image, and attract loyal customers (Hays & Ozretić-Došen, 2014).

Hensens (2016) points out that the hotel industry can and should play an important role in addressing the impact of the business on the environment. There are several green practices that can be employed such as reducing the consumption of natural resources, minimizing waste and carbon emissions, and training hotel staff to be more environmentally conscious. Despite the fact that going green is still one of the best strategies for hotel operators to remain competitive, there are concerns among developers or owners regarding the popularity of green hotels with customers (Butler, 2008). However, Butler (2008) explains that green hotels will remain popular and continue to flourish with a strong mandate and support by governments through various incentives and certification programs.

The accommodation sector has realized the importance of green practices as a strategy to reduce operational cost and attract more customers. For example, the concept of green resort has become more popular to support sustainable tourism. Green resorts refer to any resort that commits to environmentally friendly practices such as conserving water and energy, reducing waste, and promoting green practices in their resort operation. A green resort can result in long-term ecological sustainability and is one of strategies to approach more customers who are interested in environmental preservation.

2.2 Green Certification Program

There are various eco-certifications programs available globally that provide guidelines for hotel operators to implement sustainable environmental practices such as ISO 14001, the Green Globe Certification, TripAdvisor Green Leaders, ECOTEL, and so on. According to Hensens (2016), there are several thousand resorts which have been certified as eco-friendly hotels and resorts by ISO 14001 alone up to 2011. Most of the certification systems for the hotel industry were established in the mid-1990s following the growing trend of environmental sustainability in tourism. The number of certification systems and standards is still growing and does not include green resort certifications from other institutions. Under these circumstances, however, consumers often have difficulty to distinguish which resort has a strong sustainability ethic because of a lack of available information (Darnall, 2008). In this case, the resort faces a challenge to inform consumers about their green practices.

There is an increasing number of resorts that claim themselves as eco-friendly accommodations but in reality are not practicing green resort strategies, so-called greenwashing (Chan, 2013). Therefore, some form of certification requirements is needed to standardize the green practices of resorts. Using such certification, resort operators are able to assess the impact of resort operations to the environment and implement ways to minimize direct negative impacts (Furqan et al., 2010). There are multiple advantages for resorts to get certified as green resorts. Being certified as a

green resort may help the resort operators to market their property as a green resort and compete on a level footing with other similar resorts (Punitha et al., 2016).

The concept of green accommodation has been widely accepted in the lodging industry and is focused on sustainable practices to support environmental sustainability efforts (Bruns-Smith et al., 2015). Furthermore, there is an increasing trend among hotel guests to demand green hotel services, and they are willing to pay extra to receive these products or services (Bashir et al., 2020). Due to the enhanced awareness of the negative impact of tourism on the environment, an environmentally friendly accommodation system has been developed. Resort operators are implementing green management practices at different levels of operation to keep pace with the trend toward “going green” (Ge et al., 2018).

The impact of the accommodation sector to the environment has been acknowledged and observed. Resort properties, for example, are depending upon the physical environments as their unique selling proposition to attract potential guests (Jackson, 2010). The accommodation sector has paid more attention and effort to environmental practices within its operation such as limiting water and energy use to respond to the increasing demand from hotel guests (Bruns-Smith et al., 2015).

Implementing green practices could be a challenge for some resort properties that focus on luxury and guest comfort. For example, luxury resort properties generally provide extra services by using luxury and exotic materials and provide rooms that are more spacious and well lighted to welcome guests as well as large bathtubs and showerheads that consume more water. These practices are not compatible with green practices such as using recycled products or natural products and limiting energy and water consumption (Ahn & Pearce, 2013). Providing luxurious facilities and sustainability features may cause conflicts because luxury resorts are identified by sophisticated buildings consuming a lot of resources and energy.

Practicing green initiatives brings various benefits to the accommodation sector, among them cost savings and attracting more loyal guests, which allows it to remain competitive (Graci & Dodds, 2008; Jackson, 2010). As environmental awareness is growing globally, consumers’ attitudes and awareness toward green practices are increasing (Deraman et al., 2017). According to Reid et al. (2017), the benefits which can be obtained by a resort from the application of environmentally friendly operations include:

- **Cost Saving:** A number of researchers have assumed that a green hotel or resort is the most effective way to reduce the operational cost. Surveys conducted by Graci and Dodds (2008) indicate a hotel could save costs by up to 40% through the maximization of efficiency and waste reduction. Reducing water and electricity usage particularly can give the hotels/resorts direct benefits through a decrease in water and electricity bills. Green practices allow hotels and resorts the opportunity to reduce energy usage and use alternative energy sources such as solar power.
- **Competitive Advantage:** The adoption of green practices will give the resort an opportunity to gain a competitive advantage. Such an advantage is likely to allow it to differentiate from competitors in terms of operating an environmentally

friendly accommodation. The green resort image will influence the customers to make their decision. Some scholars suggested that customers' buying behaviors have been transformed in line with the growth of environmental issues in society (Leonidou et al., 2013). As sustainability becomes a popular topic, many customers have decided they want to support this movement and prefer to stay in a green resort.

- **Employee Performance:** Operating green hotels or resorts may also influence employees' performance and perception toward their working environment and the company they work for. Working for hotels and resorts that promote green practices create a sense of pride among the employees, and taking part in a green movement might improve their performance (Kim & Choi, 2013). Therefore, applying green practices in a resort also will affect the employees' emotional behaviors and further will influence the company's productivity.
- **Customer Satisfaction:** There is an increasing trend among tourists to look for green accommodations. In a study by Han et al. (2011), it was found that the customers' intention to visit a green hotel or resort is influenced by their desire to gain new experience and to support the environmental movement. A hotel or resort will gain a positive image and create a good relationship with the guests by implementing green practices (Martínez, 2015).
- **Motivation and Loyalty:** Employees in green accommodations are required to be skilled in green practices. As the success of a green resort is highly dependent on its employees' abilities, a lot of training are conducted for employees in most green hotels or resorts. As a result, employees are able to upgrade their ability and gain better health/lifestyle (Bohdanowicz & Zientara, 2009). Moreover, staff can be more creative and embark on new innovations in green practices. This will consequently raise the motivation and loyalty of staff which then improves the company's performance.
- **Regulatory Compliance:** There are a lot of state regulations that apply waste, air, greenhouse gas emissions, and energy use. Hotels and resorts must anticipate these regulations which would create obstacles including raising operational costs. Implementing green practices can help companies to adapt to regulations and mitigate cost issues.
- **Risk Management:** Environmental management allows a green resort to control the effects of the resort operations. A company which integrates environmental issues in making a decision and reduces the impact of its decisions on the environment can rise to a higher level, resulting in safer operations and a safer company to work for.

2.3 Issues and Challenges in Implementing Green Practices

A green resort faces many challenges. First, a green resort needs to allocate a high budget to run its operation. The investment in a green resort development will cost more than a conventional resort, and it takes time to break even and make a profit

(Ahn & Pearce, 2013). Many resort operators have the perception that green practices would cost more money including for environmental auditing, certification fees, and facility improvements. Even though some green operators assume that green practices could reduce operating costs, many managers claim it is still hard to carry out green practices due to their high cost and maintenance (Kleinrichert et al., 2012). Some of the high costs associated with green practices are related to the installation of new technologies or systems such as solar panels, rainwater tanks, and other necessary equipment.

Second, it is difficult to meet customers' expectation of sophisticated and familiar services while at the same time ensuring that these services meet green requirements. A green resort demands the guests, for example, to limit the usage of water and electricity, to reduce air conditioner use, and to apply a waste separation program. Even if the resorts are successful in implementing their green initiatives, it is still hard to gain the customers' understanding about the overall green image of the hotels (Martínez, 2015). According to Hays and Ozretić-Došen (2014), many customers are still not yet ready to change their lifestyle when they are staying in a green resort. Customers are not willing to sacrifice their comfort, accept lower quality, or pay a higher price for green services.

Third, a green resort is heavily dependent on manpower in its green practices. Based on the study by Kim and Choi (2013), hotel employees support the efforts by the hotels to implement green practices for their properties, but they need detailed information about green practices and how such practices are important to them and to the hotels. All employees in a green resort should take on the responsibility to control the environmental impact, and they must be able to identify the pollution sources and solve them (Renwick et al., 2013). In the context of developing countries, the concept of green hotels is still new and identified as an emerging trend so much so it is difficult to find employees who have enough knowledge and experience to operate a green resort (Punitha et al., 2016; Deraman et al., 2017).

Issues concerning green resorts also include greenwashing in the resort industry. Greenwashing results in customers perceiving a green resort's image as non-credible. Resorts that promote green practices but only implement some of these practices in their properties are considered as engaging in greenwashing. Many resorts project a green image with the objective of improving the companies' image. As a consequence, consumers become skeptical about the authenticity of green resorts. In contrast, green resorts are not gaining sufficient support from the society and stakeholders. There is a need to enhance the level of support from the government as well as resort operators to make sure that the concept of green practices is implemented (Punitha et al., 2016).

The number of sustainable rating tools and certification schemes to evaluate the environmental performance of buildings including hotels and resorts around the world has increased significantly. For example, in the United States, BREEAM (Building Research Establishment Environmental Assessment Methodology) was developed, while LEED (Leadership in Energy and Environmental Design) was formulated in the United Kingdom to benchmark sustainability in buildings (Reid et al., 2017). The same trend is observed within the Asia Pacific region where many

countries are currently developing and offering various rating tools and certification schemes for buildings including hotels and resorts. Some examples of green hotel or resort certifications which have spread in Southeast Asia are “Best Green Hotels,” “ISO 14001,” “ECOTEL,” “Green Globe 21,” and others. However, not all international certifications can be applied to lodging properties within the region due to different needs and requirements for specific countries (Siti-Nabiha et al., 2014). A suitable standard or certification scheme is needed for ASEAN countries.

2.4 The ASEAN Green Hotel Standard and Certification

ASEAN has established a green hotel standard called ASEAN Green Hotel Standard (AGHS) that can be applied in hotels in the ASEAN countries since 2007. The standard contains 11 criteria and 27 requirements which cover air management, air quality, client, energy, environmental friendliness, waste management, resort products, etc. The AGHS is expected to contribute to the formation of an improved and sustainable ASEAN tourism industry. Every 2 years ASEAN holds the ASEAN Tourism Forum (ATF) and grants a Green Hotel Award to selected hotels and resorts in ASEAN countries which are applying the standard. The main purpose of the AGHS is to protect and preserve the region’s natural and cultural resources from pollution and environmental issues caused by tourism activities particularly those that take place within the hotel and resort setting.

As the most important and influential organization in Southeast Asia, ASEAN has a significant role to prevent negative impacts caused by tourism development in the region. In this case, ASEAN uses a green hotel standard as a strategy to convince the resort industry to be “green resorts” which would provide more benefits to the resorts’ operations and environment. After the establishment of the AGHS, a considerable number of resorts in Southeast Asia have been certified as green resorts by ASEAN. Although many studies related to green resorts have been done in the past, most of them focused on demand-side perspectives such as what the guests think about the green resort attributes. Since AGHS’ establishment in 2007, little is known about its implementation among hotels and resorts in the ASEAN region.

In Indonesia and Malaysia, there are many green resorts operating in various destinations attracting tourists who are interested in nature activities. Several tourist destinations in Indonesia such as Bali, Yogyakarta, and Batam are home to many resorts which have been certified as green hotels by many different institutions. A research conducted by an academician in Indonesia has shown that numerous resorts in famous tourist destinations have conducted environmentally friendly programs as green hotels. However, their implementations are still not optimal because of several obstacles related to high cost, consistency of the hotel staff, and difficulty to attract guests to a fully operational green hotel (Sinangjoyo, 2015). In the case of Malaysia, the acceptance level toward green practices among hotels and resorts is also relatively slow even though the government has reinforced green practices in National Green Technology policy since 2009 (Deraman et al., 2017). Nonetheless, there is an

increasing number of resort properties adopting green practices particularly those properties located in a sensitive environment such as forest reserves and island beaches (Jamaludin & Yusof, 2013). Langkawi Island is an ideal location for operating green resorts due to the island's global recognition as one of the UNESCO's global geopark destination (Mohd Yusof et al., 2021).

To encourage more hotels and resorts to participate and apply for the ASEAN Green Hotel standard, the ASEAN secretariat has organized a biennial Green Hotel Award event since 2008. The venue of the event rotates between every ASEAN country. The first event was organized in Thailand, and the recent award event took place in Bandar Seri Begawan, Brunei Darussalam, in 2020. Selected hotels and resorts operating within the ASEAN region have been awarded the ASEAN Green Hotel Standard certification as part of the ASEAN initiative to promote sustainable tourism practices in the whole of ASEAN.

ASEAN Green Hotel Standard includes some essential elements as in its scope. These are environmental plan, green product, human resource, and environmental management. The standard was established as a step to promote environmentally friendly programs and energy conservation. A green hotel or resort operation can run properly when the resort is supported by good environmental management. The stakeholders such as hotel management, staff, guest, and community should cooperate with each other to achieve the goal of a green hotel or resort. The ASEAN Green Hotel Standard indicates that a hotel has been certified as having implemented and complied with the requirements of a green hotel. Such a standard including eco/sustainability certificates/schemes conveys important signals for hotel guests and functions as an added value to the property (Lebe & Vrečko, 2015). Hopefully, certification as a green hotel or resort would justify the premium rates charged to the guests for staying at these kinds of properties.

3 Methods

3.1 *Case Study: The Frangipani Langkawi Resort and Spa, Langkawi Island, Malaysia, and Turi Beach Resort, Batam Island, Indonesia*

Malaysia and Indonesia as member countries of ASEAN are aggressively promoting tourism to generate income and create job opportunities. These two ASEAN countries have numerous popular island destinations such as Langkawi, Bali, and Batam. To explore how resort properties are implementing environmental policies and practices and seeking official certification from the AGHS, this research interviewed owners and staff members from two popular resorts located on Langkawi and Batam Islands. Both general managers of these resorts were interviewed as well as employees in charge of the environment. The resorts were contacted to set up the interviews. The list of interviewees is presented in Table 1. Interviewees were

Table 1 List of interviewees for both resort properties

| Number | Frangipani resort and spa Langkawi Island, Malaysia | Turi beach resort, Batam Island, Indonesia |
|--------|---|--|
| 1. | Owner and general manager | General manager |
| 2. | Chief engineer | Chief engineer |
| 3. | Chief of Environmental Department | Chief of Groundskeeping Department |

Source: Own work

selected based on their experience, knowledge, and their roles in implementing green practices at the resorts. The interviews were done between July 2018 and October 2019. One of the researchers requested permission from the owners of both resorts to observe how the resorts implemented green policies and practices for a few months to explore the issues and challenges faced by the operators. The interviews were conducted on-site and recorded, transcribed, and subsequently analyzed using steps suggested by Creswell (2014) for a general data analysis process in qualitative research. The steps are a systematic process for qualitative data analysis. The steps are organizing the data for analysis, reading the transcripts repeatedly, coding the data, identifying related themes, and interpreting the meaning of themes.

The Frangipani Resort, a 115-room resort of 10 ha, was established in 1985. The resort has achieved the ASEAN Green Hotel Standard for a number of years (2012–2014 and 2016–2018). Other than that, the resort has won multiple awards from the Ministry of Tourism Malaysia since 2011 as recognition for providing excellent services and achieving a certain standard in good environmental practices and implementation. Located in the heart of Langkawi Island and with a direct view of the sea, the resort is popular among international tourists especially from the European and Japanese markets.

Turi Beach Resort is located on Batam Island, Indonesia, and established since 1985. The resort is popular among visitors from Singapore and is accessible by ferry and air transportation. The four-star resort provides 140 rooms with standard facilities ranging from dining facilities, meeting and events, spa to leisure facilities to cater for multiple market segmentation.

4 Results and Discussion

The majority of interviewees stated that one of the reasons the resorts were taking part in the AGHS was to save on energy and water consumption costs. The chief engineer of Turi Beach Resort explained that prior to the resort adopting green environmental practices, the cost of electricity and water usage was high:

The GM wanted me to reduce the usage of electricity and water. We developed a system to save energy and water consumption. We did the analysis, check the water leakages, changed the energy saving light bulb. . . Now, the energy bill is much improved.

One of the owners of the Frangipani explained that although the resort had to buy energy-saving equipment to implement green practices, the cost would be recovered within a short period of time.

The equipment is expensive but the design is not..With green practices we can save and get return for the cost of buying the equipment around 3 years.

Generally, good environmental practices through a certification program may help a hotel to record stronger sales and bestow a positive image on the business (Reid et al., 2017). A report on environmental sustainability in the hotel industry shows that hotels not only save money but also contribute to a clean environment by taking part in environmental certification programs (Bruns-Smith et al., 2015).

One of the important aspects of good environmental practices is community engagement. When asked what was the important aspect of being certified by AGHS, an owner of the Frangipani Resort mentioned community participation.

You must be able to help the local community. That is the basis of the green hotels. If you can't help the local community then you are lacking in the sustainability and concept of the green hotel. So you have to find ways.

In order to get the community involved with the resort, a staff member of Turi Beach Resort stated that:

We do things together with the local community such as traditional boat race during island festival competition.

There are multiple ways to help the local community especially by getting them engaged with green efforts. Both resorts are educating the community to practice recycling, minimize waste, and preserve the environment. Beach cleaning is also one of the activities managed by the resorts in which the community is encouraged to take part. The resorts also buy fresh local vegetables and fish from the islands' fishermen. Such engagement is important as prescribed by the AGHS. In the literature, community engagement is identified as one of the primary categories of sustainability practices and is normally mentioned by the green certification program or award (Weaver et al., 2013). Weaver et al. (2013) highlight different categories of community engagement which include environmental training and education, purchasing local products, employing local people, and community clean-up initiatives.

When asked about the implementation of green practices for their resorts according to the AGHS, government support and incentives were specified to be of utmost importance. According to a GM, government support and incentives help the resort to compensate for the initial cost of buying equipment related to green practices such as waste, energy, and water efficiency. These equipment are costly and most resorts can't afford to buy them. However, as the government provided tax incentives for buying such equipment, the cost would be partially covered as stated by the Frangipani Resort's GM:

Then, of course you will have to invest in solar hot water, solar photovoltaics, from which you will get a return many years later. That is 5–8 years later. But that will help you to get tax reduction from the government. And very luckily Malaysian government provides incentives. The government is very supportive.

To promote better environmental practices by accommodation businesses, government regulations and incentives are important (Su et al., 2013). Tax and loan incentives, for example, may encourage more resort operators to purchase products and equipment that would help them to implement green practices. Therefore, the government influences the success of the green certification program in the accommodation sector.

Top management and owner support is also one of the important factors to achieve green certification. According to a chief engineer of one of the resorts, resort staff would be obliged to practice green efforts if the owner and top management really encourage green practices:

If the owner and top management are supportive about the green practices, staff will support.

The above quote indicates that a hotel's top management such as GMs or owners is in charge of setting up business policies of green practices for the hotel's operation. In this context, owner or top management support for the resorts to get green certification (AGHS) will influence employee participation in the hotel's environmental management and practices (Park et al., 2014).

5 Conclusion

This study investigated the implementation of a green certification program in two island resorts in Indonesia and Malaysia. The results of this study have some limitations as the sample selected is only two resort properties. It is acknowledged that the sample of six interviewees from two resorts might not be representatives of the resorts located in island destinations in ASEAN countries. Therefore, the generalizability for resort properties on island destinations is not advisable. It is suggested that future research should be a study on similar resort properties with a larger sample size at different locations to get better findings.

The case study results show that both resorts gained benefits from taking part in the certification program of AGHS. Both resorts were able to improve their income by implementing measures prescribed by the AGHS. Despite the high cost to buy energy-saving equipment and products initially, the cost would be recovered eventually within a short period of time. Government support and incentives in the form of tax deduction helped the resorts invest in the equipment. Support from the owner and management also may influence the success of the green practices. Engagement with the local community is also necessary to align with requirements of the AGHS. Both resorts were able to engage with the community and realize the importance of community engagement in supporting their green practices. There is increasing support from governments and non-governmental organizations toward sustainability, and therefore, the accommodation sector has to play its role effectively as a leader in championing sustainability practices (Reid et al., 2017). There are multiple certification programs and standards available to implement sustainability practices in the accommodation sector such as LEED and BREEAM certification programs,

the ASEAN Green Hotel Standard, and the Green Globe Standard. The implementation of green practices outlined by these certification programs provides many benefits to the accommodation sector such as realizing a competitive edge and better cost management.

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References

- Ahn, Y. H., & Pearce, A. R. (2013). Green luxury: A case study of two green hotels. *Journal of Green Building*, 8(1), 90–119.
- ASEAN ORG. (2021). *Tourism arrivals in ASEAN* [online]. Tourism Statistics.
- Bashir, S., Khwaja, M. G., Rashid, Y., Turi, J. A., & Waheed, T. (2020). Green brand benefits and brand outcomes: The mediating role of green brand image. *SAGE Open*, 10(3).
- Bohdanowicz, P., & Zientara, P. (2009). Hotel companies' contribution to improving the quality of life of local communities and the well-being of their employees. *Tourism and Hospitality Research*, 9(2), 147–158.
- Bruns-smith, A., Choy, V., Chong, H., & Verma, R. (2015). *Environmental sustainability in the hospitality industry: Best practices* [online]. Cornell Hospitality Report.
- Butler, J. (2008). The compelling 'hard case' for 'green' hotel development. *Cornell Hospitality Quarterly*, 49(3), 234–244.
- Chan, E. S. W. (2013). Gap analysis of green hotel marketing. *International Journal of Contemporary Hospitality Management*.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications, Inc.
- Darnall, N. (2008). Creating a green brand for competitive distinction. *Asian Business and Management*, 7(4), 445–466.
- Deraman, F., Ismail, N., Arifin, A. I. M., & Mostafa, M. I. A. (2017). Green practices in hotel industry: Factors influencing the implementation. *Journal of Tourism, Hospitality & Culinary Arts*, 9(2), 305–316.
- Furqan, A., Som, A. P. M., & Hussin, R. (2010). Promoting green tourism for future sustainability. *Theoretical and Empirical Researches in Urban Management*, 5(8 (17)), 64–74.
- Ge, H., Chen, S., & Chen, Y. (2018). International alliance of green hotels to reach sustainable competitive advantages. *Sustainability*, 10(3), 573.
- Geddie, J., & Lefevre, A. S. (2018). *Southeast Asia's Idyllic Islands buckle under tourism strain*. Reuters.
- Geerts, W. (2014). Environmental certification schemes: Hotel managers' views and perceptions. *International Journal of Hospitality Management* [online], 39, 87–96. <https://doi.org/10.1016/j.ijhm.2014.02.007>
- Gössling, S., & Peeters, P. (2015). Assessing tourism's global environmental impact 1900–2050. *Journal of Sustainable Tourism*, 23(5), 639–659.
- Graci, S., & Dodds, R. (2008). Why go green? The business case for environmental commitment in the Canadian hotel industry. *Anatolia: An International Journal of Tourism and Hospitality Research*, 19(2), 251–270.

- Han, H., Hsu, L. T. J., Lee, J. S., & Sheu, C. (2011). Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions. *International Journal of Hospitality Management*, 30(2), 345–355. <https://doi.org/10.1016/j.ijhm.2010.07.008>
- Hays, D., & Ozretić-Došen, D. (2014). Greening hotels—building green values into hotel services. *Tourism and Hospitality Management*, 20(1), 85–102.
- Hensens, W. (2016). The integration of environmental management standards in contemporary hotel classification systems. *Research in Hospitality Management*, 6(1), 25–32.
- Jackson, L. A. (2010). Toward a framework for the components of green lodging. *Journal of Retail and Leisure Property*, 9(3), 211–230.
- Jamaludin, M., & Yusof, Z. B. (2013). Best practice of Green Island resorts. *Procedia—Social and Behavioral Sciences*, 105, 20–29. <https://doi.org/10.1016/j.sbspro.2013.11.003>
- Kim, S. H., & Choi, Y. (2013). Hotel employees' perception of green practices. *International Journal of Hospitality and Tourism Administration*, 14(2), 157–178.
- Kleinrichert, D., Ergul, M., Johnson, C., & Uydaci, M. (2012). Boutique hotels: Technology, social media and green practices. *Journal of Hospitality and Tourism Technology*, 3(3), 211–225.
- Lebe, S. S., & Vrečko, I. (2015). Eco-labels and schemes: A requisitely holistic proof of Tourism's social responsibility? *Systems Research and Behavioral Science*, 32(2), 247–255.
- Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., & Zeriti, A. (2013). Resources and capabilities as drivers of hotel environmental marketing strategy: Implications for competitive advantage and performance. *Tourism Management*, 35, 94–110. Available from: <https://doi.org/10.1016/j.tourman.2012.06.003>
- Martínez, P. (2015). Customer loyalty: Exploring its antecedents from a green marketing perspective. *International Journal of Contemporary Hospitality Management*, 27(5), 896–917.
- Mohd Yusof, M. F., Kamarudin, L. M., Patwary, A. K., & Mohamed, A. E. (2021). Measuring revisit intention of domestic tourists in langkawi UNESCO global Geopark, Malaysia: A road to sustainable tourism. *Journal of Environmental Management and Tourism*, 12(4), 1052–1063.
- Park, J., Jeong Kim, H., & McCleary, K. W. (2014). The impact of top management's environmental attitudes on hotel companies' environmental management. *Journal of Hospitality and Tourism Research*, 38(1), 95–115.
- Punitha, S., Abdul Aziz, Y., & Abd Rahman, A. (2016). Consumers' perceptions of green marketing in the hotel industry. *Asian Social Science*, 12(1), 1–16.
- Reid, S., Johnston, N., & Patiar, A. (2017). Coastal resorts setting the pace: An evaluation of sustainable hotel practices. *Journal of Hospitality and Tourism Management*, 33, 11–22. <https://doi.org/10.1016/j.jhtm.2017.07.001>
- Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International Journal of Management Reviews*, 15(1), 1–14.
- Scott, D., Gössling, S., & Hall, C. M. (2012). *International tourism and climate change*. Wiley Interdisciplinary Reviews: Climate Change.
- Simpson, M. C., Gössling, S., Scott, D., Hall, C. M., & Gladin, E. (2008). *Climate change adaptation and mitigation in the tourism sector: Frameworks, tools and practices*. Tourism.
- Sinangjoyo, N. J. (2015). Green Hotel Sebagai Daya Saing Suatu Destinasi. *Jurnal Nasional Pariwisata*, 5(2), 83–93.
- Siti-Nabiha, A. K., George, R. A., Wahid, N. A., Amran, A., Mahadi, R., & Abustan, I. (2014). The development of a green practice index for the Malaysian hotel industry. *Social & Environmental Accounting*, 8(1), 23.
- Su, Y. P., Hall, C. M., & Ozanne, L. (2013). Hospitality industry responses to climate change: A benchmark study of Taiwanese tourist hotels. *Asia Pacific Journal of Tourism Research*, 18(1–2), 92–107.
- Weaver, D., Davidson, M. C. G., Lawton, L., Patiar, A., Reid, S., & Johnston, N. (2013). Awarding sustainable Asia-Pacific hotel practices: Rewarding innovative practices or open rhetoric? *Tourism Recreation Research*, 38(1), 15–28.

The Impact of Employees' Absorptive Capacity on Digital Transformation of Tourism and Travel Services: Evidence from the Egyptian Travel Agencies



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Abstract Digital transformation of businesses imposed changes in the organizational culture and structures where existing and future employees are invited to develop their digital skills through absorbing digital technologies and new forms of automation in their fields of specialization which is considered significant challenge facing human resources to become the business digital workforce according to (Colbert et al., *Acad Manag J* 59(3):731–739, 2016; Yeow et al., *J Strat Inform Syst* 27(1):43–58, 2017; Neumeier et al., *Wirtschaftsinformatik conference*, 2017). This study assesses the effect of employees' absorptive capacity on the Egyptian travel agencies' digital transformation. The researcher used the quantitative method and a simple random sampling technique to collect a sample of 278 from 1008 Egyptian travel agencies class A, and a semi-structured questionnaire was distributed. Furthermore, the researcher examined the literature on employee absorptive capacity and the digital transformation of tourism and travel services. Structural equation modelling (SEM) was employed for the quantitative data analysis. According to the study's findings, employees' absorptive capacity especially (the exploitation dimension) has a positive effect on Egyptian travel agencies' digital transformation. Thus travel agencies need to improve their employees' absorptive capacity to absorb outside technological knowledge as a prerequisite for the digital transformation of their travel services. Based on the study findings, practical implications for enhancing employee absorptive capacity and promoting the digital transformation of Egyptian travel agencies in Egypt were proposed.

Keywords Absorptive capacity · Digital transformation · Egyptian travel agencies

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1 Introduction

The World Tourism Organization (UNWTO, 2021) indicated that it's still unclear what tourism will look like in the aftermath of COVID-19's enormous crisis. What is certain is that tourism will recover and help to reignite hard-hit economies and societies due to its capacity to adapt to changes and provide innovative solutions to new challenges. Furthermore, the World Tourism Organization [UNWTO] (2018) stated that innovation is now a top priority on the tourism agenda at all levels of government and is a critical tool for managing tourist activity.

Cruz-Ros et al. (2018) investigated the impact of absorptive capacity (AC) on innovation in processes of service delivery in travel agencies in Colombia, as well as how innovation affects the business performance. Cassol and Marietto (2021) assessed the impact of the AC on the relation between organizational learning and the performance of product innovation of SMEs in Brazil, and the findings show that organizational learning is positively affected by absorption capacity.

Pacheco et al. (2021) provided a digital transformation model for the tourism travel agencies' development and explicit that tourism professionals face challenges in understanding the technological trends to reinvent and digitally transform their services focusing on data analysis and integrated technologies. According to Dey et al. (2021), it was found that tourism enterprises that were not early adopters of new technologies became endangered by instruments of market. Moreover, Gusakov et al. (2020) recommended that the management of tourist destinations should recognize the basic changes in tourism based on digital transformation, the business models based on platforms and platforms of open innovations.

Furthermore, according to Anna Kreider (2018), while organisations recognize the necessity of digital transformation, they do not act on that insight. Moreover, Egyptian travel agencies have yet to adapt to digital transformation, according to the findings of a study conducted by Aboushouk and Elsayy (2020). As a result, the researcher felt compelled and motivated to assess the potential impact of employees' absorptive capacity on digital transformation of Egyptian travel agencies' services as a potential cause of being late in adapting to digital transformation. Thomas and Wood (2015) also state that absorptive capacity has been largely ignored or has been inapplicable in tourism-related research (Weidenfeld et al., 2009; Hjalager, 2015).

In addition, Thomas and Wood (2015) demonstrated that the study of absorptive capacity and its refinements over the past two decades (e.g. Patterson & Ambrosini, 2015; Todorova & Durisin, 2007; Zahra & George, 2002) is considered as one of the most important concepts to come up in organisational research, in the last few decades" (Lane et al., 2006, p. 833). Nonetheless, "a notably overlooked area of research within tourist studies" continues to exist.

Furthermore, no previous studies investigated the impact of travel agency employees' absorptive capacity on the digital transformation of its travel and tourist services within the Egyptian travel agencies which is the gap that this paper fills. The main purpose of this study is to measure the impact of employees' absorption

capacity on the digital transformation of tourism and travel services in Egypt's class A travel agencies.

Based on the study's main findings, a validated model is provided that better describes the impact of employees' absorptive capacity on the digital transformation of Egyptian travel agencies' services, contributing to current theories.

2 Theory and Hypotheses

2.1 *Absorptive Capacity*

Scholars have recognized the notion of absorptive capacity, and it has come up as one of the crucial topics in contemporary research. It has been used to explain a diversity of organizational aspects and can be applied in various situations (Zahra & George, 2002; Volberda et al., 2010).

The work of Cohen and Levinthal (1990) and Zahra and George (2002) is commonly recognized as the theoretical pioneers of absorptive capacity that provide a more appropriate starting point. Cohen and Levinthal (1990) defined absorption capacity as a company's capability to perceive the importance of new information, assimilate it and implement it for achieving financial goals.

A somewhat different definition is offered by Van den Bosch et al. (1999). They define absorptive capacity as the ability to estimate, attain, consolidate and commercially apply novel outside information. Zahra and George (2002) redefined absorptive capacity as a robust ability combining a collection of organizational procedures and strategic processes that permit organizations to obtain, assimilate, reconstruct and exploit knowledge to create value.

Zahra and George (2002) use four in place of three dimensions to differentiate between a firm's potential and realized capacity, meaning that absorptive capacity is composed of two subgroups. Knowledge acquisition and absorption form potential dimension of absorptive capacity, whereas knowledge transformation and exploitation construct realized dimension. The expression "knowledge acquisition" is about detecting and obtaining critical outside knowledge for a company's processes. Assimilation is the refining, purification and incorporation of externally generated knowledge. Transformation is about creating and refining processes that assist a company to merge existing expertise with newly obtained and absorbed knowledge. Finally, exploitation means the application of newly obtained and converted knowledge to a company's operations (Zahra & George, 2002).

Moreover, Lane et al. (2006) delineate absorptive capacity as the ability to take advantage of the outside information through exploratory, transformative and exploitative learning and introduce a more explicit, learning-process-oriented definition. Exploratory learning according to Lane and his colleagues (Lane et al., 2006) is utilized to recognize new knowledge, transformative learning is employed to combine external knowledge, and exploitative learning is used to put combined knowledge into use. Furthermore, Todorova and Durisin (2007) describe absorptive

capacity as recognizing the value of knowledge, acquiring it, converting or merging it and applying it.

AC is considered as pre-innovation stage according to Chesbrough and Crowther (2006). It enhances reaching and utilizing of external knowledge in organizational processes, resulting in increased capabilities for innovation through internal use of this data (Cohen & Levinthal, 1990; Nieto & Quevedo, 2005; Fosfuri & Tribó, 2008; Engelman et al., 2017).

Many studies examine how ACAP influences innovation in the tourism industry (e.g. Aldebert et al., 2011; Grisseman et al., 2013; Najda-Janoszka & Kopera, 2014; Rodriguez et al., 2014; Fraj et al., 2015; Martínez-Román et al., 2015).

Avalos-Quispe and Hernández-Simón (2019) examined the impact of realized and potential absorptive capacity for interorganizational learning in SMEs in Mexico as open innovation. However, few studies have looked at how AC affects innovation in other industries (e.g. Nieves et al., 2014; Thomas & Wood, 2014, 2015; Milwood & Zach, 2016).

Many proceeding studies used Zahra and George's (2002) method, which asserts that potential absorption capacity (AC) influences realized AC and that realized AC influences innovation. In fact, studies have investigated the impact of each dimension of ACAP simultaneously rather than sequential process (e.g. Jansen et al., 2005; Ali et al., 2016; Liu et al., 2017).

As a result, the researcher hypothesizes that the four AC dimensions have a positive impact on the digital transformation of tourism and travel services as a type of technological innovation.

- AC motivates and encourages creativity for numerous reasons, as affirmed by Koçoglu et al. (2015). Firstly, it promotes the installation of cooperative networks involving third-party stakeholders including customers, suppliers, dealers and even competitors (Murovec & Prodan, 2009). These networks allow businesses to have easier access to information. Secondly, it induces the development of abilities to perceive this data or knowledge.

Finally, internal knowledge about the external knowledge helps firms in determining what is new and what is not, as well as helping firms in understanding this knowledge (Abecassis-Moedas & Mahmoud-Jouini, 2008). In high-tech environments, businesses should connect with people who have diverse viewpoints and cultures, looking for expertise outside the company's walls and permitting them to create fresh visions and perspectives to enlarge the edge of the firm's potential AC (Levy et al., 2019). According to Rodrigo-Alarcón et al. (2020), the realized AC allows for the applying of knowledge gained through accessing external knowledge.

Companies in changing contexts can design efficient procedures based on information collected from people with whom they share aims and objectives by implementing ACAP. It enables businesses to develop and promote innovations across a wider range of technology options (Mueller et al., 2012), allowing for more proactive, creative and risk-taking behaviour.

According to Cohen and Levinthal (1990), "businesses need prior knowledge to assimilate and utilize new knowledge. Because knowledge is an intangible resource,

the researcher believes that this perspective applies to digital transformation as technological innovation in service delivery processes.

2.2 Digital Transformation (DT) of Tourism and Travel Services

Travel service providers must invest in modern technology and ensure that it is widely oriented among their employees where it was found that technological innovation had a strong and positive impact on corporate profitability according to Dey et al. (2021). Employees' absorptive capacity especially for the new digital technology affects innovation activities in businesses according to Naqshbandi and Tabche (2018) and Mahmood and Mubarik (2020). The travel distribution systems have developed to be more sophisticated due to technological amelioration, variances in the consumer behaviour and the rise of online companies (Kracht and Wang (2010)). These variances will affect customer favourites, structures of business and marketing strategies according to Nevmerzhitskaya (2013).

Moreover, 75% of businesses will be digital or will be preparing to be digital by 2020 according to Mahmood and Mubarik (2020). Furthermore, Gossling et al. (2021) Digital technologies can provide the visitors with several functions to and overcome constraints such as the pandemic risk (COVID-19) thus it became a base for international tourism re-launch.

The impact of digital transformation will shape how a tourism business engages and communicates with its customers according to Manap and Adzharudin (2013). Gelter (2017) mentioned that the digital revolution of business is more than just being online; it also includes smart digital document flows, e-accounting, mobile payments and cloud storage which are critical for micro and small businesses. However, the tourism industry's ability for sharing, learning and cooperating is a ground base for being successful. Digitalization is a process that enables the tools for developing or adding value to tourist experiences and products according to Dredge et al. (2019).

Digital transformation describes the IT systems as well as the impact of social, mobile, analytics, cloud and Internet of Things (SMACIT) according to Ismail et al. (2017), Sebastian et al. (2020) and Kane et al. (2015), and big data and cloud computing technology advancements have made it easier to tailor packages and products to individual customer preferences. The use of big data enabled personalization in the travel industry, which can reveal insights into the minds of travellers, such as favourite locations, airline preferences and more.

Customers have more ways and channels than before to exercise their power and voice, but this can be a double-edged sword for businesses. Many visitors no longer prefer to use traditional travel agencies according to Molinillo et al. (2016); instead they prefer to search and plan their travel through dedicated websites. The administrator of these websites and pages must be aware of what is said and proactively

persuade prospective customers, suggesting that they begin to build “digital customer belonging and affinity. Online travel agencies such as TripAdvisor and booking.com are online businesses that provide apps/websites that allow customers to book different travel-related services directly over the Internet. The majority of businesses fail because they do not understand how to transform according to Wade (2015), so understanding the need for transformation and what needs to change is critical, but implementation is the key to success.

Travel agencies must recognize that the first step to be digital is the fundamental need for a strategy and culture for digitization. The strategy and culture for digitization propose that businesses are changing their business practices, not only in terms of internal procedures and efficiency but also in terms of customer interactions and opportunities. As a result of applying digitization strategy and creating digitizing culture, transformative technologies that enable new capabilities may catalyse change according to Wade (2015). These technologies have the potential to provide competitive advantages if they are adopted first and integrated into novel ways.

Moreover, travel agencies must adopt organizational change which is at the heart of digital business transformation including individuals, procedures, tactics, structures and competitive dynamics, which presents many challenges and opportunities according to Wade (2015).

Furthermore, tourism and travel services can be digitally transformed at various stages according to Albăstroi and Felea (2014), for example, travel agencies can combine industry experts’ knowledge with real feedback from actual travellers by creating a section on their website where visitors can interact with one another at various stages of their vacation planning by posting, evaluating and sharing images and videos, and QR (quick response) codes are another excellent way to add a web call to action to explorer or print promotional and interpretation media such as brochures or posters.

In addition to the current standard services, the most profitable firms are those that offer a new set of value-added services, such as the connection experience with their clients, which provides them with proximity, quick responses and the resolution of short-term concerns according to Ribeiro and Florentino (2016).

A key success factor to the travel agencies that they must be developed to meet changing customer purchasing habits for tourist products through providing customers robust reasons to visit and return to their websites; otherwise, people will look for information from other sources if their wants and expectations are not met.

Travel agencies can also turn their customers into their employees where customers now can make online reservations, print vouchers and obtain all necessary information and images of locations, hotels and restaurants, as well as access to the globe, thanks to the digital transformation of their services; this system provides benefits at a low cost according to Alikilic (2008).

Future technological trends that could be (and are currently being) used in the tourism industry to aid digital transformation (Chesbrough & Liang, 2008) include virtual reality (VR), augmented reality (AR) which will completely reimagine traditional travel experiences, the Internet of Things (IoT) which will allow tourist

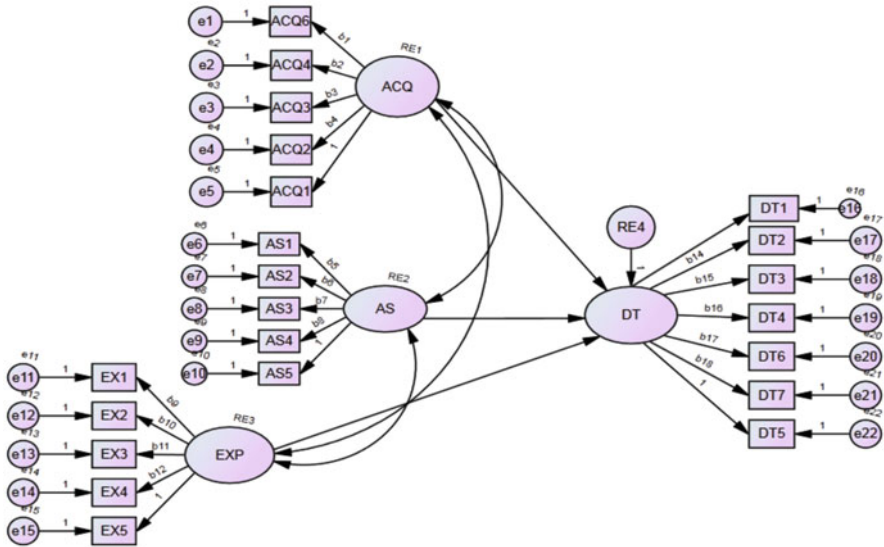


Fig. 1 The proposed conceptual model. Source: The researcher based on literature review (Zahra and George (2002); Flatten et al. (2011); Sethna et al. (2017); Dredge et al. (2019))

businesses to see what is going on with their clients in real time and semantic social networks (SSN) such as the hotel’s Bot Agent which upon detecting that the guest is nearby or already inside, using GPS technology or WIFI range, could immediately begin asking him for his reservation details and preferences via Facebook Messenger, in addition to simple syndication (RSS) where customers can sign up to receive email updates about low airline fares or vacation destinations they are interested in visiting according to Alikilic (2008). Many more patterns coming show that digital transformation will be central to evolution.

Based on the literature, this research hypothesizes the following hypotheses:

H1. The knowledge acquisition has negative effect on travel agencies’ digital transformation (DT) in Egypt. (Alternative)

H2. The assimilation of knowledge has negative effect on travel agencies’ digital transformation (DT) in Egypt. (Alternative)

H3. Knowledge transformation has negative effect on travel agencies’ digital transformation (DT) in Egypt. (Alternative)

H4. Knowledge exploitation has a positive effect on travel agencies’ digital transformation (DT) in Egypt. (Alternative)

Finally, in Fig. 1, we present the proposed conceptual model and hypotheses.

3 Method

Hypotheses were utilised to explain the causal relationships among research variables in this study, which used the deductive approach and a quantitative method (Saunders et al., 2016). A semi-structured questionnaire was used by the researchers to assess five major constructs. The questionnaire form was distributed to a sample containing 278 travel agencies using a simple random sampling technique, with a 75% response rate of 209 travel agencies class A.

3.1 *Sample*

Egyptian travel agencies serve as the study's sample frame. The Egyptian Travel Agents Association (ETAA) keeps record of these businesses. There are 1168 category (A) travel agencies in Egypt, according to them (2020). They can be found in 23 of Egypt's 27 governorates. There are a total of 1008 travel agencies in this sample frame. This sample of travel agencies was collected using a simple random sampling procedure. It requires employing random number tables and a computer random number generator, such as Research Randomizer (2008), to select a sample from the sampling frame at random. The sample size is calculated as 278 travel agency following (Thompson, 2012) was chosen at random from the sample frame.

3.2 *Measures*

Each of the variables described below was measured using five-point Likert scales with values from 1 (strongly disagree) to 5 (strongly agree).

Employees' absorptive capacity: Based on a review of several previous studies published in peer-reviewed journals, we examined this variable using the four dimensions proposed by Zahra and George (2002) and Flatten et al. (2011). The potential ACAP is comprised of the first two scales, acquisition capacity and knowledge assimilation capacity, each of which has five items. The third and fourth scales of the ACAP, which measure knowledge transformation and exploitation capacities, are composed of five questions. **Digital transformation:** Based on a review of the literature, some variables were reused from previous studies' questionnaires, such as those proposed by Sethna et al. (2017) and Dredge et al. (2019), which each have a single scale with seven items.

3.3 *Analysis*

Structural equation modelling (SEM) is employed for quantitative data analysis. Because of its ability to measure sophisticated causal interactions among components, SEM is regarded the most convenient analytical technique for this study type (Olsson et al., 2000). Furthermore, the structural equation modelling study was carried out using Amos software version (26). Moreover, according to Hair et al. (2014), when the assumption of multivariate normality is met, maximum likelihood estimation (MLE) is more efficient and unbiased. It's also a flexible technique to parameter estimation that finds the "most likely" parameter values to obtain the best model fit.

3.4 *Questionnaire Validity and Pilot Testing*

Table 1 shows the reliability and validity of construct of the measurement model where composite reliability and Cronbach's alpha exceed 0.70 for all constructs that means the measurement model is reliable; also AVE values are greater than 0.50 showing convergent validity as mentioned by Altman and Bland (1994). Furthermore Jarque-Bera goodness-of-fit test is implemented to determine that sample data have skewness between (– and +1) and kurtosis between (– and +3) that matches a normal distribution.

4 Findings

The model's interpretation is divided into two stages: (1) measurement mode assessment performed (outer model) and (2) assessment of the structured model (inner model).

4.1 *Assessment of the Measurement Model*

According to Henseler et al. (2016), the assessment of the saturated model's goodness of fit should be the starting point in the evaluation of the measurement model. Figure 2 shows the observed variables (Indicators) specified to latent variables. The following SEM model specifies the indicators for each concept and allows construct validity to be assessed. According to Hair et al. (2014), the measuring model describes the indicators for each concept and allows for construct validity testing.

Table 1 The construct validity of the measurement model and its reliability

| Construct | Indicator | Standardized loading | Error variance | Item R-square | Composite reliability | AVE | Cronbach's alpha | Normality | |
|---------------------------|-----------|----------------------|----------------|---------------|-----------------------|--------------|------------------|-------------|--------------|
| | | | | | | | | Skewness | Kurtosis |
| Knowledge acquisition | ACQ1 | 0.628 | 0.606 | 0.394 | 0.832 | 0.503 | 0.961 | 0.74 | -1.05 |
| | ACQ2 | 0.845 | 0.286 | 0.714 | | | | 0.68 | -1.12 |
| | ACQ3 | 0.796 | 0.366 | 0.634 | | | | 0.68 | -1.09 |
| | ACQ4 | 0.601 | 0.639 | 0.361 | | | | 0.78 | -0.94 |
| | ACQ5 | 0.643 | 0.587 | 0.413 | | | | 0.99 | -0.50 |
| Assimilation of knowledge | Assim1 | 0.846 | 0.284 | 0.716 | 0.894 | 0.631 | 0.977 | 0.76 | -1.12 |
| | Assim2 | 0.894 | 0.201 | 0.799 | | | | 0.65 | -1.23 |
| | Assim3 | 0.823 | 0.323 | 0.677 | | | | 0.75 | -1.10 |
| | Assim4 | 0.774 | 0.401 | 0.599 | | | | 0.72 | -1.11 |
| | Assim5 | 0.602 | 0.638 | 0.362 | | | | 0.83 | -0.85 |
| Knowledge exploitation | Exp1 | 0.779 | 0.393 | 0.706 | 0.899 | 0.641 | 0.978 | 0.78 | -1.08 |
| | Exp2 | 0.820 | 0.328 | 0.672 | | | | 0.77 | -1.03 |
| | Exp3 | 0.841 | 0.293 | 0.707 | | | | 0.72 | -1.19 |
| | Exp4 | 0.833 | 0.306 | 0.694 | | | | 0.68 | -1.13 |
| | Exp5 | 0.723 | 0.477 | 0.523 | | | | 0.72 | -1.13 |
| Digital transformation | DT1 | 0.906 | 0.179 | 0.821 | 0.928 | 0.652 | 0.989 | 0.73 | -1.15 |
| | DT2 | 0.890 | 0.208 | 0.792 | | | | 0.56 | -1.25 |
| | DT3 | 0.625 | 0.609 | 0.391 | | | | 0.86 | -0.84 |
| | DT4 | 0.885 | 0.217 | 0.783 | | | | 0.87 | -0.90 |
| | DT5 | 0.849 | 0.279 | 0.721 | | | | 0.85 | -0.82 |
| | DT6 | 0.632 | 0.601 | 0.399 | | | | 0.85 | -0.87 |
| | DT7 | 0.812 | 0.341 | 0.659 | | | | 0.57 | -1.41 |

Source: researchers according to research statistical analysis' results

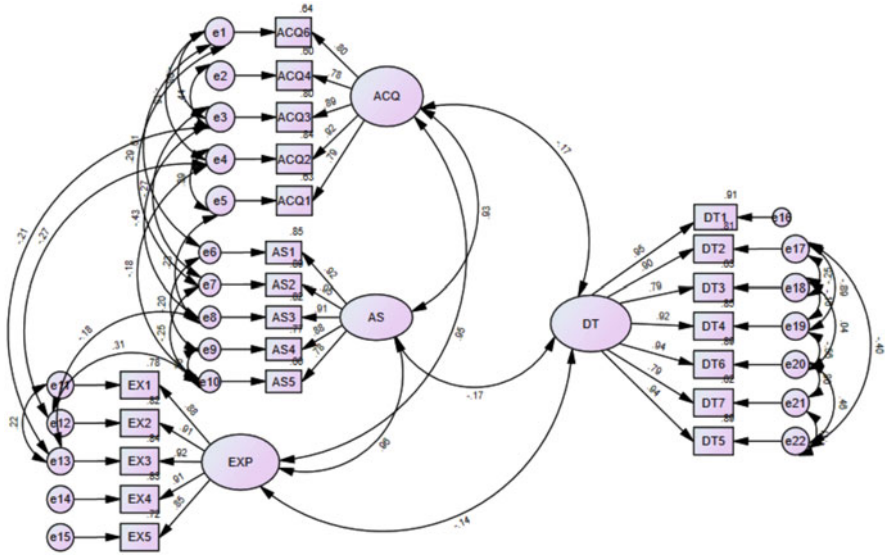


Fig. 2 Observed variables (Indicators) specified to latent variables. Source: Proposed by the researcher based on the findings of statistical analysis

Construct validity refers to the degree to which a set of measured variables represents the theoretical latent construct that they are supposed to measure. Furthermore, Van de Wijngaert (2010) claims that it investigates the correlation among (indicators) and (constructs).

Measurement model validity, according to Hair et al. (2014), is contingent on reaching acceptable levels of fitness for the measurement model as well as providing particular evidence regarding the validity of construct. According to Hair et al. (2014), the number of model fit indices should be within target limits when looking at the findings of the measurement model. This includes the following:

Chi-square (χ^2) (GOF) = 188.9 where it is the only statistical test of the difference between matrices in SEM; degrees of freedom (DF) = 176 (must be >0); chi-square probability level (P-value) = 0.239 (ideal when >0.05); Comparative Fit Index (CFI) = 0.995 (ideal when >0.9); RMSEA = 0.027 (a cut-off value of 0.05 or 0.08) and lower RMSEA values indicate a better fit; (PNFI) = 0.714 (highest PNFI values represent good fit).

4.2 Assessment of the Structured Model

The structured model examines the causal relationships between unobserved variables according to Hox et al. (2010). It depicts the weighted regression coefficients

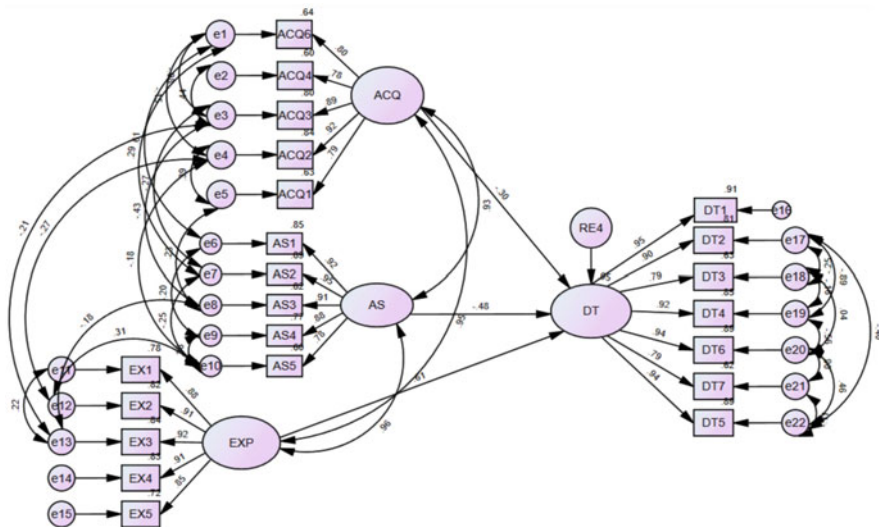


Fig. 3 Structural model of employees’ absorption capacity and digital transformation. Source: The researcher based on the findings of statistical analysis

of exogenous variables on indigenous variables. Figure 3 shows the structure model of employees’ absorption capacity and digital transformation.

Structural model goodness of fit: chi-square = 188.9, degrees of freedom = 176 (must be >0) where it represents the amount of mathematical information available to estimate model parameters, and chi-square *P*-value = 0.239 (ideal when >0.05). Structural model incremental fit indices: Comparative Fit Index (CFI) = 0.995 (ideal when >0.9), root mean square error of approximation (RMSEA) = 0.027. Lower RMSEA values indicate a better fit, and Parsimony Fit Indices: Parsimony Normed Fit Index (PNFI) ratio = 0.714 (highest PNFI values represent good fit).

5 Empirical Findings

The following findings are supported by the previous structural model (Fig. 3) where knowledge acquisition by employees of the Egyptian travel agencies has a weak negative effect on digital transformation (DT) of travel agencies in Egypt where $\beta = -0.30, P < 0.05$. Thus, hypothesis (h1) is supported. The assimilation of knowledge has negative effect on digital transformation (DT) of travel agencies in Egypt where $\beta = -0.48, P < 0.05$. Therefore, the hypothesis (h2) is supported. Knowledge transformation has negative effect on the digital transformation (DT) of travel agencies in Egypt where $\beta = -0.13, P > 0.05$ not significant. Consequently, hypothesis (3) is accepted. Knowledge exploitation has a moderately positive effect on digital transformation (DT) of Egyptian travel agencies ($=0.61, P 0.05$). As a

result, hypothesis (h4) is supported. The researcher didn't find more matching proceeding research papers in this context to compare findings with it.

6 Discussions

An influence was hypothesized of the dimensions of AC on DT of services provided by the Egyptian travel agencies. According to the findings, the only dimension of ACAP that has a positive significant effect on the DT of Egyptian travel agencies is the agency's capability to exploit knowledge (hypotheses H4); this finding is consistent with Cruz-Ros et al. (2018), who discovered that the exploitation dimension has the greatest impact on business innovation on travel agencies.

The only inconsistency between the two findings is that this study measures the impact of employees' absorption capacity within the Egyptian travel agencies on digital transformation as dependent variable, which is considered the technological side of innovation, whereas Cruz-Ros et al. (2018) measure the impact of absorptive capacity on innovation performance within travel agencies in Colombia in general.

The analysis demonstrated that knowledge acquisition and assimilation have a negative influence on the digital transformation of Egyptian travel agencies. This finding is also consistent with Cruz-Ros et al. (2018), who mentioned that the findings failed to prove that knowledge acquisition and assimilation have a significant positive influence on the innovation in travel agencies in Colombia in general but not exactly on digital transformation.

Furthermore, these findings partially agree with those of Ali et al. (2016), who explored that knowledge transformation was the only AC dimension that has no effect on process innovation. However, this study also found that knowledge transformation capability has insignificant impact on the digital transformation of Egyptian travel agencies. This study has found that the only dimension of AC that has a positive impact on the DT of Egyptian travel agencies is knowledge exploitation. Furthermore, Ali et al. (2016) conducted their research outside of the tourism industry and assessed the impact of AC on process innovation in general, not just technology adoption which shed the light on the difference between the findings of both studies.

Finally based on the findings, a superior ability to exploit knowledge is correlated to a higher ability to digitally transform the services of Egyptian travel agencies. Thus, to achieve distinguished performance, travel agencies must develop new dynamic capabilities of exploiting external knowledge (open innovation).

7 Conclusions

This study added the current understanding of how ACAP dimensions link to digital transformation within Egyptian travel agencies. In accordance with Cruz-Ros et al. (2018), this study took a different approach to considering how each dimension of ACAP relates to DT, based on Zahra and George (2002).

According to the findings, the only dimension of ACAP that has a positive significant effect on the digital transformation of Egyptian travel agencies is the agency's capability to exploit knowledge. Moreover, potential ACAP (i.e. knowledge acquisition and assimilation) was found to have a significant negative influence on the DT of services provided by Egyptian travel agencies.

A major contribution of this study is providing a validated model examining the collected data which appears to confirm that this model better explains employees' absorption capacity and the digital transformation of Egyptian travel agencies.

Future research should be directed to look into the enabling factors of ACAP, the reasons behind the negative impact of some dimensions of absorption capacity on digital transformation as well as barriers of digital transformation in the Egyptian travel agencies.

In addition the researcher provides practical implications based on the findings of this study for managers and owners of travel agencies as the following:

Travel agencies should strengthen their ACAP especially exploitation dimension to be able to adopt the new technological innovations and digitally transform its services through supporting the enabling factors and removing barriers of ACAP within travel agencies as the following:

- Directors of travel agencies should be aware of their ACAP, and they must be adaptable by encouraging necessary organisational improvements in order to provide meaningful and practical knowledge.
- Directors should appear confident and passionate, as well as a willingness to take risks and make decisions based on gut instinct.
- Informal interaction among the agency members supports the development of an open organizational culture strengthening the company's absorptive capacity.
- Encouraging trust among managers and employees and allowing them to express themselves, as well as involving everyone in the service/product development process, which raises team spirit and motivation.
- Directors can assist knowledge transfer by scheduling regular gatherings and developing systematic methods for collecting ideas.
- Travel agencies should establish R&D departments for internal and external research and development in order to explore new sources of knowledge related to various types of innovations in their field of interest.
- External knowledge should be processed and transformed through various cycles of knowledge assimilation and transformation before the travel agency can commercially apply it and generate business value.
- The open innovation approach emphasises that development times are shortened, implying that organisations should focus on exploitation of new knowledge rather

than seeking intellectual property rights to the knowledge (Avalos-Quispe & Hernández-Simón, 2019).

- Travel agencies need to change their traditional business models toward models that gradually open to innovation to develop new dynamic capabilities and use it in the digital transformation processes of its services.
- Collaboration among travel agencies through the Egyptian Travel Agents Association is required to achieve beneficial outcomes through the collective exploitation of intellectual property rights.
- The provision of continuous and effective training programmes for travel agencies' employees to learn how to exploit newly acquired knowledge for commercial benefits in the future.
- Strengthening the connection between travel agencies and academic institutions to encourage knowledge co-production as a collaborative effort.
- Maintaining close relationships with customers is critical for new knowledge exploitation in order to have a positive impact on the reception of new travel and tourism services and products. Social media is effective because it allows for free or low-cost interaction with customers.

References

- Abecassis-Moedas, C., & Mahmoud-Jouini, S. B. (2008). Absorptive capacity and source-recipient complementarity in designing new products: An empirically derived framework. *Journal of Product Innovation Management*, 25(5), 473–490.
- Aboushouk, M. A., & Elsaywy, T. M. (2020). The impact of user-generated content on digital transformation of tourism and travel services: Evidence from the Egyptian travel agencies. *International Journal of Heritage, Tourism and Hospitality*, 14(3) (Special Issue), 12–32.
- Albăstroiu, I., & Felea, M. (2014). The implications of user-generated content websites for tourism marketing. *International Journal of Economic Practices and Theories*, 4(2), 222–229.
- Aldebert, B., Dang, R. J., & Longhi, C. (2011). Innovation in the tourism industry: The case of Tourism@. *Tourism Management*, 32(5), 1204–1213.
- Ali, M., Kan, K. A. S., & Sarstedt, M. (2016). Direct and configurational paths of absorptive capacity and organizational innovation to successful organizational performance. *Journal of Business Research*, 69(11), 5317–5323.
- Alikilic, O. (2008). User generated content in tourism marketing. *Journal of Yaşar University*, 3(9), 1061–1080.
- Altman, D. G., & Bland, J. M. (1994). Statistics notes: Diagnostic tests 1: Sensitivity and specificity. *BMJ. British Medical Journal*, 308(6943), 1552.
- Avalos-Quispe, G. A., & Hernández-Simón, L. M. (2019). Open innovation in SMEs: Potential and realized absorptive capacity for interorganizational learning in Dyad collaborations with academia. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(3), 72.
- Cassol, A., & Marietto, M. L. (2021). The effects of organizational learning and absorption capacity on the performance of product innovation in small and medium-sized enterprises. *International Journal of Innovation*, 9(2), 322–352.
- Chesbrough, H., & Crowther, A. K. (2006). Beyond high tech: Early adopters of open innovation in other industries. *R&D Management*, 36(3), 229–236.
- Chesbrough, H. W., & Liang, F. H. (2008). *Return to R&D investment and spillovers in the Chinese semiconductor industry: A tale of two segments*. 2008 Industry Studies Conference Paper. Available from: <https://ssrn.com/abstract=1120024>. Accessed 15 April 2018.

- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 128–152.
- Cruz-Ros, S., Guerrero-Sánchez, D. L., & Miquel-Romero, M. J. (2018). Absorptive capacity and its impact on innovation and performance: Findings from SEM and fsQCA. *Review of Managerial Science*, 1–15.
- Dey, S. K., Vaculčíková, Z., & Tuckova, Z. (2021). Measuring business process innovations among tourism enterprises in the Czech Republic: A PLS-GLM approach. *Marketing and Management of Innovations*, 4, 218–229.
- Dredge, D., Phi, G. T. L., Mahadevan, R., Meehan, E., & Popescu, E. (2019). *Digitalisation in tourism: In-depth analysis of challenges and opportunities*. Executive Agency for Small and Medium-Sized Enterprises (EASME), European Commission. Virtual Tourism Observatory. Aalborg University.
- Engelman, R. M., Fracasso, E. M., Schmidt, S., & Zen, A. C. (2017). Intellectual capital, absorptive capacity and product innovation. *Management Decision*, 55, 474–490.
- Flatten, T. C., Engelen, A., Zahra, S. A., & Brettel, M. (2011). A measure of absorptive capacity: Scale development and validation. *European Management Journal*, 29(2), 98–116.
- Fosfuri, A., & Tribó, J. A. (2008). Exploring the antecedents of potential absorptive capacity and its impact on innovation performance. *Omega*, 36(2), 173–187.
- Fraj, E., Matute, J., & Meleró, I. (2015). Environmental strategies and organizational competitiveness in the hotel industry: The role of learning and innovation as determinants of environmental success. *Tourism Management*, 46, 30–42.
- Gelter, H. (2017). *Digital tourism—an analysis of digital trends in tourism and customer digital mobile behaviour*. Visit Arctic Europe Project, Interreg Nord.
- Gossling, S., Scott, D., & Hall, C. M. (2021). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1–20.
- Grissemann, U., Plank, A., & Brunner-Sperdin, A. (2013). Enhancing business performance of hotels: The role of innovation and customer orientation. *International Journal of Hospitality Management*, 33, 347–356.
- Gusakov, A. A., Haque, A. U., & Jogia, A. V. (2020). Mechanisms to support open innovation in smart tourism destinations: Managerial perspective and implications. *Polish Journal of Management Studies*, 21, 142–162.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis: Pearson new international edition*. Essex: Pearson Education Limited, 1(2).
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review*.
- Hjalager, A. M. (2015). 100 innovations that transformed tourism. *Journal of Travel Research*, 54(1), 3–21.
- Hox, J., Moerbeek, M., & van de Schoot, R. (2010). *Multilevel analysis: Techniques and applications* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203852279>
- Ismail, M. H., Khater, M., & Zaki, M. (2017). Digital business transformation and strategy: What do we know so far? *Cambridge Service Alliance*, 10, 1–35.
- Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of Management Journal*, 48(6), 999–1015.
- Kane, G. C., et al. (2015). *Strategy, drives digital transformation, not technology*. Review.
- Koçoglu, I., Akgiin, A. E., & Keskin, H. (2015). The differential relationship between absorptive capacity and product innovativeness: A theoretically derived framework. *International Business Research*, 8(7), 108–120.
- Kracht, J., & Wang, Y. (2010). Examining the tourism distribution channel: Evolution and transformation. *International Journal of Contemporary Hospitality Management*, 22(5), 736–757.
- Kreider, A. (2018). The top 5 barriers to digital transformation. InTheChat Communications, Whitepaper.

- Lane, P. J., Koka, B. R., & Pathak, S. (2006). The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of Management Review*, 31(4), 833–863.
- Levy, S., Tabatchnik, I., & Akron, S. (2019). Product success implications of distant innovative knowledge. *Eurasian Business Review*, 9(1), 69–88.
- Liu, X., Shen, M., Ding, W., & Zhao, X. (2017). Tie strength, absorptive capacity and innovation performance in Chinese manufacturing industries. *Nankai Business Review International*, 8, 475–494.
- Mahmood, T., & Mubarik, M. S. (2020). Balancing innovation and exploitation in the fourth industrial revolution: Role of intellectual capital and technology absorptive capacity. *Technological Forecasting and Social Change*, 160, 120248.
- Manap, K. A., & Adzharudin, N. A. (2013, January). The role of user generated content (UGC) in social media for tourism sector. In *The 2013 WEI international academic conference proceedings* (Vol. 7, No. 1, pp. 52–58).
- Martínez-Román, J. A., Tamayo, J. A., Gamero, J., & Romero, J. E. (2015). Innovativeness and business performances in tourism SMEs. *Annals of Tourism Research*, 54, 118–135.
- Milwood, P., & Zach, F. (2016). Innovative tourism destinations: Collaboration culture and absorptive capacity. Tourism Travel and Research Association: Advancing Tourism Research Globally.
- Molinillo, S., Ximénez-De-Sandoval, J.-L., Fernández-Morales, A., & Coca-Stefaniak, A. (2016). Hotel assessment through social media: The case of TripAdvisor. *Tourism & Management Studies*, 12, 15–24.
- Mueller, B. A., Titus, V. K., Covin, J. G., & Slevin, D. P. (2012). Pioneering orientation and firm growth: Knowing when and to what degree pioneering makes sense. *Journal of Management*, 38(5), 1517–1549.
- Murovec, N., & Prodan, I. (2009). Absorptive capacity, its determinants, and influence on innovation output: Cross-cultural validation of the structural model. *Technovation*, 29(12), 859–872.
- Najda-Janoszka, M., & Kopera, S. (2014). Exploring barriers to innovation in tourism industry—the case of southern region of Poland. *Procedia-Social and Behavioral Sciences*, 110, 190–201.
- Naqshbandi, M. M., & Tabche, I. (2018). The interplay of leadership, absorptive capacity, and organizational learning culture in open innovation: Testing a moderated mediation model. *Technological Forecasting and Social Change*, 133, 156–167.
- Nevmerzhitskaya, J. (2013). Scenarios of the future work of business travel agencies. Master's thesis, Haaga-Helia University of Applied Sciences, Helsinki, Finland.
- Nieto, M., & Quevedo, P. (2005). Absorptive capacity, technological opportunity, knowledge spillovers, and innovative effort. *Technovation*, 25(10), 1141–1157.
- Nieves, J., Quintana, A., & Osorio, J. (2014). Knowledge-based resources and innovation in the hotel industry. *International Journal of Hospitality Management*, 38, 65–73.
- Olsson, U. H., Foss, T., Troye, S. V., & Howell, R. D. (2000). The performance of ML, GLS, and WLS estimation in structural equation modeling under conditions of misspecification and nonnormality. *Structural Equation Modeling*, 7(4), 557–595.
- Pacheco, A. A., Robles, I., Isuiza, D. D., Añaños, M. A. (2021). *Digital transformation model for the development of tourism companies*. 3C Empresa. Investigación y pensamiento crítico. (pp. 47–61) Edición Especial Tourism and University: Backbone of Peruvian Economy.
- Patterson, W., & Ambrosini, V. (2015). Configuring absorptive capacity as a key process for research intensive firms. *Technovation*, 36, 77–89.
- Ribeiro, R., & Florentino, T. (2016). Digital transformation in tourism: A high level analysis of the impact that social networks and mass collaboration concept is having at tourism service providers. In *The 7th international conference on cinema and tourism-ICCT*.
- Rodrigo-Alarcón, J., Parra-Requena, G., & Ruiz-Ortega, M. J. (2020). Cognitive social capital and absorptive capacity as antecedents of entrepreneurial orientation: A configurational approach. *Eurasian Business Review*, 10(4), 493–517.
- Rodríguez, I., Williams, A. M., & Hall, C. M. (2014). Tourism innovation policy: Implementation and outcomes. *Annals of Tourism Research*, 49, 76–93.

- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students*. Financial Times Prentice Hal.
- Sebastian, I. M., Ross, J. W., Beath, C., Mocker, M., Moloney, K. G., & Fonstad, N. O. (2020). How big old companies navigate digital transformation. In *Strategic information management* (pp. 133–150). Routledge.
- Sethna, B. N., Hazari, S., & Bergiel, B. (2017). Influence of user generated content in online shopping: Impact of gender on purchase behaviour, trust, and intention to purchase. *International Journal of Electronic Marketing and Retailing*, 8(4), 344–371.
- Thomas, R., & Wood, E. (2014). Innovation in tourism: Re-conceptualising and measuring the absorptive capacity of the hotel sector. *Tourism Management*, 45, 39–48.
- Thomas, R., & Wood, E. (2015). The absorptive capacity of tourism organisations. *Annals of Tourism Research*, 54, 84–99.
- Thompson, S. K. (2012). *Sampling* (Vol. 755). John Wiley & Sons.
- Todorova, G., & Durisin, B. (2007). Absorptive capacity: Valuing a reconceptualization. *Academy of Management Review*, 32(3), 774–786.
- Van de Wijngaert, L. (2010, July). A multi-theory approach towards the adoption, use and effects of IT services: The case channel choice in an e-Government setting. In *2010 IEEE international professional communication conference* (pp. 87–92). IEEE.
- Van den Bosch, F. A., Volberda, H. W., & De Boer, M. (1999). Coevolution of firm absorptive capacity and knowledge environment: Organizational forms and combinative capabilities. *Organization Science*, 10(5), 551–568.
- Volberda, H. W., Foss, N. J., & Lyles, M. A. (2010). Perspective-absorbing the concept of absorptive capacity: How to realize its potential in the organization field. *Organization Science*, 21(4), 931–951.
- Wade, M. (2015). Digital business transformation: A conceptual framework. *Global Center for Digital Business Transformation*, 15.
- Weidenfeld, A., Williams, A. M., & Butler, R. W. (2009). Knowledge transfer and innovation among attractions. *Annals of Tourism Research*, 37(3), 604–626.
- Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, 27(2), 185–203.

Part V
Eurasian Economic Perspectives:
Accounting and Finance

Use of Management Accounting Techniques in Croatian Manufacturing Companies



Mirjana Hladika

Abstract Companies today operate in a dynamic and competitive environment. Production technology is changing significantly, customers are becoming more demanding, competition is growing stronger, and product life cycle is getting shorter. In order to face a competition and to succeed in modern business environment, companies require the application of the new costing methods and efficient cost management. The aim of this paper is to investigate the structure of product costs and the management accounting techniques that are used for cost calculation, inventory valuation, and cost management in Croatian manufacturing companies. The data was collected through a structured questionnaire. Research sample consists of 700 Croatian manufacturing companies. Collected data were analyzed by using methods of descriptive statistics and methods of inferential statistics. Research results showed that direct product costs dominate in total product costs in many Croatian manufacturing companies, while a share of indirect product costs is relatively low. Furthermore, the research results showed that Croatian manufacturing companies mostly apply traditional management accounting techniques for cost management and traditional costing methods. Modern management accounting techniques for strategic cost management are applied in a small number of Croatian manufacturing companies, usually in those where the level of digitalization is very high and where automated manufacturing technology is used.

Keywords Management accounting techniques · Cost management · Cost structure · Product costs · Inventory costing methods · Manufacturing companies

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1 Introduction

The competitive environment on the global market imposes to the manufacturers improving the production processes and technology that will provide more competitiveness and high-quality products, meet customer needs, and ensure reduction of production costs (e.g., Brierley et al., 2001; Nixon & Burns, 2012). Cost information represents one of the most important information for making business decisions, planning future business activities, cost control and evaluation of efficiency, assessment of product profitability, and pricing policies (Ashfaq et al., 2014; Diefenbach et al., 2018; Lebas, 1994; Wouters et al., 2016). Accordingly, accounting information systems must provide quality information on the production costs and profitability of individual products that the company produces in order to make effective business decisions.

In order to meet the information needs of different users and to provide relevant and timeliness information, the management accounting has developed different techniques. Applied management accounting technique has a direct impact on the quality and usefulness of certain information for managers and other stakeholders (Armitage et al., 2016; Cescon et al., 2019; Yalcin, 2012). Ittner and Larcker (2001) highlighted that management accounting has evolved from its traditional focus on the financially oriented decision analysis and budgetary control to a more strategic approach that is oriented on the key financial and operational drivers of shareholders value.

This paper was motivated to determine the level to which the different management accounting techniques (traditional and strategic) have been adopted in developing countries as Croatia is. This paper presents new results about the application of management accounting techniques in order to achieve better cost management in Croatian manufacturing companies. The research results fill the gap in the literature of this area in Croatia because there have been conducted just few researches in this topic (e.g., Perčević, 2006; Ramljak & Rogošić, 2012). Based on this, the aim of this paper is to investigate the structure of product costs and the management accounting techniques that are used for cost calculation, inventory valuation, and cost management in Croatian manufacturing companies.

In terms of structure, the paper starts with a brief introduction, followed by a theoretical framework and literature overview. The third section provides research questions, data, and methodology. The fourth section covers research results and discussion. The paper ends with concluding remarks, limitations of the study, and the possible direction for future research.

2 Theoretical Framework and Literature Overview

2.1 Cost Structure

Efficient approach for cost management requires the understanding of the companies' cost structure. Accordingly, the analysis of cost structure in each company is one of the most important preconditions for effective and efficient cost management. The cost structure is significantly influenced by the circumstances on the business environment and on the national, regional, and global market (Drury, 2015; Novák & Popesko, 2014).

The most important cost classification in management accounting for the purpose of cost control, cost management, and decision-making is the classification into direct costs and indirect costs (Kinney & Raiborn, 2013; Seal et al., 2015). Direct costs are those that can be easily traced to a specific cost object. Indirect product costs are costs that cannot be easily and conventionally traced to a specific cost object (Garrison et al., 2012).

The share of direct product costs has decreased during last decades, while the share of indirect costs has increased due to application of advanced manufacturing technologies, additive manufacturing, and automation of production processes (Baumers et al., 2016; Weller et al., 2015). This circumstance requires that companies have accurate and reliable information about their products, operations, customers, and markets in order to maintain a competitive position on the market and within the industry (Barfield et al., 2001; Seal et al., 2015).

Another important cost classification in management accounting is classification into fixed and variable costs (Kinney & Raiborn, 2013; Weygandt et al., 2012). Costs are classified as fixed or variable based on how they behave during the changes of production volume or other measures of activity. Cost changes as a result of changes of activity output have a crucial influence on the planning, controlling, and decision-making.

2.2 Management Accounting Techniques and Cost Management

Costing methods include various techniques and procedures used in valuation of inventories of production and finished products, determining costs and tracking costs by place of origin (or responsibility centers), allocating costs from auxiliary cost centers to main cost centers, and allocating costs to cost bearers. For the purposes of management and internal reporting, different costing methods can be used. The main purpose of each method is to determine the unit cost of the product. In this way, the application of different management accounting methods of costing can directly affect the profitability of the product.

Lukka and Granlund (1996) emphasized that the cost structure of the company has a significant impact on the applied costing method. The most significant influence on the level of unit cost of products, and therefore on the assessment of product profitability, has been the methods of valuation of inventories of production and finished products. Accounting theory and practice know two basic types of methods for valuation of inventories of production and finished products, namely, the absorption method and the variable method (Horngren et al., 2012; Kinney & Raiborn, 2013). Standard costing is a management technique that implies the valuation of inventories by defined standards. Lukka and Granlund (1996) and Brierley et al. (2001) pointed out that the product cost information are useful for production, performance management, and product pricing.

In traditional management accounting are developed two basic types of cost accounting systems, and they are the process costing and job order costing (Garrison et al., 2012; Horngren et al., 2012). These two systems differ in the object of cost assignment. In a job order costing system, costs are assigned and allocated to jobs, while in process costing costs are accumulated by department and assigned to all units that pass through the department during the period. Activity-based costing is a costing method which enables classifying more costs as direct, and it uses more cost pools and unique measures of activity to better understand the costs of managing and sustaining product diversity. Activity-based costing favors “better cost allocation using smaller cost pools called activities” (Tabitha & Ogungbade, 2016, p. 52).

Modern cost management focuses on the reduction of costs and continuous improvement rather than cost containment (Drury, 2008). Modern management accounting techniques consist of those actions that are taken by managers to reduce costs. Some of these actions are taken on the basis of accounting information, while other actions are undertaken without the use of accounting information. Some of the management accounting techniques are activity-based management, total quality management, target costing, life cycle cost management, kaizen costing, benchmarking, and environmental cost management (Drury, 2008; Petera & Šoljaková, 2020).

3 Research Questions, Data, and Methodology

The aim of this paper is to investigate the structure of product costs and the management accounting techniques that are used for cost calculation, inventory valuation, and cost management in Croatian manufacturing companies. In order to achieve these goals, the following research questions are addressed:

RQ1: *Which is the share of direct product costs and indirect product costs in total product costs in Croatian manufacturing companies?*

RQ2: *Does the applied manufacturing technology have an impact on the structure of product costs?*

Table 1 Summary statistics on sample structure

| Size of the company | Number | Percentage |
|------------------------------------|--------|------------|
| Micro | 48 | 20.00% |
| Small | 53 | 22.08% |
| Medium | 74 | 30.84% |
| Large | 65 | 27.08% |
| Total | 240 | 100.00% |
| Main economic activity | Number | Percentage |
| Agriculture, forestry, and fishing | 66 | 27.50% |
| Manufacturing | 150 | 62.50% |
| Construction | 24 | 10.00% |
| Total | 240 | 100.00% |

Source: Own work

RQ3: Which management accounting techniques for inventory costing valuation are applied in Croatian manufacturing companies?

RQ4: Which management accounting techniques for cost calculation are applied in Croatian manufacturing companies?

RQ5: Which management accounting techniques for strategic cost management are applied in Croatian manufacturing companies?

In order to investigate the structure of product costs and the management accounting techniques that are used for cost calculation and cost management in Croatian manufacturing companies, a primary research through of a structured questionnaire was conducted. The use of questionnaire as a method for the research in management accounting is very often (e.g., Dobroszek et al., 2019; Lääts & Haldma, 2012).

According to the Law on Accounting, 2015, companies are divided into micro, small, medium, and large companies according to the three criteria – total assets, total revenues, and average number of employees during the year. According to the National Classification of Activities, 2007, in the research sample were included three activities, and those are as follows: Section A, Agriculture, Forestry, and Fishing; Section C, Manufacturing; and Section F, Construction. In order to increase the representativeness of the sample, the criterion was that companies have to operate a minimum of 5 years in continuity. Accordingly, 700 manufacturing companies (100 micro, 150 small, 200 medium, and 250 large) that have submitted their financial statements for 2019 in the Registry of Annual Financial Statements have been selected. The sample represents 22.56% of the population.

Overall, 700 Croatian companies have been invited by e-mail to participate in the survey. The target respondent in a company was a head of controlling or head of accounting. The survey data collection period was from January to April 2021. Ultimately, 240 companies participated in the survey. The sample structure by size of the company and main economic activity is presented in Table 1.

In the survey, the largest number of participants is medium companies (74 of them or 30.84%), whereas the smallest number is micro companies (48 of them or 20%) that took a part in the survey. According to the main economic activity, the

distribution of companies in the sample is the following: 66 agriculture, forestry, and fishing companies (27.50%), 150 manufacturing companies (62.50%), and 24 construction companies (10.00%). Automated manufacturing technology is applied in 54 companies (22.50%), while 186 companies (77.50%) applied traditional manufacturing technology.

The structure of respondents is the following: 84 heads of controlling (35.00%) and 156 heads of accounting have fulfilled the survey (65.00%). The structure of respondents according to the function in the company ensures good background which made them to be highly suitable for the research about the cost structure and management accounting techniques that are used for cost calculation, inventory valuation, and cost management in Croatian manufacturing companies. Consequently, it is expected that conclusions, which are made in the paper, are going to have a high validation level.

In order to analyze the data and to investigate given research questions, primarily, the selected methods of descriptive statistics are used. In the analysis, Pearson correlation coefficient and Pearson chi-square test have also been used.

4 Research Results and Discussion

4.1 Analysis of the Structure of Product Costs

The structure of product costs is an important indicator of the development of the national economy. The structure of product costs indicates the degree of technological development of the manufacturing sector of each country. Furthermore, for profit measurement and inventory valuation purposes, it is necessary to classify costs as either product costs or period costs (Drury, 2015). The first part of the questionnaire referred to the investigation of the structure of product costs in Croatian manufacturing companies. Detailed analysis of direct product costs is presented in Table 2.

Research results about the share of the direct product costs in total product costs showed that direct product costs present a very significant share of total product

Table 2 Share of the direct product costs in total product costs

| Share | Direct material costs | | Direct labor costs | |
|---------------|-----------------------|---------|--------------------|---------|
| | Number | Percent | Number | Percent |
| Less than 20% | 18 | 7.50% | 95 | 39.58% |
| 20–30% | 12 | 5.00% | 72 | 30.00% |
| 30–40% | 32 | 13.33% | 33 | 13.75% |
| 40–50% | 60 | 25.00% | 27 | 11.25% |
| More than 50% | 118 | 49.17% | 13 | 5.42% |
| Total | 240 | 100.00% | 240 | 100.00% |

Source: Own work

Table 3 Share of the indirect product costs in total product costs

| Share | Number | Percent |
|---------------|--------|---------|
| Less than 20% | 19 | 7.92% |
| 20–30% | 67 | 27.92% |
| 30–40% | 83 | 34.58% |
| 40–50% | 48 | 20.00% |
| More than 50% | 23 | 9.58% |
| Total | 240 | 100.00% |

Source: Own work

costs. The share of direct material costs in total product costs is between 40% and 50% for 60 companies (25%), while in 118 companies (49.17%) the share of direct material costs is more than 50% of total product costs. On the other hand, the share of direct labor costs in total product costs is less than 20% in 95 companies (39.58%), while in 72 companies (30%) the share of direct labor costs in total product costs is between 20% and 30%.

A low share of direct labor costs in total product costs can be the results of different reasons. One of these reasons is the high level of automation of production processes as it is in developed countries (e.g., Brierley et al., 2001). In the USA or in West European countries, the share of direct labor costs in total product costs is between 5% and 15% (Lucey, 2003). Another reason for low share of direct labor costs can be reduced level of production or low wages of employees in production. The share of indirect product costs in total product costs is presented in Table 3.

The share of indirect product costs in total product costs is a very good indicator of the technological development of the production sector of a certain country. A higher share of indirect product costs in total product costs indicates the higher level of development of the production sector and the application of advanced and automated manufacturing technologies. A higher share of direct costs indicates the use of traditional production technologies and insufficient automation of production processes. Research results showed that the share of indirect product costs in total product costs in 83 companies (34.58%) is between 30% and 40%, while in 67 companies (27.92%) the share of indirect product costs is between 20% and 30%. Based on these values, it can be concluded that Croatian manufacturing companies mostly apply traditional manufacturing technology. In comparison with the research conducted by Perčević (2006), these results showed a slight increase of the share of indirect product costs in total product costs in Croatian companies.

For further analysis, the product costs are divided into fixed and variable costs. Research results showed that the majority of product costs (more than 80%) are variable, while only 20% of product costs are fixed. Descriptive analysis of the product cost structure is shown in Table 4.

Research results indicate that in Croatian manufacturing companies, the average share of indirect product costs is 30%, while the average share of direct costs is 70%. These results lead us to conclusion that Croatian manufacturing companies mostly apply traditional manufacturing technology. Based on this, the further conclusion is that new investments and new trends and achievements in automation of production

Table 4 Product cost structure in Croatian manufacturing companies

| | Direct material costs | Direct labor costs | Indirect product costs |
|----------------|-----------------------|--------------------|------------------------|
| Mean | 43.00% | 27.00% | 30.00% |
| Median | 37.67% | 25.43% | 31.89% |
| Std. deviation | 18.78% | 21.46% | 12.64% |
| Skewness | -0.64870 | 0.32894 | -0.21746 |
| Kurtosis | 0.49852 | 0.59123 | 0.18986 |
| Minimum | 10.00% | 7.50% | 12.50% |
| Maximum | 69.00% | 57.00% | 74.00% |
| N | 240 | 240 | 240 |

Source: Own work

Table 5 Changes in the structure of product costs (2015–2019)

| Product cost structure change | Direct material costs | Direct labor costs | Indirect product costs |
|-------------------------------|-----------------------|--------------------|------------------------|
| Increasing of share | 4.75% | 38.84% | 43.05% |
| Decreasing of share | 13.89% | 29.21% | 24.19% |
| Unchanging share | 81.36% | 31.95% | 32.76% |

Source: Own work

processes are not implemented in Croatian manufacturing companies. These results are opposite of those in developed countries where the cost structure has been changed during the last 50 years in a way the share of indirect cost has been increased and the share of direct costs has been decreased (e.g., Brierley et al., 2001; Drury, 2015).

Research results about the movement and changes of each type of product costs during the last 5 years (2015–2019) are presented in Table 5.

The results about the changes in the share of the direct material costs during the last 5 years are the following: 4.75% of companies indicate tendency of increasing of share of direct material costs, 13.89% of companies indicate tendency of decreasing of share of direct material costs, and 81.36% of companies indicate no changes in the share of direct material costs. The results about the changes in the share of the direct labor costs during the last 5 years are the following: 38.84% of companies indicate tendency of increasing of share of direct labor costs, 29.21% of companies indicate tendency of decreasing of share of direct labor costs, and 31.95% of companies indicate no changes in the share of direct labor costs. The results about the changes in the share of the indirect product costs during the last 5 years are the following: 43.05% of companies indicate tendency of increasing of share of indirect product costs, 24.19% of companies indicate tendency of decreasing of share of indirect product costs, and 32.76% of companies indicate no changes in the share of indirect product costs. Based on these results, it can be concluded that current product cost structure and trends in their changes indicate the technological backwardness of the production sector, i.e., that most Croatian manufacturing companies have a relatively low degree of automation of production processes. Similar results are supported in the research conducted in Czech Republic by Novák and Popesko (2014).

Table 6 Pearson correlation coefficient

| Variables | Correlation | P-value |
|--|-------------|---------|
| The application of automated manufacturing technology and the high share of the indirect product costs in total product costs | 0.34716 | 0.0751 |
| The application of traditional manufacturing technology and the low share of the indirect product costs in total product costs | 0.19367 | 0.1437 |

Source: Own work

Table 7 Management accounting techniques for inventory costing valuation

| Management accounting technique | Number | Percent |
|---------------------------------|--------|---------|
| Absorption costing | 153 | 63.75% |
| Variable costing | 30 | 12.50% |
| Standard costing | 49 | 20.42% |
| Other | 8 | 3.33% |
| Total | 240 | 100.00% |

Source: Own work

In order to investigate if the applied manufacturing technology (independent variable) has a certain impact on the share of the direct product costs and indirect product costs in total product costs (dependent variable), the Pearson correlation coefficient has been calculated (Table 6).

According to the Pearson correlation coefficient, we can conclude that the relationship is positive between the application of automated manufacturing technology and the high share of the indirect product costs in total product costs as well as between the application of traditional manufacturing technology and the low share of the indirect product costs in total product costs, but in both cases, the relationship between the observed variables is not statistically significant.

4.2 Analysis of the Applied Management Accounting Techniques for Cost Calculation and Cost Management

The second part of the questionnaire referred to the investigation on the applied management accounting techniques for cost calculation and cost management. One of the most important questions in manufacturing companies is the inventory costing measurement. The two most common methods for costing inventories in manufacturing companies are absorption costing and variable costing (Horngren et al., 2012). In addition to these methods, standard costing can also be used as method for costing inventories. Research results about the applied methods for costing inventories in Croatian manufacturing companies are presented in Table 7.

Research results showed that most of Croatian manufacturing companies (153 of them or 63.75%) apply the absorption costing as a method for costing inventories. This is in line with the accounting policies defined in the International Accounting

Table 8 Management accounting techniques for cost calculation

| Management accounting technique | Number | Percent |
|---------------------------------|--------|---------|
| Job order costing | 83 | 34.58% |
| Process costing | 115 | 47.92% |
| Activity-based costing | 19 | 7.92% |
| Other | 23 | 9.58% |
| Total | 240 | 100.00% |

Source: Own work

Table 9 Management accounting techniques for strategic cost management

| Management accounting technique | Number | Percent |
|---------------------------------|--------|---------|
| Activity-based management | 20 | 8.33% |
| Total quality management | 19 | 7.92% |
| Target costing | 42 | 17.50% |
| Life cycle cost management | 35 | 14.58% |
| Kaizen costing | 29 | 12.08% |
| Benchmarking | 15 | 6.25% |
| Environmental cost management | 41 | 17.08% |
| Other | 34 | 14.17% |

Source: Own work

Standard 2 *Inventories* and Croatian Financial Reporting Standards 10 *Inventories*. On the other hand, 30 companies (12.50%) apply the variable costing as a method for costing inventories. Different methods for costing inventories result with different product cost of each product item (inventory). Interesting result is that even 49 companies (20.42%) apply the standard costing as a method for costing inventories. These results imply that Croatian manufacturing companies mostly apply prescribed management accounting method for the inventory costing valuation and for the purpose of financial reporting.

Table 8 shows which management accounting techniques are applied for cost calculation in Croatian manufacturing companies. Research results showed that Croatian manufacturing companies mostly apply traditional management accounting techniques for cost calculation and traditional costing methods. Even 115 companies (47.92%) apply process costing, while 83 companies (34.58%) apply job order costing. The application of activity-based costing in Croatian manufacturing companies is rare; only 19 companies (7.92%) apply this method for cost calculation. Dmitrović-Šaponja and Suljović (2017) investigated that the use of activity-based costing is applied in 67.80% large companies in Serbia.

Strategic cost management techniques that are applied in Croatian manufacturing companies are shown in Table 9. Research results showed that the application of modern management accounting techniques for strategic cost management is not sufficiently applied in Croatian manufacturing companies. Also, the research results showed that mainly companies that apply automated manufacturing technology implement modern management accounting techniques for strategic cost management. These results indicate a significant difference between the uses of strategic cost management in developed economies compared to those that are used in developing

economies (e.g., Cadez & Guilding, 2008; Cescon et al., 2019). Finally, the results of the Pearson chi-square statistic test confirmed that the variables applied manufacturing technology and implemented management accounting techniques for strategic cost management are in some way related (Pearson chi-square statistic = 26.79, p -value < 0.0001). Chenhall and Langfield-Smith (1998) determined on the sample of Australian manufacturing companies that the level of adoption of traditional management accounting techniques is significantly higher than the adoption of modern (strategic) management accounting techniques. Similar, traditional management accounting techniques are slightly more implemented in Greek manufacturing companies than modern management accounting techniques (Angelakis et al., 2010).

5 Conclusion

Changes in economic situation and the application of modern and automated machines, as well as increasingly demanding customers, have an important impact on the structure of performed activities and produced outputs. These changes directly affect on the cost structure of a certain company.

Research results show that in Croatian manufacturing companies, the average share of indirect product costs is 30%, while the average share of direct product costs is 70%. The results about the trends in changes of the share of indirect product costs are in line with the results of the previous research conducted by Popesko and Novák (2011). The share of indirect product costs in total product costs is a very good indicator of the technological development of the production sector of a certain country. Accordingly, these results lead us to conclusion that Croatian manufacturing companies mostly apply traditional manufacturing technology. Based on this, the further conclusion is that new investments and new trends and achievements in automation of production processes are not implemented in Croatian manufacturing companies.

This paper shows that traditional management accounting techniques including absorption costing, variable costing, and standard costing are still frequently used in Croatian manufacturing companies. On the other hand, modern management accounting techniques are insufficiently applied in Croatian manufacturing companies. These results are the consequence of the situation on the ground which implies low level of technological development as well as the size of the company. Also, traditional systems of costing which include job-order costing and process costing are mostly applied in Croatian manufacturing companies. Activity-based costing is insufficiently applied in Croatian manufacturing companies (only 19% or 7.92% of companies apply this management accounting technique for cost calculation). These results are in line with the results of the previous studies about the application of modern management accounting techniques (Dmitrović-Šaponja & Suljović, 2017; Novák & Popesko, 2014; Petera & Šoljaková, 2020; Tabitha & Ogungbade, 2016; Yalcin, 2012).

The main limitation of this study is the coverage of companies that were included in the research sample. In future research, the research sample should coverage all activities according to the National Classification of Activities. Furthermore, in order to gain more representative findings, one of the research methods should be in-depth interviews with managers.

References

- Angelakis, G., Theriou, N., & Floropoulos, I. (2010). Adoption and benefits of management accounting practices: Evidence from Greece and Finland. *Advances in Accounting, incorporating Advances in International Accounting*, 26(1), 87–96.
- Armitage, H. M., Webb, A., & Glynn, J. (2016). The use of management accounting techniques by small and medium-sized enterprises: A field study of Canadian and Australian practice. *Accounting Perspectives*, 15(1), 31–69.
- Ashfaq, K., Younas, S., Usman, M., & Hanif, Z. (2014). Traditional vs. contemporary management accounting practices and its role and usage across business life cycle stages: Evidence from Pakistani financial sector. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(4), 104–125.
- Barfield, J. T., Raiborn, C. A., & Kinney, M. R. (2001). *Cost accounting: Traditions and innovations* (4th ed.). South Western.
- Baumers, M., Dickens, P., Tuck, C., & Hague, R. (2016). The cost of additive manufacturing: Machine productivity, economies of scale and technology-push. *Technological Forecasting and Social Change*, 102, 193–201.
- Brierley, J. A., Cowton, C. J., & Drury, C. (2001). Research into product costing practice: A European perspective. *European Accounting Review*, 10(2), 215–256.
- Cadez, S., & Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting Organizations and Society*, 33(7–8), 836–863.
- Cescon, F., Costantini, A., & Grassetti, L. (2019). Strategic choices and strategic management accounting in large manufacturing firms. *Journal of Management and Governance*, 23, 605–636.
- Chenhall, H. R., & Langfield-Smith, K. (1998). Adoption and benefits of management accounting practices: An Australian study. *Management Accounting Research*, 9(1), 1–19.
- Diefenbach, U., Wald, A., & Gleich, R. (2018). Between cost and benefit: Investigating effects of cost management control systems on cost efficiency and organisational performance. *Journal of Management Control*, 29, 63–89.
- Dmitrović-Šaponja, L., & Suljović, E. (2017). Strategic management accounting in the republic of Serbia. *Economic Research-Ekonomska istraživanja*, 30(1), 1829–1839.
- Dobroszek, J., Zarzycka, E., Almasan, A., & Circa, C. (2019). Managers' perception of the management accounting information system in transition countries. *Economic Research-Ekonomska istraživanja*, 32(1), 2798–2817.
- Drury, C. (2008). *Management and cost accounting* (7th ed.). South-Western Cengage Learning.
- Drury, C. (2015). *Management and cost accounting* (9th ed.). Cengage Learning EMEA.
- Garrison, R. H., Noreen, E. W., & Brewer, P. C. (2012). *Managerial accounting* (14th ed.). McGraw-Hill Irwin.
- Horngren, C. T., Datar, S. M., & Rajan, M. (2012). *Cost accounting: A managerial emphasis*. Prentice Hall Pearson.
- Ittner, C. D., & Larcker, D. F. (2001). Assessing empirical research in managerial accounting: A value based management perspective. *Journal of Accounting and Economics*, 32(1–3), 349–410.

- Kinney, M. R., & Raiborn, C. A. (2013). *Cost accounting – Foundations and evolutions* (9th ed.). South-Western Cengage Learning.
- Lääts, K., & Haldma, T. (2012). Changes in the scope of management accounting systems in the dynamic economic context. *Economics and Management*, 17(2), 441–447.
- Law on Accounting. (2015). [online] Available at: <https://narodne-novine.nn.hr/clanci/sluzbeni/2015_07_78_1493.html> [Accessed 24 June 2021].
- Lebas, M. (1994). Managerial accounting in France: Overview of past tradition and current practice. *European Accounting Review*, 3(3), 471–488.
- Lucey, T. (2003). *Management accounting* (5th ed.). Thomson Learning.
- Lukka, K., & Granlund, M. (1996). Cost accounting in Finland: Current practice and trends of development. *European Accounting Review*, 5(1), 1–28.
- National Classification of Activities. (2007). [online] Available at: <https://narodne-novine.nn.hr/clanci/sluzbeni/2007_06_58_1870.html> [Accessed 24 June 2021].
- Nixon, B., & Burns, J. (2012). The paradox of strategic management accounting. *Management Accounting Research*, 23(4), 229–244.
- Novák, P., & Popesko, B. (2014). Cost variability and cost behaviour in manufacturing enterprises. *Economics and Sociology*, 7(4), 89–103.
- Perčević, H. (2006). Metode obračuna troškova u proizvodnom sektoru Republike Hrvatske [the methods of cost accounting in the Croatian production sector]. *Ekonomski pregled*, 57(9–10), 647–667.
- Petera, P., & Šoljaková, L. (2020). Use of strategic management accounting techniques by companies in the Czech Republic. *Economic Research-Ekonomika istraživanja*, 33(1), 46–67.
- Popesko, B., & Novák, P. (2011). Changes in the enterprise cost structure – Czech perspective. In *Finance and the performance of firms in science, education and practice* (pp. 375–380). Tomas Bata University in Zlin.
- Ramljak, B., & Rogošić, A. (2012). Strategic management accounting practices in Croatia. *The Journal of International Management Studies*, 7(2), 93–100.
- Registry of annual financial statements. [online] Available at: <<http://rgfi.fina.hr/IzvjestajiRGFI.web/main/home.jsp>> [Accessed 27 June 2021].
- Seal, W., Rohde, C., Garrison, R. H., & Noreen, E. W. (2015). *Management accounting* (5th ed.). McGraw-Hill Education.
- Tabitha, N., & Ogungbade, O. I. (2016). Cost accounting techniques adopted by manufacturing and service industry within the last decade. *International Journal of Advances in Management and Economics*, 5(1), 48–61.
- Weller, C., Kleer, R., & Piller, F. T. (2015). Economic implications of 3D printing: Market structure models in light of additive manufacturing revisited. *International Journal of Production Economics*, 164, 43–56.
- Weygandt, J. J., Kimmel, P. D., & Kieso, D. E. (2012). *Managerial accounting* (6th ed.). John Wiley & Sons, Inc.
- Wouters, M., Morales, S., Grollmuss, S., & Scheer, M. (2016). Methods for cost management during product development: A review and comparison of different literatures. *Advances in Management Accounting*, 26, 139–274.
- Yalcin, S. (2012). Adoption and benefits of management accounting practices: An inter-country comparison. *Accounting in Europe*, 9(1), 95–110.

Intellectual Capital and Corporate Risk Disclosure in the Nigerian Banking Sector



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Abstract The aim of this study is to look into the impact of intellectual capital on corporate risk disclosure in the Nigerian banking industry. A total of eight Nigerian stock exchange-listed banks make up the sample. Strategic and environmental risk disclosures are overshadowed by operational risk disclosures, according to the manual's content analysis. Banks also made it customary to share a lot of good news and nonmonetary information from the past rather than negative news and future and monetary risk information. This strategy has diminished the relevance of risk disclosure to a large number of stakeholders due to a lack of relevant risk information for decision-making. Moreover, when analyzing the variables affecting risk disclosure behavior, the regression results indicate that intellectual capital, bank size, institutional investors, and leverage are the main determinants of whether or not to increase risk disclosure. Furthermore, both internal and external capitals are critical components of intellectual capital in explaining risk disclosure in Nigerian banks. Liquidity, independent directors, and human capital, on the other hand, have little bearing on the risk information that banks must disclose.

Keywords Risk disclosure · Risk management disclosure · Intellectual capital · Content analysis · Emerging countries · Nigeria

1 Introduction

In recent decades, there has been an increased emphasis on improving the quality of corporate reporting. Corporate risk disclosure is one of the most important pieces of information that many stakeholders around the world require. Despite the regulators' and corporate managers' risk disclosure responses, several reports have concluded that current corporate risk disclosure practices are insufficient to satisfy stakeholder demands (Adamu, 2013). Risk information disclosure has become less relevant to

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capital providers due to the increased appearance of backward-looking information, good news, and a lack of proper quantitative risk disclosure (Rajab & Handley-Schachler, 2009). For example, investors prefer quantitative and forward-looking information to predict stock value, while corporate executives are wary of revealing such details to avoid incurring proprietary costs (ICAEW, 2011). The earlier risk disclosure proponents have stressed that legislation is the only way to compel corporate executives to disclose the appropriate risk information demanded by stakeholders. Meanwhile, although the implementation of the International Financial Reporting Standards (IFRS) 7 has had a greater effect on financial risk disclosure, the regulation has had little impact on nonfinancial risk information requested by stakeholders. Aside from regulatory requirements, some corporate executives are keen on communicating voluntary nonfinancial risk disclosure. Many academics were inspired by this passion to investigate the major factors that affect corporate executives' decision to disclose risk information.

The firm-specific characteristics that dictate the degree of risk information to communicate tend to be armored by business size, debt, profitability, liquidity, and life cycle. Due to the establishment of an effective risk management system in the company, the stakeholders (management and academics) are relentlessly exploring possible sources of risk. The existence of higher risk in the company is linked to greater risk disclosure, according to previous research (Elshandidy & Neri, 2015). We were inspired by this linearity to investigate the connection between corporate risk disclosure and intellectual capital. The role of intellectual capital in improving corporate efficiency has been widely recognized in recent decades. Since the dawn of the twenty-first century, the knowledge-based economy has become increasingly apparent, but the manner in which intellectual capital is calculated and published in corporate reporting is still inconclusive. Despite this, many academics recognize the connection between risk and intellectual capital reporting. Regardless of the fact that risk in a business can be quantified in a variety of ways, beta and leverage are two of the metrics that many finance researchers use to determine the degree of risk in a business. As a result, the studies (Vandemaele et al., 2009; Elshandidy & Neri, 2015; and Lajili et al., 2012) established a link between risk and corporate risk disclosure. On the other hand, other studies (Sallebrant et al., 2007; Bhatia & Mehrotra, 2016) discovered a statistically significant relationship between business beta and intellectual capital. However, it is glaring and obvious when engaging the previous studies that there is a gap in the literature when contending with the link between intellectual capital and risk disclosure. The issue has not given the scholarly attention it deserves. This presents a rationale to investigate the relationship between intellectual capital and risk disclosure. The contribution of this paper to the field of knowledge stalks on the quest to explore whether the risk information reported by firms does have a link to intellectual capital. The primary objective of the study is to investigate the relationship between intellectual capital and risk disclosure. To achieve the above objective, we conducted a survey using manual content analysis of various organizations in the Nigerian banking sector. The aim is to virtualize the firms' annual reports with the intent to extract risk information and the intellectual capital disclosure by banks in the Nigerian banking sector. Next, the remainder of the document is

organized in five parts. Section 2 presents the review of the contemporary literature. Section 3 is the methodology of the study. Section 4 presents the findings of the study. Section 5 concludes the study.

2 Literature Review

2.1 Risk Disclosure

Risk and uncertainty are two of the most contentious issues in global finance and accounting (Shou & Olney, 2020). Corporate executives have developed a culture of weighing the risks, uncertainties, and rewards associated with each investment proposal. Accepting or rejecting corporate strategic investments that have the potential to add considerable value to the business is largely determined by the availability of data and the risk assessment capabilities of corporate leaders. The management decision's effects must be documented in corporate reporting, in which a variety of stakeholders, including analysts and shareholders, can use to evaluate the firm's performance. Despite the relevance of corporate reporting to users, many stakeholders have deemed it less important in recent decades as a result of the large number of companies that have apparently collapsed in various countries. Due to the high number of corporate failures attributed to manager malfeasance, many users have thrown doubt on the auditor report's relevancy and the integrity of corporate reporting (Rajab & Handley-Schachler, 2009). Moreover, the 2007 global business financial crisis has eroded the little trust stakeholders have in corporate entities, since they perceive them to be extremely risky. These are the significant instances that have prompted shareholders and other stakeholders to seek risk information from firms. To re-establish investor confidence, regulators have proposed many corporate governance reforms aimed at increasing corporation transparency (Ivashkovskaya & Zinkevich, 2009). Besides, regulators in certain countries, such as the United States, require enterprises to disclose risks, while others, such as the United Kingdom and Germany, allow publicly traded companies to disclose risks on a voluntary basis. To bolster risk disclosure, the accounting standard setters issued IFRS 7, which compels firms to disclose risk associated with financial instruments (Yamani & Hussainey, 2021). This requirement aims to primarily improve the quality of corporate reporting and to re-establish trust with stakeholders. Without a doubt, the implementation of this new standard has resulted in an improvement in risk disclosure practices among organizations that have implemented IFRS. These regulators' responses had an immediate effect, persuading business executives to disclose risk information to stakeholders. However, the absence of a systematic structure for risk disclosure from the regulators has allowed corporate executives to report any type of risk information they desire. Managers used to take a different approach, either by providing less pertinent risk information or by concealing risk information entirely, depending on their writing style (Linsey and Lawrence). Numerous businesses worldwide have embraced risk disclosure practices, which have grown in popularity over the years

(Adamu, 2021). However, the increased visibility of historical risk information, positive news, and non-monetary risk disclosure in corporate reporting has lowered the quality of risk information published by businesses (Rajab & Handley-Schachler, 2009; Adamu, 2013; Adamu, 2021; Adamu & Ivashkovskaya, 2021). To report a highly qualitative risk disclosure, a business must prioritize the release of future-oriented risk information, both positive and negative (Adamu, 2021; Rajab & Handley-Schachler, 2009).

Meanwhile, many firms have developed a culture of prioritizing the release of historical risk information over future-oriented risk information. Numerous prior studies (Adamu, 2021) have revealed that the majority of risk information presented in corporate reporting is historical risk information rather than prospective risk information. Although the accounting standard does not require risk disclosure, the practice of providing historical data is compatible with accounting concepts and conventions. However, it is self-evident that future risk knowledge is more pertinent because it aids in earning forecasting. Aside from this issue, there is an argument about reporting too much non-monetary risk information. Although there have been numerous campaigns in recent years to increase nonfinancial information in order to supplement financial disclosure in corporate reporting, many stakeholders prefer increased visibility of quantitative risk information because it can be translated into monetary terms. Numerous studies (Adamu, 2013) indicate that the majority of risk information provided by firms is qualitative rather than quantitative. Quantitative risk information is more useful to users since it enables investors to evaluate a company's risk exposure and the financial ramifications of their investment, for example. Meanwhile, scholars argue that in order to have more insight about firm risk disclosure practices, researchers need to code sentences that discuss both good and bad news. This is congruent with the current concept of risk, which recognizes the occurrence of both positive and negative outcomes when defining risk (Linsley & Shrives, 2006). However, stakeholders' reliance on just disclosing negative information to enable them to evaluate the firm's exposure to risk is regarded as an antiquated approach to the idea of risk (Rajab & Handley-Schachler, 2009; Adamu, 2021). Companies have numerous potentials that must be considered when reviewing the companies' risk information. However, corporate executives have benefited from the modern concept of risk by disclosing more good news than bad news to avoid proprietary costs. According to earlier studies (Adamu, 2021; Rajab & Handley-Schachler, 2009), the majority of risk information published by corporations is positive rather than negative. To attain the requisite risk disclosure quality, the firm must cease concealing any type of risk information, even if it is bad news. Moreover, when it comes to risk disclosure theories, many academics say that agency theory, stakeholder theory, and institutional theory are all relevant, but their relevance relies on the variables used to formulate hypotheses. As a result, both the agency and stakeholder theories are pertinent to our research objectives.

2.2 Intellectual Capital

One of the most current subjects of debate in the global accounting and finance profession is intellectual capital. Its significance cannot be overstated, as it identified certain key assets that are not covered by conventional accounting systems. Since several scholars interpret the term in different ways, there is no universally accepted definition of intellectual capital (Kamukama et al., 2010). The words intangible assets, intangible values, and intellectual resource are only a few of the many terms used to describe intellectual capital (Abhayawansa et al., 2019). Many studies (Todericiu & Serban, 2015; Abhayawansa et al., 2019) divide intellectual capital into three types: human capital, relational capital, and structural capital. This classification allows researchers like Roslender and Fincham (2003) to identify intellectual capital as a method of measuring and reporting a variety of organizational human- and knowledge-based factors that contribute to long-term economic value creation. Similarly, Abhayawansa et al. (2019) define intellectual capital accounting as a technique for quantifying and reporting any aspect of intellectual capital, such as technical know-how. In addition, Sofian et al. (2004) define it as the acquisition of knowledge and skills, technical aptitude and knowledge, goal affiliations, and technological capabilities that, when combined, can improve a company's results. Furthermore, Edvinson and Malone (1997) broadened the definition to include any type of information that can be converted into corporate value. The most crucial component of intellectual capital is human resources. Human capital, according to Halim (2010), is a quota contributed by employees to value development procedures that include expert proficiency, social capacity, staff stimulus, and leadership capability. Another component of intellectual capital is relationship capital. Relational capital, according to Todericiu and Serban (2015), is any affiliation a company develops with outsiders, such as dealers, partners, customers, and buyers, and nurtures them based on the current environment. The third component of intellectual capital is structural capital. Muhammad and Ismail (2009) identify structural capital as policies, information systems, patent rights, competitive intelligence, formulations, and other factors resulting from the company's products or systems built over time.

2.3 Risk and Intellectual Capital: Prior Studies

Although stakeholders have acknowledged the existence of intellectual capital as one of the company's valuable assets in recent decades, the methodology for calculating it and presenting it in corporate reporting carries certain risk. It is still a point of contention among scholars since accounting standards do not specify how intellectual capital should be recorded in a comprehensive manner. As a result, uncertainty has increased, and certain risks associated with the mechanisms used by stakeholders to disclose intellectual capital have increased as well. The

anticipation of this inherent risk has prompted numerous academics to investigate the relationship between risk and intellectual capital reporting. For instance, Sallebrant et al. (2007) examine the relationship between risk and intellectual capital disclosure in publicly traded firms in Sweden. The researchers looked into the impact of systemic and idiosyncratic risk on the degree of intellectual capital transparency. They gathered information from the eight IT firms. The intellectual capital is assessed using a 44-parameter rating method. The findings indicate that idiosyncratic risk and intellectual capital transparency are negatively related, while business risk and intellectual capital transparency are positively related. However, the size of the company can play a role in the risk-transparency relationship. In a similar study, the impact of intellectual capital disclosure on bank risks was investigated by Bhatia and Mehrotra (2016). The degree of intellectual capital disclosure is calculated using an index, and its relationship with independent variables is investigated using the regression method. The findings show that banks do not have a consistent pattern of intellectual capital disclosure. Size, risk, human resources, and board composition all have an effect on intellectual capital disclosure. Moreover, in considering some of the intellectual capital component, the study conducted by Anifowose et al. (2017) investigated the factors that influence human capital disclosure among Nigeria's publicly traded companies. 442 annual reports from the years 2012 to 2014 were included in the analysis. Inherent risk has a substantial negative impact on human resources disclosure, according to the findings. In a separate report, Aziz and Hashim (2017) examine Islamic banks' intellectual capital disclosure practices in Malaysia. They took 16 firms as a sample and gathered data from 128 annual company reports from 2009 to 2016. The results indicate that the bank's risks and leverage have a substantial effect on intellectual capital disclosure.

2.4 Risk and Risk Disclosure: Prior Studies

Many businesses have failed due to their exposure to systematic and unsystematic risk. This unexpected organizational failure is one of the factors driving stakeholders to demand the company's risk profile be made public. Previous research has suggested that the level of risk in the company is one of the driving forces behind corporate risk disclosure. For example, Vandemaele et al. (2009) look at risk disclosure and the company's risk level. For the accounting year 2006, they chose a sample of companies listed on Euronext. The findings reveal a connection between risk (beta) and risk disclosure. In the United States, Lajili et al. (2012) investigated the relationship between firm risk and corporate risk disclosure. They looked at annual reports from S&P 500 listed firms from 2006 to 2009. The findings show that firm risk and risk disclosure have an inverse relationship. In a similar study, Elshandidy and Neri (2015) investigated the connection between corporate risk disclosure and firm risk. They looked at annual reports from UK and Italian publicly traded firms from 2005 to 2010. The findings show that there is an inverse association between firm risk and risk disclosure requirements.

2.5 *Intellectual Capital and Risk Disclosure*

Despite the fact that the purpose of this study is to examine the relationship between corporate risk disclosure and intellectual capital, there are no previous studies that have examined this relationship to our knowledge. However, two distinct investigations have been conducted. The initial studies focused on risk and risk disclosure by corporations. The second group of studies examined the relationship between risk and intellectual capital. One of the factors that prompted us to examine our study question was the fact that both sets of studies used beta to quantify the level of risk in an organization. Additionally, earlier risk disclosure research has indicated that content analysis is the most effective way of determining the level of risk information disclosed by organizations, particularly if the researcher counts the number of relevant risk sentences. As a result of our prior research (Adamu, 2013), we identified various risk disclosure phrases that were related to the items included in the intellectual capital disclosure index. This was one of the first motivations for our investigation into the relationship between risk disclosure and intellectual capital. In light of studies (Vandemaele et al., 2009; Elshandidy & Neri, 2015; Lajili et al., 2012) that show a link between risk and corporate risk disclosure and other studies (Sallebrant et al., 2007; Bhatia & Mehrotra, 2016) that show a link between risk and intellectual capital, the following research question emerges: Is it true that a company with more intellectual resources discloses more risk information? To our knowledge, no previous research has looked into the connection between intellectual capital and corporate risk disclosure. We predict this association, perhaps more so in light of the findings and reasoning discussed above. Additionally, it would be beneficial to determine the extent to which each component of intellectual capital affects bank risk disclosure behavior in Nigeria. Consequently, the following hypotheses are advanced:

H1: Intellectual capital and risk disclosure are positively associated.

H2: Human resources and risk disclosure are positively related.

H3: External capital and risk disclosure are positively related.

H4: Internal capital and risk disclosure are positively connected.

We must quantify our intellectual capital and its components in order to evaluate the hypotheses. Measurement of intellectual capital is a subject that many academics debate. However, the majority of intellectual capital disclosure studies emphasize the use of an intellectual capital disclosure index (IC disclosure index). There is currently no index that is regarded as the most appropriate by research. As a result, most researchers create an IC disclosure index based on knowledge gleaned from the literature as well as a protocol that best suits their research goals. The IC disclosure index, adapted from a previous study (Bhatia & Mehrotra, 2016), is used in this study to provide an empirical basis for calculating intellectual capital in annual report materials. The overall IC disclosure index has 44 items and is made up of 3 partial subindexes: human capital, internal capital, and external capital. Following that, the contents of each partial index are shown:

- **Human capital:** Human capital refers to the expertise and abilities that exist within a company's employees and are used to create value. The disclosure includes number of staff, employee education/training, employee know-how, work-related knowledge, expertise, professional qualification, academic qualification, age and gender, geographical distribution, employee succession path training, safety and health at work, knowledge sharing, employee retention, employee engagement, motivation, employee satisfaction survey, employee communication, and entrepreneurial spirit. This partial index takes into account 18 elements and accounts for 41% of the overall index (IC).
- **Internal capital/structural capital:** This partial index provides information about a company's structural capital, such as patents, copyrights, trademarks, corporate culture, corporate philosophy, leadership, information system technology, financial relations, innovation, and research and development. These ten items account for 23% of the overall IC.
- **External capital/relational capital:** Any affiliations a firm develops with outsiders are referred to as relational capital. Disclosures regarding business collaboration, joint ventures, favorable contracts, brands, brand recognition, brand development, goodwill, distribution channels, market share, and information about customers (type/number), customer service, customer loyalty, customer satisfaction, customer feedback, customer relations, and customer knowledge are all proxies for relational capital. As a result, this partial index has 16 items and a weight of 36% in the IC.

3 Methodology

3.1 Sample and Data Collection

Our initial sample consists of the entire 12 banks that are publicly listed on the Nigerian stock exchanges. Despite this, we only considered eight banks to be relevant for the study, as any bank that was found with incomplete data was dropped. We look at 5 years of annual reports, from 2014 to 2018. The data related to risk disclosure and that of intellectual capital were obtained from 40 annual reports downloaded from the banks' websites, whereas other control variable data was obtained from the Bloomberg database. Furthermore, the study uses manual content analysis on all annual report narratives, including notes to the account, which is consistent with previous studies.

3.2 Risk Disclosure Measurement

The amount of risk sentences reported in annual reports is used to calculate risk disclosure, which is a dependent variable. To code the required sentence, we use the

risk disclosure checklist that has been used in previous studies (Linsley & Shrides, 2006). The element of subjectivity is commonly believed to appear in content analysis, particularly when the “sentence-based approach” is chosen during the coding process. However, in order to reduce the amount of subjectivity in our coding procedure, we used the decision rule methodology used in previous studies (Adamu, 2021; Rajab; Adamu, 2013; Linsley & Shrides, 2006). Furthermore, risk disclosure is divided into three groups based on the checklist: strategic, environmental, and operational. To obtain a clearer understanding, the disclosure was classified as past or future information, monetary and non-monetary information, and good or bad information, and this could assist stakeholders in deducing appropriate risk information for informed decisions.

3.3 *Intellectual Capital Measurement*

We must quantify our intellectual capital and its components in order to evaluate the hypotheses. Measurement of intellectual capital is a subject that many academics debate. However, the majority of intellectual capital disclosure studies emphasize the use of an intellectual capital disclosure index (IC disclosure index). There is currently no index that is regarded as the most appropriate by research. As a result, most researchers create an IC disclosure index based on knowledge gleaned from the literature as well as a protocol that best suits their research goals. The IC disclosure index, adapted from a previous study (Bhatia & Mehrotra, 2016), is used in this study to provide an empirical basis for calculating intellectual capital in annual report materials. The overall IC disclosure index has 44 items and is made up of 3 partial subindexes: human capital, internal capital, and external capital. Following that, the contents of each partial index are shown:

- **Human capital:** Human capital refers to the expertise and abilities that exist within a company’s employees and are used to create value. The disclosure includes number of staff, employee education/training, employee know-how, work-related knowledge, expertise, professional qualification, academic qualification, age and gender, geographical distribution, employee succession path training, safety and health at work, knowledge sharing, employee retention, employee engagement, motivation, employee satisfaction survey, employee communication, and entrepreneurial spirit. This partial index takes into account 18 elements and accounts for 41% of the overall index (IC).
- **Internal capital/structural capital:** This partial index provides information about a company’s structural capital, such as patents, copyrights, trademarks, corporate culture, corporate philosophy, leadership, information system technology, financial relations, innovation, and research and development. These ten items account for 23% of the overall IC.
- **External capital/relational capital:** Any affiliations a firm develops with outsiders are referred to as relational capital. Disclosures regarding business collaboration,

Table 1 Variable description and measurement

| Variables | Measurement | Source |
|-------------------------|--|----------------|
| Risk disclosure | Log of total number of risk sentences | Annual reports |
| Intellectual capital | Presence of items in the IC disclosure index | Annual reports |
| Liquidity | Log of free cash flow | Bloomberg |
| Institutional investors | Proportion of shares held by institutional investors | Bloomberg |
| Bank size | Log of total asset | Bloomberg |
| Independent director | Proportion of independent directors on the board | Bloomberg |
| Leverage | Debt-to-equity ratio | Bloomberg |

Source: Author’s compilation, 2021

joint ventures, favorable contracts, brands, brand recognition, brand development, goodwill, distribution channels, market share, and information about customers (type/number), customer service, customer loyalty, customer satisfaction, customer feedback, customer relations, and customer knowledge are all proxies for relational capital. As a result, this partial index has 16 items and a weight of 36% in the IC.

Consistent with Rivera-arrubla et al. (2017), each item of the partial index is checked for each bank in the sample. As a result, a score is assigned to each object, which is treated as a dichotomous variable. The partial IC disclosure index and the complete IC disclosure index may both have values between 1 and 10. The partial index (PI) and the IC are calculated using the following formula:

$$PI = \frac{\text{Score obtained in the subsub – index}}{\text{Maximum achievable Score}} \times 10$$

$$IC = \sum_{n=1}^n (PI_i \times P_i);$$

where:

P_i = Proportion of partial index score “ PI_i ” on the total index.

In addition, Table 1 presents the measurement of our variables.

The Model

We created two models to test the relationship between our risk disclosure and its determinant following an augmented model in Al-maghzom et al. (2016). The overall intellectual capital (IC), as defined in Sect. 2, and other control variables (size, leverage, liquidity, institutional investors, and independent directors) are used as explanatory factors in the first model. In the second model, the components of intellectual capital described in Sect. 2, as well as other control variables (size, leverage, liquidity, institutional investors, and independent directors), are called explanatory factors. In the end, to evaluate the relationship between the dependent and independent variables, we use the regression approach. The following are the models:

$$\begin{aligned}
 \text{Risk Disclosure}_{it} = & \beta_{1it} + \beta_{2it}(\text{Intellectual Capital}) + \beta_{3it}(\text{Size}) \\
 & + \beta_{4it}(\text{Leverage}) + \beta_{5it}(\text{liquidity}) \\
 & + \beta_{6it}(\text{Institutional Investors}) \\
 & + \beta_{7it}(\text{Independent Director}) + \alpha_{it} + e_{it}
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 \text{Risk Disclosure}_{it} = & \beta_{1it} + \beta_{2it}(\text{human capital}) + \beta_{3it}(\text{external capital}) \\
 & + \beta_{4it}(\text{internal capital}) + \beta_{5it}(\text{size}) + \beta_{6it}(\text{leverage}) \\
 & + \beta_{7it}(\text{liquidity}) + \beta_{8it}(\text{institutional investors}) \\
 & + \beta_{9it}(\text{independent director}) + \alpha_{it} + e_{it}
 \end{aligned} \tag{2}$$

where the dependent variable is a risk disclosure score following an amplified model of Al-maghzom et al. (2016) and the independent variables are intellectual capital, bank size, leverage, liquidity, institutional investors, independent directors, human capital, external capital, and internal capital, while *i* represents a firm-specific effects, *t* the year effect, and *e* the random error term.

4 Results and Discussion

This section summarizes and discusses the descriptive statistics, diagnostic tests, and regression findings. The summary statistics indicate the total number of observations included in the analysis, the mean, the standard deviation, and the minimum and maximum number of risks disclosed by banks across all checklist categories. The mean, standard deviation, minimum, and maximum risk disclosures are 7.796, 0.276, 7.096, and 8.16, respectively, according to the results presented in Table 2. For the independent variables, the means are 0.796, 0.104, 0.321, and 0.373 for intellectual, internal, external, and human capital, respectively. Additionally, bank size, leverage, institutional investors, liquidity, and an independent director serve as

Table 2 Descriptive statistics

| Variable | Obs. | Mean | Std. Dev. | Min | Max |
|-------------------------|------|--------|-----------|-------|--------|
| Risk disclosure | 40 | 7.796 | 0.276 | 7.096 | 8.16 |
| Intellectual capital | 40 | 0.796 | 0.067 | 0.61 | 0.89 |
| Internal capital | 40 | 0.104 | 0.046 | 0 | 0.18 |
| External capital | 40 | 0.321 | 0.055 | 0.16 | 0.36 |
| Human capital | 40 | 0.373 | 0.042 | 0.27 | 0.43 |
| Bank size | 40 | 8.89 | 0.859 | 6.983 | 10.096 |
| Leverage | 40 | 7.441 | 1.963 | 4.47 | 13.17 |
| Institutional investors | 40 | 27.239 | 29.322 | 0.94 | 89.32 |
| Liquidity | 40 | 11.392 | 2.382 | 6.802 | 16.015 |
| Independent director | 34 | 20.498 | 10.295 | 7.14 | 53.85 |

Source: Author’s computation

Table 3 Result of the content analysis

| Variable | Obs. | Mean | Std. dev. | Min | Max |
|-----------------|------|------|-----------|------|------|
| Risk disclosure | 40 | 2516 | 609 | 1207 | 3499 |
| Environmental | 40 | 932 | 270 | 489 | 1498 |
| Operational | 40 | 1176 | 335 | 420 | 1860 |
| Strategic | 40 | 415 | 104 | 213 | 671 |
| Quantitative | 40 | 270 | 77 | 140 | 458 |
| Qualitative | 40 | 2253 | 553 | 1029 | 3201 |
| Good news | 40 | 894 | 238 | 490 | 1380 |
| Bad news | 40 | 311 | 89 | 129 | 467 |
| Neutral news | 40 | 1318 | 358 | 541 | 1902 |
| Future info | 40 | 415 | 104 | 213 | 671 |
| Past info | 40 | 1094 | 332 | 514 | 1766 |
| Non-time info | 40 | 1015 | 258 | 421 | 1456 |

Source: Author's computation

our control variables, with mean values of 8.89, 7.441, 27.24, 11.39, and 20.49, respectively.

Based on the protocols outlined in the methodology, the content analysis findings are presented. The summary statistics show the total number of observations included in the analysis, the mean, standard deviation, minimum, and maximum number of risks disclosed by banks across all categories in the checklist. Table 3 summarizes the risk categories revealed by banks. The mean, standard deviation, minimum, and maximum cumulative risk disclosure numbers are 2516, 609, 1207, and 3499, respectively. To gain a better understanding of the risk disclosure conduct among Nigeria's publicly traded banks, the disclosure is divided into four categories. The first category divides risk disclosure into three categories: environmental, operational, and strategic. Both environmental (932) and strategic (415) risk details are significantly outperformed by the average risk disclosure under operational risk disclosure (1176). Despite the fact that IFRS 7 and other macroeconomic issues must be coded as environmental risk, their frequency is lower than that of operational risk disclosure. But as the general statement about the internal control structure, corporate governance, and risk concepts was designed by the checklist to disclose them in the operational risk disclosure, this outcome is highly anticipated. This result is in line with previous research (Rajab & Handley-Schachler, 2009; Lajili et al. (2012) that found operational risk disclosure to be the most common type of risk information unveiled by businesses.

In the meantime, the second group breaks down risk disclosure into quantitative (monetary) and qualitative (non-monetary) risk information. Table 2 reveals that monetary risk information accounted for approximately 270 disclosures, while non-monetary risk information accounted for 2253 disclosures. Since many stakeholders, such as analysts, consider quantitative risk information to be more relevant in stock valuation and earnings prediction, the importance of risk disclosure for informed decision-making has been harmed. Our findings back up earlier empirical studies (Adamu, 2013) that found monetary risk data is rarely disclosed. The risk

disclosure was also broken down into three categories, good news, bad news, and neutral risk information, according to the checklist. The readers will be able to determine the status of their investment after reading this review. Table 2 reveals that the ratings for good news, bad news, and neutral risk details are approximately 894, 311, and 1318, respectively. It seems that corporate executives are willing to share more good news, probably in order to please their shareholders. The occurrence of good events has been identified as a risk in the current approach to risk. This will give investors and other stakeholders a hint as to how to determine the market prospect that could add value to the company. Nonetheless, several stakeholders are overly cautious, preferring to focus on bad news that links risk to the incidence of bad events. Despite this, the increased visibility of neutral information and good news has raised concerns about the standard of risk disclosure practices among Nigerian banks. This result is in line with previous research (Adamu, 2013), which showed that bad news is shared less frequently.

In addition, the time period in which the risk information is revealed was considered in group four of the checklist. This process could give readers of corporate reporting more avenue to understand if the risk-related information is from the past (backward-looking) or the future (forward-looking) or has no clear period (non-time) to which the disclosure can be linked. Table 2 depicts 415 potential (forward-looking) risk information, 1094 backward-looking data, and 1015 non-time risk information. The predominance of non-time and past risk information raises serious concerns regarding risk information disclosure. Investors and other stakeholders can use forward-looking information to estimate and accumulate the magnitude of risks as part of their decision-making process. Nonetheless, the higher appearances of non-time and past in our results are consistent with the findings of previous studies (Adamu, 2013).

Additionally, prior to performing multivariate analysis, we look for possible correlations between our variables. Table 4 illustrates the Pearson correlation coefficients. According to the correlation findings, risk disclosure is positively related to bank size (0.787) and liquidity (0.416). External capital (0.74) and human capital (0.660) are positively associated with intellectual capital. Furthermore, internal capital is inversely related to both external and human capital (i.e., -0.537 and -0.457 , respectively). Additionally, external capital is positively correlated with human capital (0.43), whereas liquidity is positively correlated with bank size, and independent director is correlated with liquidity in a positive manner. Additionally, the number of independent directors is associated with the buy side (0.492) and institutional investors. On the other hand, the remaining variables are statistically insignificant. Meanwhile, when considering the multicollinearity assumption, our explanatory variables tend to be all exogenous, with a correlation coefficient of less than 0.8.

Moreover, the impact of intellectual capital on total risk disclosure was investigated using random effect regression analysis. After regressing total risk disclosure (dependent variable) against intellectual capital and other control variables (size, liquidity, leverage, institutional investors, and independent director), the regression outcome is presented in Table 5. At a 1% level of significance, the overall P -value of

Table 4 Correlations

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|------------------|--------|--------|---------|--------|-------|--------|--------|--------|-------|-------|
| (1) RD | 1.000 | | | | | | | | | |
| (2) Intel cap | -0.028 | 1.000 | | | | | | | | |
| (3) internal cap | 0.216 | -0.045 | 1.000 | | | | | | | |
| (4) Ext cap | -0.050 | 0.740* | -0.537* | 1.000 | | | | | | |
| (5) human cap | -0.227 | 0.660* | -0.45* | 0.433* | 1.000 | | | | | |
| (6) Bank size | 0.787* | -0.220 | 0.094 | -0.176 | -0.23 | 1.000 | | | | |
| (7) leverage | -0.129 | -0.162 | 0.022 | -0.198 | -0.02 | 0.291 | 1.000 | | | |
| (8) Inst Inv | -0.214 | -0.034 | -0.178 | 0.084 | 0.037 | 0.162 | 0.054 | 1.000 | | |
| (9) liquidity | 0.416* | -0.246 | -0.019 | -0.246 | -0.06 | 0.603* | 0.119 | 0.074 | 1.000 | |
| (10) Ind Dir | 0.131 | -0.221 | 0.016 | -0.156 | -0.16 | 0.492* | 0.621* | 0.484* | 0.317 | 1.000 |

Source: Authors' computation * $p < 0.05$. Note: RD risk disclosure, Intel Cap intellectual capital, Ext Cap external capital, Inst Inv institutional investors, Ind Dir independent director

Table 5 Random effect

| Risk disclosure | Coefficient | Std. Err. | <i>T</i> | <i>p</i> -value |
|---------------------------|-------------|-----------|----------|-----------------|
| Intellectual capital | 0.332** | 0.137 | 2.41 | 0.016 |
| Bank size | 0.143* | 0.073 | 1.96 | 0.05 |
| Leverage | -0.02** | 0.009 | -2.12 | 0.034 |
| Institutional investor | -0.002 | 0.002 | -1.49 | 0.136 |
| Cash flow | -0.003 | 0.004 | -0.68 | 0.499 |
| Independent director | 0.000 | 0.001 | -0.21 | 0.831 |
| Constant | 6.508*** | 0.732 | 8.89 | 0.000 |
| Observations | 34 | | | |
| Overall <i>R</i> -squared | 0.868 | | | |
| <i>R</i> -squared between | 0.870 | | | |
| <i>R</i> -squared within | 0.222 | | | |
| Chi-square | 63.727 | | | |
| Prob > chi2 | 0.000 | | | |

Source: Authors' compilation *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6 Fixed effect regression results

| Risk disclosure | Coefficient | Std. Err. | <i>t</i> | <i>p</i> -value |
|-------------------------|-------------|-----------|----------|-----------------|
| Internal capital | 0.482** | 0.191 | 2.52 | 0.04 |
| External capital | 0.345** | 0.145 | 2.39 | 0.048 |
| Human capital | 0.304 | 0.237 | 1.28 | 0.24 |
| Size | 0.066 | 0.092 | 0.72 | 0.493 |
| Leverage | -0.018** | 0.006 | -3.09 | 0.018 |
| Institutional investors | -0.004 | 0.004 | -0.88 | 0.408 |
| Cash flow | 0.00 | 0.005 | 0.02 | 0.982 |
| Independent director | -0.001 | 0.001 | -0.78 | 0.463 |
| Constant | 7.18*** | 0.92 | 7.80 | 0.000 |
| <i>R</i> -squared | 0.283 | | | |
| Observations | 34 | | | |

Source: Authors' computation *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

the model (0.000) is statistically important. Furthermore, the Chi-square value is 63.727, and the overall *R*-squared value is 0.868. The explanatory factors used in the model have clarified the variance in total risk disclosure by 86.8% based on the *R*-squared value. Meanwhile, intellectual capital displays a positive coefficient that is statistically significant at the 5% level. This means that if a bank has a lot of intellectual resources, it would be more likely to share more risk information. This argument lends credence to hypothesis 1, which states that risk disclosure is affected by intellectual capital.

Similarly, we used fixed effect regression analysis to investigate the effect of intellectual capital elements (human capital, internal capital, and external capital) on total risk disclosure. Table 6 shows the regression outcome after regressing total risk disclosure (dependent variable) against human resources, internal capital, external

capital, and other control variables (size, liquidity, leverage, institutional investors, and independent director). The overall *P*-value of the model (0.000) is statistically significant at a 1% level of significance. Furthermore, the *R*-squared value is 0.283. According to the *R*-squared value, the explanatory factors used in the model explained the variance in total risk disclosure by 28.3%. Internal capital, on the other hand, is significant at 5%. This means that if a bank has a large number of internal resources, it is more likely to report risk information. This statement supports hypothesis 4, which notes that internal capital affects risk disclosure. Meanwhile, at the 5% level, external capital is also significant. This suggests that a bank with a large amount of external capital is more likely to disclose risk details. This statement supports hypothesis 3, which notes that external/relational capital affects risk disclosure. However, the human capital is not significant. These findings indicate that the amount of risk information published is not determined by human resources. As a consequence, hypothesis 2, risk disclosure and human resources are positively associated, was ruled out.

5 Conclusion

The research examines risk disclosure practices in the Nigerian banking industry, as well as the effect of intellectual capital on risk disclosure levels. Banks are willing to share risk-related information, according to the report. Nevertheless, when it comes to the factors affecting risk disclosure in the Nigerian banking sector, it appears as though larger banks and those with a higher degree of intellectual capital tend to increase their risk disclosure. However, the most significant intellectual capital factors affecting risk disclosure are structural and relational capital, as their presence tends to encourage banks to publish more risk information. Nonetheless, human resources, on the other hand, are not among the variables that decide the amount of risk that banks must report. Moreover, the firm with increasing level of leverage tends to minimize risk disclosure practice. Nonetheless, other control variables such as liquidity, independent directors, and institution investors have no effect on the corporate risk disclosure. Besides, in terms of risk disclosure categories, environmental and strategic risk information is disclosed less often than operational risk information. Investors and other stakeholders want more clarity on monetary, bad news, and forward-looking information, which banks don't always provide. The value of risk information disclosed to annual report users has been diminished by the increasing disclosure of backward-looking information, good news, nonmonetary information, risk definitions, and general statements. Many stakeholders' needs are not being met by current practice, especially in their decision-making processes. Furthermore, the lack of a robust risk disclosure system in Nigeria has led to banks reporting their risk in a variety of ways. The findings of this study have implications for investors, regulators, banks, and other stakeholders in emerging economies. The risk disclosure coding method is one of the major flaws found in this study. Subjectivity is unavoidable when coding risk disclosure sentences in annual report

narratives. The process we described in the methodology for implementing Linsley and Lawrence's (2006) decision criteria, on the other hand, reduced the bias factor. The second drawback is that the Bloomberg data stream lacks data on the variables of interest; as a result, we had to minimize our sample size.

References

- Abhayawansa, S., Guthrie, J., & Bernardi, C. (2019). Intellectual capital accounting in the age of integrated reporting: A commentary. *Journal of Intellectual Capital*. <https://doi.org/10.1108/JIC-12-2018-0222>
- Adamu, M. U. (2013). Risk reporting: A study of risk disclosures in the annual reports of listed companies in Nigeria. *Research Journal of Finance and Accounting*, 4(16), 140–148. Retrieved from www.iiste.org
- Adamu, M. U. (2021). Organisational characteristics, corporate governance and corporate risk disclosure: An overview. *Journal of Corporate Finance Research*, 15(1), 78–92. <https://doi.org/10.17323/j.jcfr.2073-0438.15.1.2021.77-92>
- Adamu, M. U., & Ivashkovskaya, I. (2021). Corporate governance and risk disclosure in emerging countries. *Journal of Corporate Finance Research/Corporate Finance*, 15(4), 5–17. <https://doi.org/10.17323/j.jcfr.2073-0438.15.4.2021.5-17>
- Al-maghzom, A., Hussainey, K., & Aly, D. (2016). Corporate governance and risk disclosure: Evidence from Saudi Arabia. *Corporate Ownership & Control*, 13(2), 145–166. <https://doi.org/10.22495/cocv13i2p14>
- Anifowose, M., Majdi, H., Rashid, A., & Annuar, H. A. (2017). Determinant of human capital disclosure in the post IFRS regime: An examination of listed firms in Nigeria. *Malaysian Accounting Review*, 16(2), 1–20.
- Aziz, M. R. A., & Hashim, A. A. M. (2017). Intellectual capital (IC) determinants : Impact on productivity of Islamic banks. *Binus Business Review*, 8(3), 189–197. <https://doi.org/10.21512/bbr.v8i3.3741>
- Bhatia, M., & Mehrotra, V. (2016). Determinants of intellectual capital disclosure: Evidence from Indian banking sector. *South Asian Journal of Management*, 23(1), 89–111. <https://doi.org/10.1108/00251740910938894>
- Edvinson, L., & Malone, M. S. (1997). *Intellectual capital: Realizing your Company's true value by finding its hidden brainpower*. Harper Business.
- Elshandidy, T., & Neri, L. (2015). Corporate governance, risk disclosure practices, and market liquidity: Comparative evidence from the UK and Italy. *Corporate Governance An International Review*, 23(4), 331–356. <https://doi.org/10.1111/corg.12095>
- Halim, S. (2010). Statistical analysis on the intellectual capital statement. *Journal of Intellectual Capital*, 11(1), 61–73. <https://doi.org/10.1108/14691931011013334>
- ICAEW. (2011). *Reporting business risks: Meeting expectations*. Retrieved from icaew.com/frf
- Ivashkovskaya, I., & Zinkevich, N. (2009). The relationship between corporate governance and company performance in concentrated ownership systems: The case of Germany. *Korporativnye finansy = Journal of Corporate Finance Research*, 3(4), 34–56. <https://doi.org/10.17323/j.jcfr.2073-0438.3.4.2009.34-56>
- Kamukama, N., Ahiauzu, A., & Ntayi, J. M. (2010). Intellectual capital and performance : Testing interaction effects. *Journal of Intellectual Capital*, 11(4), 554–574. <https://doi.org/10.1108/14691931011085687>
- Lajili, K., Dobler, M., & Zéghal, D. (2012). An empirical investigation of business and operational risk disclosures. *International Journal of Management and Business*, 3, 53–71.

- Linsley, P. M., & Lawrence, M. J. (2006). Risk reporting by the largest UK companies : Readability and lack of obfuscation. *Accounting, Auditing & Accountability Journal*, 20(4), 620–627. <https://doi.org/10.1108/09513570710762601>
- Linsley, P. M., & Shriver, P. J. (2006). Risk reporting: A study of risk disclosures in the annual reports of UK companies. *British Accounting Review*, 38(4), 387–404. <https://doi.org/10.1016/j.bar.2006.05.002>
- Muhammad, N. M. N., & Ismail, M. K. A. (2009). Intellectual capital efficiency and firm ' s performance : Study on Malaysian financial sectors. *International Journal of Economics and Finance*, 1(2), 206–212. <https://doi.org/10.5539/ijef.v1n2p206>
- Rajab, B., & Handley-Schachler, M. (2009). Corporate risk disclosure by UK firms : Trends and determinants. *World Review of Entrepreneurship Management and Sustainable Development*, 5(3), 224–243. <https://doi.org/10.1504/WREMSD.2009.026801>
- Rivera-arrubla, Y. A., Zorio-grima, A., & García-benau, M. A. (2017). Integrated reports : Disclosure level and explanatory factors. *Social Responsibility Journal*, 13(1), 155–176. <https://doi.org/10.1108/SRJ-02-2016-0033>
- Roslender, R., & Fincham, R. (2003). Intellectual capital as management fashion: A review and critique. *European Accounting Review*, 12, 781–795.
- Sallebrant, T., Hansen, J., Bontis, N., & Hofman-Bang, P. (2007). Managing risk with intellectual capital Ctatements. *Management Decision*, 4(9), 1470–1483. <https://doi.org/10.1108/00251740710828717>
- Shou, Y., & Olney, J. (2020). Attitudes toward risk and uncertainty: The role of subjective knowledge and affect. *Journal of Behavioural Decision Making*, 34, 393–404. <https://doi.org/10.1002/bdm.2217>
- Sofian, S., Tayles, M. E., & Pike, R. H. (2004). Intellectual capital: An evolutionary change in management accounting practices. In *Fourth Asia Pacific Interdisciplinary Research in Accounting Conference* (pp. 1–11).
- Todericiu, R., & Serban, A., (2015). Intellectual capital and its relationship with universities. In *Procedia Economics and Finance; 22nd International Economic Conference – IECS 2015 “Economic Prospects in the Context of Growing Global and Regional Interdependencies”* (Vol. 27, pp. 713–717). [https://doi.org/10.1016/S2212-5671\(15\)01052-7](https://doi.org/10.1016/S2212-5671(15)01052-7).
- Vandemaële, S., Vergauwen, P., & Michiels, A. (2009). *Management risk reporting practices and their determinants*.
- Yamani, A., & Hussainey, K. (2021). Compliance with IFRS 7 by financial institutions: Evidence from GCC. *International Journal of Disclosure Governance*, 18, 42–57. <https://doi.org/10.1057/s41310-020-00089-8>

Bibliometric Analysis of Green Bonds



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Abstract The explosive growth in the number of green bond publications in recent years is attributed to the introduction of the environmental, social, and corporate governance (ESG) factors (ESG), promotion of the Sustainable Development Goals (SDGs), and global calls for a transition to a low-carbon economy. However, there is still a lack of a comprehensive and systematic research tracing the evolution of this field. Hence, the objective of this study is to explore the research trends in the scope of green bonds over the period of 1996 to March 12, 2021. We conducted a bibliometric analysis on data retrieved from Scopus database entailing contributions of 324 authors of 297 affiliations from 56 countries in the publication of 149 peer-reviewed articles in 85 journals. We employed various software and applications for the analysis of co-occurrence, citation, co-citation, bibliographic coupling, and co-authorship, which led to the identification of the most influential articles, authors, sources, institutions, and countries among others. The findings of our analysis underpin the interdisciplinarity facet of green bond publications across sources of different concentrations such as energy and environment, sustainability, finance, and economics among others. Our findings revealed a significant growth of green bond publications in the last 5 years with a strong contribution from countries such as China, the USA, the UK, and Australia among others.

Keywords Bibliometric analysis · Green bonds · Green finance · Sustainable finance

1 Introduction

Climate action failure has been consistently ranked by the World Economic Forum in the top five risks most likely to occur over the course of the next 10 years. In the World Economic Forum report (2021), climate action failure was only second to

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extreme weather and infectious diseases in terms of likelihood and its catastrophic impact, respectively. As the projected consequences of climate change and climate action failure come under greater scrutiny, the international community was obliged to develop innovative initiatives for climate change mitigation, one of which was introducing green bonds in 2007 (Blimpo & Cosgrove-Davies, 2019). The concept of green bonds was initiated by the World Bank Treasury in collaboration with Skandinaviska Enskilda Banken AB as part of the World Bank Treasury strategic program for development and climate change (Aassouli et al., 2018) to develop a debt security that can be issued to raise capital specifically to support climate-related or environmental projects (Reichelt & Keenan, 2017).

Given the unappealing nature of environmental projects to investors in terms of risk and return (Yildiz, 2014) coupled with the scarcity and insufficient sources of public finance (Engelken et al., 2016), green bonds can be a deliberate structuring of financial instruments to catalyze private capital. Green bonds have the potential of improving financial performance of a firm via decreasing debt-related financial costs and enhancing firm's environmental performance (Curley, 2014; Flammer, 2018). In return, investors ranging from impactful investors to profit-seeking investors will be intrigued to such investments, given the less volatility of green bonds and its integration of the fiduciary element of fixed income instruments with an awareness of mitigation and adaptation to the climate (Aassouli et al., 2018). For this reason, green bond market has experienced substantial exponential growth since its first issuance of USD1.5 billion in 2007 to shot pasting the \$1 trillion mark in September in 2020 (Jones, 2021). Perhaps a case in point is the European Central Bank (ECB) initiative of investing in euro denominated bonds back in January of 2021. This initiative demonstrates European Union (EU) member states' commitment to promote environmental objectives and combat climate change (European Central Bank, 2021).

The aim of this study is twofold. First, it attempts to investigate the existence of corresponding studies in academia that demonstrate the evolution of green bonds. Second, it purports to explore the evolution of these studies and their magnitude from a bibliometric analysis perspective by assessing the most influential authors, sources, organizations, countries, and dominant interrelationship patterns among others. The rest of this paper is structured as follows: Section 2 demonstrates data selection process and the methodology used in our study. Section 3 presents the findings and discussion of bibliometric analysis. Lastly, a summary of the findings and limitations of the research paper is provided in Sect. 4.

2 Data and Methodology

This paper performs a bibliometric analysis to observe the distribution of publications on green bonds. Introduced by Pritchard (1969), bibliometric analysis is a statistical-based qualitative analysis of scientific activities within a given area of research to assess the influence of publications, authors, organizations, and countries

overtime (Caviggioli & Ughetto, 2019; Small, 1973). Bibliometric analysis delineates an overview landscape of academic literature in a field of research and facilitates pinpointing new directions for future research (Donthu et al., 2021). The focus of this paper pertains to temporal evolution of green bonds from a multidisciplinary perspective. Due to the quality and vast number of sources of data referring to citations and summaries of peer-reviewed research literature (Aysan et al. 2021; Van Raan, 2014), Scopus database was selected for our study. A systematic search was performed on Scopus database on March 12, 2021, followed by data analysis process using MS Excel, Biblioshiny web page, and VOSviewer software to construct and visualize co-occurrence analysis, citation, co-citation, bibliographic coupling, and co-authorship (van Eck & Waltman, 2017).

2.1 Sample Selection

Our sample selection process started with pinpointing keywords based on a preliminary review of the available literature to incorporate all aspects of green bonds. Using Google Scholar and relatedwords.org, we identified viable variations of terms used in the extant literature of green bonds. We used keywords “green bonds,” “sustainable bonds,” “climate bonds,” “ecological bonds,” “solar bonds,” “green sukuk,” “greenium,” and “green premium” separated by the boolean OR operator as the search query in the Scopus database and contingent to manifesting these terms in the titles, abstracts, and keywords of the articles. The initial search yielded 301 results.

2.2 Inclusion Criteria

Following the initial search results, we applied a document-type filter limiting the search exclusively to articles. As the result, 90 irrelevant documents were excluded comprising of reviews, notes, short surveys, conference papers, book chapters, and books. The next step was to screen the titles, abstracts, and keywords of all acceptable articles to assert the relevance of selected articles to the scope of the present study. 62 documents were discarded as they were irrelevant to the study objective. No filters were applied to the publication language nor the publication time frame. Hence, the search was inclusive of documents published in any language and throughout the period automatically set in Scopus till March 12, 2021. The final sample, consisted of 149 articles published between 1996 and 2021 across 85 journals, was imported to MS Excel in preparation for bibliometric analysis of co-occurrence, citation, co-citation, bibliographic coupling, and co-authorship.

3 Findings and Discussion

3.1 Descriptive Statistics

Table 1 presents an overview of the input data used for analysis. For homogeneity purpose, our investigated sample was confined to peer-reviewed articles. A total of 149 articles investigated in our sample are associated with 85 journal sources from 1996 to 2021. 324 authors contributed in the publication of these articles where authors of multi-authored documents constituted 90.4% of the total number of authors with a collaboration index of 2.53 validating an increasing trend of collaboration in scholarly work (Alshater et al., 2021).

3.2 Keyword Analysis

Co-occurrence analysis is used to identify the most frequently used keywords by authors in the scope of green bonds (Callon et al., 1991). A co-occurrence analysis of

Table 1 Descriptive analysis and overview of the dataset

| Description | Results |
|--|-----------|
| <i>General information of the data</i> | |
| Timespan | 1996:2021 |
| Sources (journal, books, etc.) | 85 |
| Documents | 149 |
| Average years from publication | 2.1 |
| Average citations per documents | 6.416 |
| Average citations per year per doc | 1.963 |
| References | 6463 |
| <i>Document types and contents</i> | |
| Article | 149 |
| Keywords plus | 476 |
| Author's keywords | 476 |
| <i>Authors</i> | |
| Authors | 324 |
| Author appearances | 374 |
| Authors of single-authored documents | 31 |
| Authors of multiauthored documents | 293 |
| <i>Authors' collaboration</i> | |
| Single-authored documents | 33 |
| Documents per author | 0.46 |
| Authors per document | 2.17 |
| Co-authors per documents | 2.51 |
| Collaboration index | 2.53 |

Source: Biblioshiny analysis

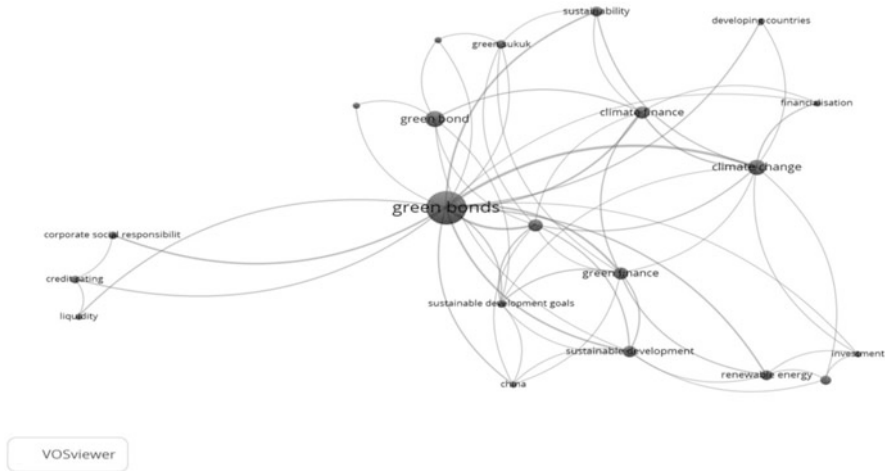


Fig. 1 Co-occurrence of authors' keywords. Source: own work based on VOSviewer analysis

both authors and indexed keywords was set at a minimum of three occurrences in VOSviewer to make the results meaningful. Green bond(s), climate change, climate finance, and green finance were the most popular authors' keywords and prevailing topics in green bond research as demonstrated in Fig. 1. The most frequently indexed keywords were investments, climate change, finance, and sustainable development. The analysis of keywords implies that the diverseness of keywords reflects the multidisciplinary theme in green bond publications. For instance, articles (Ferrer et al., 2021; MacAskill et al., 2021) which addressed the financial aspects of green bonds tend to use keywords such as "investments," whereas "sustainable development" is a common keyword in articles (Prakash & Sethi, 2021; Lee, 2020) emphasizing on issues of sustainability.

The predominant co-occurrence of authors' keywords as demonstrated in Table 2 was "green bonds, climate change"; "green bonds, sustainable finance"; and "green bonds, corporate social responsibility (CSR)." These linkages emphasize on the importance of developing green bonds to mitigate climate change where issues of sustainable financing, CSR, and climate finance are the catalyst of promoting green bonds.

3.3 Analysis of Articles

Figure 2 portrays the growth of green bond publications in our sample, where the publication of the first article in the scope of green bonds and relevant to our study goes back to 1996. The article emphasized on capitalizing solar bond incentives for a strategic market deployment of building-integrated photovoltaics (Smith, 1996).

Table 2 Indexed keywords, authors’ keywords, and co-occurrence of authors’ keywords

| Indexed keywords | Occurrence | Authors’ keywords | Occurrence | Co-occurrence of authors’ keywords | Link strength |
|-------------------------|------------|-------------------|------------|------------------------------------|---------------|
| Investments | 19 | Green bonds | 74 | Green bonds – climate change | 9 |
| Climate change | 18 | Green bond | 18 | Green bonds – sustainable finance | 7 |
| Finance | 14 | Climate change | 16 | Green bonds – CSR | 4 |
| Sustainable development | 14 | Climate finance | 10 | Green bonds – sustainability | 4 |
| Environmental economics | 10 | Green finance | 10 | Green bonds – climate finance | 4 |

Source: own work based on Biblioshiny and VOSviewer analysis

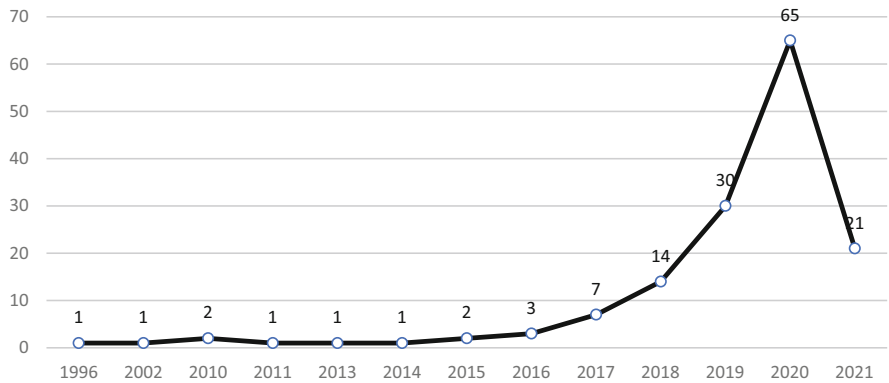


Fig. 2 The growth of green bond publications. Source: own work

One way to analyze the quality of articles is through investigating the number of citations received (Fellnhofer, 2019; Rey-Martí et al., 2016). 149 articles included in our sample received 956 citations indicating an average of 6.4 citations per article. “The effect of pro-environmental preferences on bond prices: Evidence from green bonds” by Zerbib (2019) is the most cited article in our sample with 66 citations followed by articles by Mathews J.A. (2010) and Reboredo J.C. (2018) with 42 and 41 citations, respectively. Field-weighted citation impact (FWCI) was also taken in consideration in our citation analysis. FWCI is one of the citations’ metrics used by Scopus to demonstrate citation performance of an article in comparison with publications of the same scope of study over a 3-year window. It takes into account publication year, document type, and disciplines associated with its source. Table 3 presents citation analysis of the top ten cited articles.

The bibliographic coupling analysis, which is based on the commonness of references between publications (Kessler, 1963), suggests that at a minimum of 5 citations per article, 49 articles meet the threshold. The largest set of connected

Table 3 Citation analysis of the top ten cited articles

| | Articles | TC | TC/ Y | NTC | CI | FWCI |
|----|---|----|----------|------|----|-------|
| 1 | The effect of pro-environmental preferences on bond prices: evidence from green bonds | 66 | 22 | 7 | – | 19.77 |
| 2 | Mobilizing private finance to drive an energy industrial revolution | 42 | 3.5 | 2 | 26 | 1.24 |
| 3 | Green bond and financial markets: co-movement, diversification, and price spillover effects | 41 | 10.25 | 2.56 | 41 | 5.14 |
| 4 | Are green bonds priced differently from conventional bonds? | 37 | 9.25 | 2.3 | 4 | 4.77 |
| 5 | Naturalizing capitalism: the next great transformation | 37 | 3.36 | 1 | 19 | 2.98 |
| 6 | Financing climate policies through climate bonds – a three stage model and empirics | 32 | 6.4 | 3.4 | 17 | 4.43 |
| 7 | The impact of liquidity risk on the yield spread of green bonds | 31 | 7.75 | 1.9 | 2 | 5.47 |
| 8 | Bond financing for renewable energy in Asia | 30 | 5 | 1.5 | 12 | 1.5 |
| 9 | The green advantage: exploring the convenience of issuing green bonds | 29 | 9.67 | 3 | 8 | 4.55 |
| 10 | Is it risky to go green? A volatility analysis of the green bond market | 28 | 4.67 | 1.4 | 8 | 1.72 |

TC total citations, *TC/Y* total citations per year, *NTC* normalized total citations, *CI* citation index, *FWCI* field weighted citation impact

Source: own work based on Biblioshiny and VOSviewer analysis

items consists of 43 items with a particularly noteworthy contribution of articles published by Reboredo J.C. (2020a), Reboredo J.C. (2020b), and Huynh T.L.D. (2020) which recorded total link strength (TLS) of 74, 65, and 64, respectively, as presented in Table 4 and illustrated in Fig. 3.

Furthermore, bibliographic coupling analysis enabled us to enumerate seven interlinked research streams with a minimum of four articles per stream. The first cluster explored the issuance of green bonds (Gianfrate & Peri, 2019), its impact on issuers and investors (Wang et al., 2020; Zhou & Cui, 2019), and the extent of which investors' attention can influence the green bond market (Pham & Luu Duc Huynh, 2020). Hyun et al. (2020) and Partridge and Medda (2020) scrutinized the greenness aspect of green bonds by comparing green bonds to their conventional counterparts to demonstrate the role of green bonds as a vehicle of mobilizing private capital to finance green projects (Azhgaliyeva et al., 2020; Maltais & Nykvist, 2020). The key drivers of green bond performance were investigated in cluster 2 which include investors' willingness to forgo economic benefits in sustainable projects (Larcker & Watts, 2020), issuer characteristics and third-party verification (Bachelet et al., 2019), pro-environmental preferences (Zerbib, 2019), adoption of sustainability accounting, sustainable financing, and relevant regulatory measures (Ng, 2018), and the influence of liquidity risk on green bonds' yield spread (Febi et al., 2018). Tang and Zhang (2020) examined shareholders' benefits from investing in green

Table 4 Bibliographic coupling analysis of the top ten cited articles

| | Articles | TLS |
|----|---|-----|
| 1 | Price connectedness between green bond and financial markets | 74 |
| 2 | Network connectedness of green bonds and asset classes | 65 |
| 3 | When green challenges prime: empirical evidence from government bond markets | 64 |
| 4 | Green bonds, corporate performance, and corporate social responsibility | 50 |
| 5 | The green bonds premium puzzle: the role of issuer characteristics and third-party verification | 46 |
| 6 | Do shareholders benefit from green bonds? | 45 |
| 7 | The effect of pro-environmental preferences on bond prices: evidence from green bonds | 44 |
| 8 | Green bonds for the Paris Agreement and Sustainable Development Goals | 42 |
| 9 | Drivers of green bond market growth: the importance of nationally determined contributions to the Paris Agreement and implications for sustainability | 41 |
| 10 | Green bond and financial markets: co-movement, diversification, and price spillover effects | 40 |

TLS total link strength

Source: own work based on VOSviewer analysis

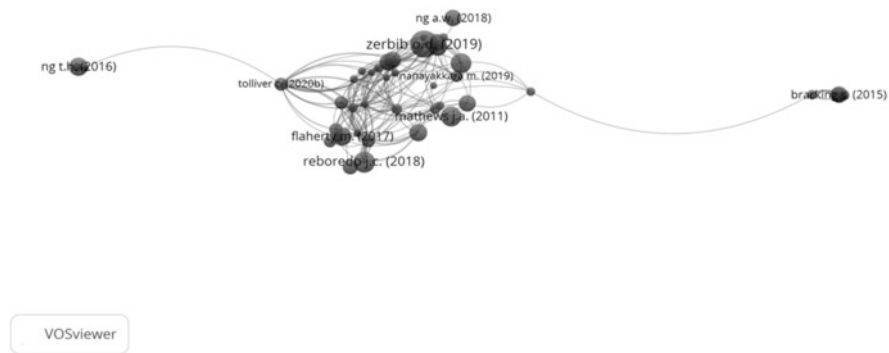


Fig. 3 Bibliographic coupling of articles. Source: own work based on VOSviewer analysis

bonds which can be in the form of risk mitigation or value enhancement in green projects (Wang et al., 2020).

Cluster 3 assessed the key determinants of green bond pricing (Nanayakkara & Colombage, 2019; Hachenberg & Schiereck, 2018; Karpf & Mandel, 2018) along with the analysis of the volatility behavior of the green bond market (Pham, 2016). Furthermore, green bonds and green economy potential growth to deliver improvements in the quality of life without destroying humankind’s resource base (Mathews, 2011), bridge SDG budget gap (Lagoarde-Segot, 2020), and attain Paris Agreement emission targets (Tolliver et al., 2019) were discussed in this cluster. Cluster 4 analyzed green bond connectedness to other asset classes (Reboredo & Ugolini, 2020; Broadstock & Cheng, 2019) and the efficiency of portfolio diversification via

green bond investment (Reboredo, 2018; Huynh et al., 2020) or as an inducement to finance cleaner production projects (Chygyrn et al., 2019).

Cluster 5 elaborated on the capacity of green bonds to advancing climate financing (Banga, 2019; Flaherty et al., 2017), climate change mitigation as an ideal substitute for catastrophe bonds (Morana & Sbrana, 2019), and a transition to low carbon economy driven by government subsidies on energy investments (Monasterolo & Raberto, 2019). In his study of green bond relation to other asset classes, Reboredo et al. (2020) emphasized on the role of green bonds of channeling financial flows to economic activities that are consistent with a decarbonized economy. Cluster 6 examined different modes of financing adopted in the energy sector (McInerney & Bunn, 2019) with a special emphasis on bond financing to address the financing gap for renewable energy and support the transition to a low carbon economy (Ng & Tao, 2016). Furthermore, this cluster evaluated impacts of policies, nationally determined contributions, and other macroeconomic and institutional factors on the growth of bond markets and green bond achievement of Paris Agreement emission reduction targets (Tolliver et al., 2020b; Tolliver et al., 2020a). Finally, Cluster 7 focused on the challenges and risks incorporated in climate financing (Christophers et al., 2020; Bracking, 2019; Christophers, 2018) questioning the extent of which the values of a climate-financed economy are derived from economic activities (Bracking, 2015).

3.4 Analysis of Sources

The primary objective of sources' analysis is to demonstrate the contribution of sources to the evolution of green bond research (Peritz & Bar-Ilan, 2002) via citation analysis, co-citation analysis, and bibliographic coupling. While citation analysis refers to the frequency of which a source is cited, co-citation analysis portrays the frequent with which pairs of sources are cited together in a same reference (Weinberg, 1974). On the contrary, bibliographic coupling analyzes the commonness of references between publications (Kessler, 1963). Our dataset is comprised of 149 publications in 85 journals, cited 956 times with an average of 11.25 citations per journal. *Energy Policy* recorded the highest number of citations (94), followed by *Journal of Sustainable Finance & Investment* and *Journal of Cleaner Production* with 82 and 76 citations, respectively, as presented in Table 5.

To demonstrate the impact of recent articles which cannot be captured by total citations, we employed normalized citation (NC) and H-index. NC is calculated by dividing the number of citations of a document by the average number of citations of all documents published in the same year and included in the data that is provided to VOSviewer (van Eck & Waltman, 2017), while the H-index is used as a function of the output and citation impact of a source. *Journal of Cleaner Production* registered the highest normalized citations of 16.7 followed by *Journal of Sustainable Finance & Investment*, and *Energy Economics* with 14.05 and 8.2 normalized citations,

Table 5 Most influential sources in terms of total citations

| | Source | TC | NC | NP | H-index |
|----|--|----|-------|----|---------|
| 1 | <i>Energy Policy</i> | 94 | 6.08 | 5 | 4 |
| 2 | <i>Journal of Sustainable Finance & Investment</i> | 82 | 14.05 | 10 | 5 |
| 3 | <i>Journal of Cleaner Production</i> | 76 | 16.7 | 5 | 3 |
| 4 | <i>Journal of Banking and Finance</i> | 66 | 7 | 1 | 1 |
| 5 | <i>Finance Research Letters</i> | 60 | 7.98 | 5 | 3 |
| 6 | <i>Energy Economics</i> | 57 | 8.2 | 5 | 3 |
| 7 | <i>Sustainability</i> (Switzerland) | 47 | 7.21 | 6 | 3 |
| 8 | <i>Journal of Asset Management</i> | 44 | 3.05 | 2 | 2 |
| 9 | <i>Futures</i> | 37 | 1 | 1 | 1 |
| 10 | <i>Research in International Business and Finance</i> | 37 | 3.98 | 2 | 2 |

TC total citations, NC normalized citations, NP number of publications
 Source: own work based on Biblioshiny and VOSviewer analysis

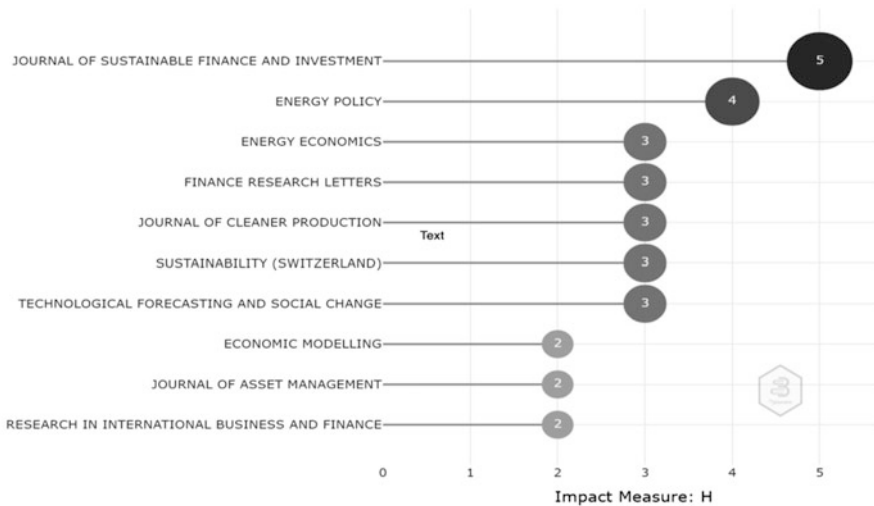


Fig. 4 Top ten impactful sources in green bond publications in terms of H-index. Source: own work based on Biblioshiny analysis

respectively. Figure 4 demonstrates the most impactful sources in green bond publications in terms of H-index.

The results of co-citation analysis indicate that only 20 out of 3028 cited sources met the threshold of a minimum of 20 citations per source. Once again, *Energy Policy* emerged as the most cited source with 91 total citations followed by *Energy Economics* and *The Journal of Finance* with 73 and 55 total citations, respectively. As for the bibliographic coupling analysis, sources are ranked based on the total link strength of the extant links of a source with other sources (Vallaster et al., 2019; van Eck & Waltman, 2017). 21 out of the 85 sources met the threshold of a minimum of 2 publications per source, where the Journal of Sustainable Finance & Investment had the highest TLS, followed by *Energy Economics* and *Sustainability*

(Switzerland). An interesting observation of our findings is that the transdisciplinary nature of green bond research has aroused great interest of journals concentrating on different areas such as finance (*Finance Research Letters*), economics (*Energy Economics*), and environment (*Sustainability* and *Journal of Cleaner Production*) among others which are evident to the magnitude of green bond publications in academia.

3.5 Analysis of Authors

The purpose of authorship visualization is to pinpoint authors who have a tremendous contribution in the scope of our study (Zupic & Čater, 2015). A total of 324 authors accounted for publication of 149 articles. These authors were cited 2060 times, indicating a 6.39 average citation per author. The results declared Mathews J.A. who received 79 citations from 2 articles as the most cited author, followed by Reboredo J.C. and Zerbib O.D with 66 citations each from 3 articles and 1 article, respectively. Table 6 depicts the summary of authors' analysis.

Table 7 delineates the top ten influential authors in terms of number of publications in green bonds. The absence of Managi S, the author with most publications, in the result of most cited authors as presented in Table 6 is explicit evidence that the influence of authors cannot be justified solely by the number of total citations (TC).

Finally, we conducted a co-authorship analysis of authors to determine the influence and degree of collaboration between authors in our study (Cavaggioli & Ughetto, 2019). The co-authorship analysis indicates the existence of three major collaborative clusters constituted by the largest connected items in our dataset as shown in Fig. 5. According to the link strength between authors, Naeem M.A demonstrated the strongest collaboration with Nguyen T.T.H. in Cluster 1. Bouri E. and Saeed T.'s collaboration was the most prominent in Cluster 2, while Balli H. O., Balli F., and Vo X.V had an equal collaboration in Cluster 3.

Table 6 Top ten cited authors in green bond publications

| | Author | Total citations | Articles |
|----|---------------|-----------------|----------|
| 1 | Mathews J.A. | 79 | 2 |
| 2 | Reboredo J.C. | 66 | 3 |
| 3 | Zerbib O.D | 66 | 1 |
| 4 | Hughes M. | 42 | 1 |
| 5 | Kidney S. | 42 | 1 |
| 6 | Mallon K. | 42 | 1 |
| 7 | Hachenberg B. | 37 | 1 |
| 8 | Schiereck D. | 37 | 1 |
| 9 | Bracking S. | 36 | 2 |
| 10 | Pham L. | 34 | 2 |

Source: own work based on VOSviewer analysis

Table 7 Top ten influential authors in green bond publications

| | Author | Affiliation | Country | NP | TC | NC | H-index |
|----|----------------|---|-----------|----|----|-------|---------|
| 1 | Managi S. | World Bank Disaster Risk Management (DRM) Hub, Tokyo | Japan | 4 | 33 | 8.94 | 42 |
| 2 | Reboredo J. C. | Department of Economics, Universidade de Santiago de Compostela | Spain | 3 | 66 | 11.39 | 31 |
| 3 | Keeley A.R. | World Bank Disaster Risk Management (DRM) Hub, Tokyo | Japan | 3 | 33 | 8.94 | 8 |
| 4 | Tolliver C. | Department of Urban and Environmental Engineering, Kyushu University, Fukuoka | Japan | 3 | 33 | 8.94 | 4 |
| 5 | Colombage S. | Federation Business School, Federation University Australia | Australia | 3 | 12 | 1.27 | 13 |
| 6 | Park D. | College of Economics, Sungkyunkwan University, Seoul, | S. Korea | 3 | 7 | 2.47 | 16 |
| 7 | Mathews J. A. | LUISS Guido Carli University, Viale Romania | Italy | 2 | 79 | 3 | 37 |
| 8 | Hachenberg B. | Technische Universitaet Darmstadt, Darmstadt | Germany | 2 | 37 | 2.31 | 2 |
| 9 | Schiereck D. | Technische Universitaet Darmstadt, Darmstadt | Germany | 2 | 37 | 2.31 | 20 |
| 10 | Bracking S. | Department of Geography, King's College London, London | UK | 2 | 36 | 2.75 | 17 |

NP number of publications, TC total citations, NC normalized citations.

Source: own work based on Biblioshiny and VOSviewer analysis



Fig. 5 Co-authorship of authors. Source: own work based on VOSviewer analysis

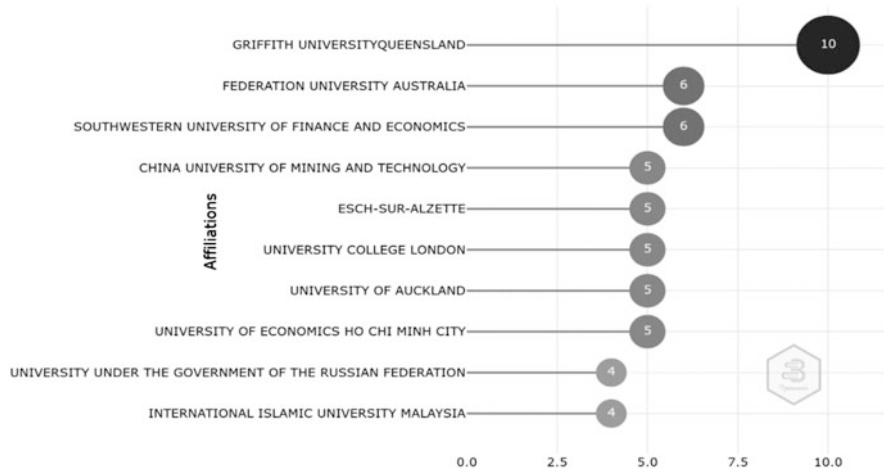


Fig. 6 Top ten influential affiliations in green bond publications. Source: own work based on Biblioshiny analysis

3.6 Analysis of Network (Organization and Country)

In this section, we explore the contribution of affiliations and countries worldwide in publishing green bond articles. Figure 6 presents the most influential affiliations in literature in terms of number of publications in green bonds. The most prominent affiliations are Griffith University (Australia) with ten publications followed by Federation University (Australia) and Southwestern University of Finance and Economics (China) with six publications each. An interesting finding from these results is that seven affiliations out of the top ten institutes in green bond publications are located in Asia which reflects the keenness of researchers from this area in this field.¹

Table 8 presents the top ten countries in publishing articles in the field of green bonds. Collectively, these countries constitute 49.7% of all green bond articles in our sample which implies a high interest of these countries in green bond research. Our results indicate that China has been dominating in green bond publications with 17 articles followed by the USA (12) and Australia (7). However, France emerged victorious when in terms of most cited country in green bond articles with 123 citations, followed by Italy and the USA with 114 and 76 citations, respectively, as presented in Table 8.

Finally, the co-authorship network of countries depicted in Table 9 portrays the frequency of which authors from different countries collaborated in conducting green bond research. The strongest collaboration between two countries was found

¹One may see some of the related works of the authors as follows in the references: Unal and Aysan (2021), Al-Ansari (2021), Aysan et al. (2021) and Aysan, Bergigui and Disli (2021).

Table 8 Most influential countries in publishing articles in the field of green bonds

| | Country | Articles | Total citations | Average article citations |
|----|-----------|----------|-----------------|---------------------------|
| 1 | China | 17 | 20 | 1.18 |
| 2 | USA | 12 | 76 | 6.33 |
| 3 | Australia | 7 | 25 | 3.57 |
| 4 | France | 6 | 123 | 20.5 |
| 5 | Italy | 6 | 114 | 19 |
| 6 | Sweden | 6 | 53 | 8.3 |
| 7 | UK | 6 | 31 | 5.17 |
| 8 | Spain | 5 | 28 | 5.6 |
| 9 | Singapore | 4 | 39 | 9.75 |
| 10 | Hong Kong | 3 | 46 | 15.33 |

Source: own work based on Biblioshiny analysis

Table 9 Countries' collaboration in green bond publications

| | Country | Country | Frequency |
|----|-----------|-------------|-----------|
| 1 | Australia | UK | 3 |
| 2 | China | USA | 3 |
| 3 | Australia | Sri Lanka | 2 |
| 4 | China | Australia | 2 |
| 5 | France | Germany | 2 |
| 6 | France | Italy | 2 |
| 7 | Korea | Philippines | 2 |
| 8 | Spain | Brazil | 2 |
| 9 | UK | Germany | 2 |
| 10 | Australia | Ghana | 1 |

Source: own work based on Biblioshiny analysis

between Australia and the UK and China and the USA. A detailed result of countries' collaboration is presented in Table 9.

4 Conclusion

Our bibliometric analysis attempts to divulge an overview of the literature in the scope of green bonds by scrutinizing the temporal evolution of green bond publications, their magnitude, and potency of capturing the tremendous growth of green bonds and green bond markets. The findings of our keywords' analysis underpin the interdisciplinarity facet of green bond publications which explains the dispersion of green bond articles across sources of different concentrations such as energy and environment (*Energy Policy*), finance (*Finance Research Letters*), and economics (*Energy Economics*) among others. However, the prevalent attention was from mainstream energy and sustainability.

Our findings revealed the emergence of authors from Japan at the forefront of green bond publication. Asian affiliations also contributed the most in green bond literature with seven publications, depicting the dominance of affiliations from developing countries in the literature as illustrated in Fig. 6. According to our network analysis, the top ten most influential countries, presented in Table 8, contributed to the publication of 74 articles of our sample where the USA and China and the UK and Australia demonstrated the strongest collaboration between countries. Finally, our analysis discovered seven interlinked research streams shown in Fig. 3.

Despite the contribution of our study to a comprehensive understanding of research in the field of green bonds, it has a series of limitations, some of which are inherent in the methodology of bibliometric study. The number of citations is the basis for analysis and rankings in bibliometric studies which may yield biased results (Lopes & de Carvalho, 2018). Not to mention, bibliometric studies analyze titles, abstracts, and keywords rather than the whole article. Other limitations include the following: our investigated sample was limited to articles from a single database (Scopus) and confined to peer-reviewed articles for homogeneity purpose. Finally, our analysis can be complemented by a meta-literature review or systematic analysis.

References

- Aassouli, D., Asutay, M., Mohieldin, M., & Nwokike, T. C. (2018). Green Sukuk, energy poverty, and climate change: A roadmap for Sub-Saharan Africa', *Green Sukuk, Energy Poverty, and Climate Change: A Roadmap for Sub-Saharan Africa*, 44(January).
- Al-Ansari, K. A. (2021). *More than ten years of Blockchain creation: How did we use the technology and which direction is the research heading?* SSRN Electronic Journal. Elsevier BV.
- Alshater, M. M., Hassan, M. K., Khan, A., & Saba, I. (2021). Influential and intellectual structure of Islamic finance: A bibliometric review. *International Journal of Islamic and Middle Eastern Finance and Management*, 14(2), 339–365.
- Aysan, A. F., Bergigui, F., & Disli, M. (2021). Blockchain-based solutions in achieving sdgs after covid-19. *Journal of Open Innovation: Technology, Market, and Complexity*. MDPI AG, 7(2), 151.
- Aysan, A. F., Demirtas, H. B., & Sarac, M. (2021). The ascent of Bitcoin: Bibliometric analysis of Bitcoin research. *Journal of Risk and Financial Management*. Multidisciplinary Digital Publishing Institute, 14(9), 427.
- Azhgaliyeva, D., Kapoor, A., & Liu, Y. (2020). Green bonds for financing renewable energy and energy efficiency in South-East Asia: A review of policies. *Journal of Sustainable Finance and Investment*, 10(2), 113–140. Taylor & Francis.
- Bachelet, M. J., Becchetti, L., & Manfredonia, S. (2019). The green bonds premium puzzle: The role of issuer characteristics and third-party verification. *Sustainability (Switzerland)*, 11(4), 1–22.
- Banga, J. (2019). The green bond market: A potential source of climate finance for developing countries. *Journal of Sustainable Finance and Investment*, 9(1), 17–32.
- Blimpo, M. P., & Cosgrove-Davies, M. (2019). *Electricity Access in Sub-Saharan Africa: Uptake, Reliability, and Complementary Factors for Economic Impact, Electricity Access in*

- Sub-Saharan Africa: Uptake, Reliability, and Complementary Factors for Economic Impact*. World Bank Publications.
- Bracking, S. (2015). Performativity in the Green Economy: How far does climate finance create a fictive economy? *Third World Quarterly*, 36(12), 2337–2357.
- Bracking, S. (2019). Financialisation, Climate Finance, and the Calculative Challenges of Managing Environmental Change. *Antipode*, 51(3), 709–729.
- Broadstock, D. C., & Cheng, L. T. W. (2019). Time-varying relation between black and green bond price benchmarks: Macroeconomic determinants for the first decade. *Finance Research Letters*, 29(January), 17–22. Elsevier.
- Callon, M., Courtial, J. P., & Laville, F. (1991). Co-word analysis as a tool for describing the network of interactions between basic and technological research: The case of polymer chemistry. *Scientometrics*, 22(1), 155–205. Kluwer Academic Publishers.
- Caviggioli, F., & Ughetto, E. (2019). A bibliometric analysis of the research dealing with the impact of additive manufacturing on industry, business and society. *International Journal of Production Economics*. Elsevier B.V., 208, 254–268.
- Christophers, B. (2018). Risking value theory in the political economy of finance and nature. *Progress in Human Geography*, 42, 330–349.
- Christophers, B., Bigger, P., & Johnson, L. (2020). Stretching scales? Risk and sociality in climate finance. *Environment and Planning A*, 52(1), 88–110.
- Chygryn, O., Pimonenko, T., Luylyov, O., & Goncharova, A. (2019). Green Bonds like the Incentive Instrument for Cleaner Production at the Government and Corporate Levels: Experience from EU to Ukraine. *Journal of Environmental Management and Tourism*, 9(7), 1443. SC ASERS SRL.
- Curley, M. (2014). *Finance policy for renewable energy and a sustainable environment*, *Finance policy for renewable energy and a sustainable environment*. CRC Press.
- Donthu, N., Kumar, S., Sureka, R., & Joshi, R. (2021). Research constituents and citation analysis of the Journal of Business and Industrial Marketing (1986–2019). *Journal of Business and Industrial Marketing*. Emerald Group Holdings Ltd. <https://doi.org/10.1108/jbim-04-2020-0214>
- Engelken, M., Romer, B., Drescher, M., Welpel, I. M., & Picot, A. (2016). Comparing drivers, barriers, and opportunities of business models for renewable energies: A review. *Renewable and Sustainable Energy Reviews*, 60, 795–809. Elsevier Ltd.
- European Central Bank. (2021). *ECB to invest in Bank for International Settlements' green bond fund*. Available at: <https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210125~715adb4e2b.en.html> (Accessed: 1 October 2021).
- Febi, W., Schafer, D., Stephan, A., & Sun, C. (2018). The impact of liquidity risk on the yield spread of green bonds. *Finance Research Letters*, 27(December 2017), 53–59. Elsevier.
- Fellnhöfer, K. (2019). Toward a taxonomy of entrepreneurship education research literature: A bibliometric mapping and visualization. *Educational Research Review*, 27, 28–55. Elsevier Ltd.
- Ferrer, R., Shahzad, S. J. H., & Soriano, P. (2021). Are green bonds a different asset class? Evidence from time-frequency connectedness analysis. *Journal of Cleaner Production*, 292, 125988.
- Flaherty, M., Gevorkyan, A., Radpour, S., & Semmler, W. (2017). 2017. Financing climate policies through climate bonds – A three stage model and empirics. *Research in International Business and Finance*. Elsevier B.V., 42, 468–479.
- Flammer, C. (2018). *Corporate Green Bonds*. SSRN Electronic Journal. Elsevier BV.
- Gianfrate, G., & Peri, M. (2019). The green advantage: Exploring the convenience of issuing green bonds. *Journal of Cleaner Production*, 219, 127–135. Elsevier Ltd.
- Hachenberg, B., & Schiereck, D. (2018). Are green bonds priced differently from conventional bonds? *Journal of Asset Management*, 19(6), 371–383.
- Huynh, T. L. D., Hille, E., & Nasir, M. A. (2020). Diversification in the age of the 4th industrial revolution: The role of artificial intelligence, green bonds and cryptocurrencies. *Technological Forecasting and Social Change*, 159(April), 120188.

- Hyun, S., Park, D., & Tian, S. (2020). The price of going green: The role of greenness in green bond markets. *Accounting and Finance*, 60(1), 73–95.
- Jones, L. (2021). Record \$269.5bn green issuance for 2020: Late surge sees pandemic year pip 2019 total by \$3bn | *Climate Bonds Initiative*. Available at: <https://www.climatebonds.net/2021/01/record-2695bn-green-issuance-2020-late-surge-sees-pandemic-year-pip-2019-total-3bn> (Accessed: 1 October 2021).
- Karpf, A., & Mandel, A. (2018). The changing value of the “green” label on the US municipal bond market. *Nature Climate Change*, 8(2), 161–165. Springer US.
- Kessler, M. M. (1963). Bibliographic coupling between scientific papers. *American Documentation*, 14(1), 10–25. Wiley.
- Lagoarde-Segot, T. (2020). Financing the sustainable development goals. *Sustainability (Switzerland)*, 12(7), 2775.
- Larcker, D. F., & Watts, E. M. (2020). Where’s the greenium? *Journal of Accounting and Economics*. Elsevier Ltd, 69(2–3), 101312.
- Lee, J. W. (2020). Green finance and sustainable development goals: The case of China. *Journal of Asian Finance, Economics and Business*, 7(7), 577–586.
- Lopes, A. P. V. B. V., & de Carvalho, M. M. (2018). Evolution of the open innovation paradigm: Towards a contingent conceptual model. *Technological Forecasting and Social Change*, 132, 284–298. Elsevier Inc.
- MacAskill, S., Roca, E., Liu, B., Stewart, R. A., & Sahin, O. (2021). Is there a green premium in the green bond market? Systematic literature review revealing premium determinants. *Journal of Cleaner Production*. Elsevier Ltd, 280, 124491.
- Maltas, A., & Nykvist, B. (2020). Understanding the role of green bonds in advancing sustainability. *Journal of Sustainable Finance and Investment*, 0(0), 1–20. Taylor & Francis.
- Mathews, J. A. (2011). Naturalizing capitalism: The next Great Transformation. *Futures*, 43(8), 868–879. Elsevier Ltd.
- McInerney, C., & Bunn, D. W. (2019). Expansion of the investor base for the energy transition. *Energy Policy*, 129(March), 1240–1244. Elsevier Ltd.
- Monasterolo, I., & Raberto, M. (2019). The impact of phasing out fossil fuel subsidies on the low-carbon transition. *Energy Policy*, 124(November 2018), 355–370. Elsevier Ltd.
- Morana, C., & Sbrana, G. (2019). Climate change implications for the catastrophe bonds market: An empirical analysis. *Economic Modelling*. Elsevier B.V., 81(April), 274–294.
- Nanayakkara, M., & Colombage, S. (2019). Do investors in Green Bond market pay a premium? Global evidence. *Applied Economics*, 51(40), 4425–4437.
- Ng, A. W. (2018). From sustainability accounting to a green financing system: Institutional legitimacy and market heterogeneity in a global financial centre. *Journal of Cleaner Production*, 195, 585–592. Elsevier Ltd.
- Ng, T. H., & Tao, J. Y. (2016). Bond financing for renewable energy in Asia. *Energy Policy*, 95, 509–517.
- Partridge, C., & Medda, F. R. (2020). The evolution of pricing performance of green municipal bonds. *Journal of Sustainable Finance and Investment*, 10(1), 44–64. Taylor & Francis.
- Peritz, B. C., & Bar-Ilan, J. (2002). The sources used by bibliometrics-scientometrics as reflected in references. *Scientometrics*, 54(2), 269–284. Springer Netherlands.
- Pham, L. (2016). Is it risky to go green? A volatility analysis of the green bond market. *Journal of Sustainable Finance and Investment*, 6(4), 263–291.
- Pham, L., & Luu Duc Huynh, T. (2020). How does investor attention influence the green bond market? *Finance Research Letters*, 35(April), 101533. Elsevier.
- Prakash, N., & Sethi, M. (2021). Green bonds driving sustainable transition in Asian economies: The case of India. *Journal of Asian Finance, Economics and Business*, 8(1), 723–732.
- Pritchard, A. (1969). Statistical Bibliography or Bibliometrics. *Journal of Documentation*, 25(4), 348–349.
- Reboredo, J. C. (2018). Green bond and financial markets: Co-movement, diversification and price spillover effects. *Energy Economics*, 74, 38–50. Elsevier B.V.

- Reboredo, J. C., & Ugolini, A. (2020). Price connectedness between green bond and financial markets. *Economic Modelling*, 88(September 2019), 25–38. Elsevier Ltd.
- Reboredo, J. C., Ugolini, A., & Aiube, F. A. L. (2020). Network connectedness of green bonds and asset classes. *Energy Economics*, 86, 104629. Elsevier B.V.
- Reichelt, H., & Keenan, C. (2017). *The Green Bond Market: 10 years later and looking ahead*. The World Bank.
- Rey-Martí, A., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2016). A bibliometric analysis of social entrepreneurship. *Journal of Business Research*, 69(5), 1651–1655. Elsevier Inc.
- Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science*, 24(4), 265–269. John Wiley & Sons, Ltd.
- Smith, E. M. (1996). The advent of the Headrick solar-voltaic dome power station. *Renewable Energy*, 119–504.
- Tang, D. Y., & Zhang, Y. (2020). Do shareholders benefit from green bonds? *Journal of Corporate Finance*, 61(November 2018), 101427. Elsevier.
- Tolliver, C., Keeley, A. R., & Managi, S. (2019). Green bonds for the Paris agreement and sustainable development goals. *Environmental Research Letters*, 14(6), 064009. IOP Publishing.
- Tolliver, C., Keeley, A. R., & Managi, S. (2020a). Drivers of green bond market growth: The importance of Nationally Determined Contributions to the Paris Agreement and implications for sustainability. *Journal of Cleaner Production*, 244, 118643. Elsevier Ltd.
- Tolliver, C., Keeley, A. R., & Managi, S. (2020b). Policy targets behind green bonds for renewable energy: Do climate commitments matter? *Technological Forecasting and Social Change*, 157-(October 2019), 120051. Elsevier.
- Unal, I., & Aysan, A. F. (2021). A Bibliometric Analysis of Fintech and Blockchain in Islamic Finance - Munich Personal RePEc Archive. *A Bibliometric Analysis of Fintech and Blockchain in IslamiEfil Journal of Economic Research*, 4(21).
- Vallaster, C., Kraus, S., Lindhal, J. M., & Nielsen, A. (2019). Ethics and entrepreneurship: A bibliometric study and literature review. *Journal of Business Research*, 99, 226–237.
- van Eck, N. J., & Waltman, L. (2017). *VOSviewer manual*.
- Van Raan, T. (2014). Advances in bibliometric analysis: Research performance assessment and science mapping. In W. Blockmans, L. Engwall, & D. Wearie (Eds.), *Bibliometrics: Use and Abuse in the review of research performance*. *Wenner-Gren International Series* (pp. 17–28). Portland Press Ltd.
- Wang, J., Chen, X., Li, X., Yu, J., & Zhong, R. (2020). The market reaction to green bond issuance: Evidence from China. *Pacific Basin Finance Journal*, 60(December 2019), 101294. Elsevier.
- Weinberg, B. H. (1974). Bibliographic coupling: A review. *Information Storage and Retrieval*, 10(5–6), 189–196.
- World Economic Forum. (2021). *The global risks report 2021*. Geneva. Available at: https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf (Accessed: 1 December 2021).
- Yildiz, Ö. (2014). Financing renewable energy infrastructures via financial citizen participation - The case of Germany. *Renewable Energy*, 68, 677–685.
- Zerbib, O. D. (2019). The effect of pro-environmental preferences on bond prices: Evidence from green bonds. *Journal of Banking and Finance*, 98, 39–60. Elsevier B.V.
- Zhou, X., & Cui, Y. (2019). Green bonds, corporate performance, and corporate social responsibility. *Sustainability (Switzerland)*, 11(23), 6881.
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. SAGE Publications Inc.

Basel III and Firm Performance: A Lens of Managerial Ownership



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Abstract Subsequent to the global financial crisis (GFC) of 2007–2009, concerns about the financial stability of the banking market were raised around the world including developing countries. As a response to the crisis, the Basel Committee on Banking Supervision (BCBS) promulgated Basel III in 2010 to avert a full-blown crisis. Bank Negara Malaysia announced to adopt the new regulatory reforms in 2013 to improve and enhance Malaysian banks' risk indicators. Previous literature provides conflicting evidence on the effects of Basel III stringent capital prerequisites and in terms of profitability and the stock market. This study aims to develop a conceptual framework to assess the impact of Basel III on banks' performance with the moderating role of managerial ownership by integrating Modigliani and Miller proposition and stakeholder theory. ROE and Tobin's Q are used as proxy variables for measuring bank performance. The study is expected to help and assist policymakers, regulators, and managers in governing the framework which can enhance the overall performance of the banks.

Keywords Basel III · Return on equity · Tobin's Q · Stakeholder theory · MM proposition · Liquidity ratios

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1 Introduction

The crucial financial intermediaries in the contemporary world are probably the banks. Its importance is due to its intermediary role between borrower and lender (Tahir et al., 2018). According to Beck et al. (2010), banks are pivotal because they “(a) organize the payment systems, (b) transform assets to match the short-term supply of deposits and the long-term demand from borrowers and (c) screen and monitors borrowers.” Hence, for this reason, banks are subject to high prudential regulations. The regulations foster the bank performance and adequately impact the income distribution of the country (Barth et al., 2004). Generally, the prudential regulations of the banks are to provide cushion to bank’s operations, to enhance its performance in terms of efficiency, and to make a banking system more resilient and protect the economy, indirectly (Jakovljević et al., 2015).

The global banking industry has continuously evolved over the past decades. During the 1970s, the Basel Committee on Banking Supervision (BCBS) was established with the aim to provide policy response and regulatory toolkits for governments and central banks around the world to avert any future crisis (Goodhart, 2011). Under the aegis of BCBS, after the Herstatt failure, central banks and governments have been able to preserve banking markets from full-blown crisis which made banks at national and global level more resilient and stable than before (Kenneth & Adeniyi, 2014; Kozolchyk, 1992). Under the regulatory reforms, banks are required to maintain certain amount of capital and equity reserves (based on risk-weighted assets (RWA)), on continuous basis, to tackle any stress they face during any time (Shah et al., 2018). Basel accords have been produced by the BCBS, but the situation of the banking industry has been exacerbated decade by decade. After Basel I, Basel II accord is put forwarded by the committee in 2004 by extending the reforms to three pillars (Merikas et al., 2020). But the occurrence of global financial crisis (GFC) and the collapse of Lehman Brothers have raised more concerns on the previous accords. After the GFC, macroprudential regulations known as Basel III were introduced to achieve soundness of the global banking system and extend the economic stability (Jakovljević et al., 2015). Basel III was aimed at enhancing resilience of the banking market by introducing several new reforms (such as leverage ratio, liquidity coverage ratio, capital buffers, increasing capital equity tier ratio, among others) to the financial system at national and global levels (Setiyono & Naufa, 2020; Giordana & Schumacher, 2017).

The academicians have widely attempted to investigate the impact of the Basel III on the firm performance. Literature investigating the effects of Basel III capital regulations on bank performance shows conflicting results (Alsharif et al., 2016; Bibi & Mazhar, 2019; Bitar et al., 2018). Some of the studies has identified positive impact of Basel III on firm performance (Said, 2014; Mohd Said, 2018; Berger, 1995; Goddard et al., 2004), and some demonstrated negative relationship between Basel III and bank performance (Maria & Eleftheria, 2016; Banerjee & Mio, 2018; Goddard et al., 2013), whereas Setiyono and Naufa (2020) concluded no significant relationship between Basel III and firm performance. Though some studies

conducted to explore the impact of Basel III ratios on financial performance of banks have yield inconsistent results, a positive influence on the banks' financial performance has been evident in a large number of studies (Sathyamoorthi et al., 2020). According to the Bank for International Settlements (BIS), the prudent Basel III regulations have shrunk the business models of the banks to less capital-intensive activities (BIS, 2018). Resultantly, this has reduced the profitability of banks due to less leverage and risk-taking. Dietrich et al. (2014) argues that Basel III regulations will lower profitability of banks. However, in the long term, they anticipate significant positive impact on banks' performance and economic activity. The mixed findings of the past studies make the relationship of bank performance with Basel III requirement controversial. Furthermore, to the best of authors' knowledge, the moderating factor amid the nexus between Basel III regulations and firm performance is not explored in the previous literature. Therefore, this study intends to produce a conceptual framework that shows a causal relationship between Basel III regulatory ratios and firm performance under the moderating role of managerial ownership.

Basel accord III focuses on the capital and liquidity requirement of the banks to cope with risks such as credit, liquidity, and market risks (Yang et al., 2019). But it is evident that Basel III does not address the regulatory problems (Blundell-Wignall & Atkinson, 2010). This needs to reform the process and structure of corporate supervision and process. The Basel accord III has not considered the role of corporate governance that significantly influences the performance of the banks. For instance, the issuance of mortgage loans in bulk by the managers ended in collapse of the Lehman Brothers due to the insufficient attention by managers to risk return relationship and loose risk management policies and strategies (Adu-Gyamfi, 2016). This could have been prevented in the presence of strong corporate governance, effective risk management policies, and supervision of managers. Thus, our study suggests if the directors (managers) are given ownership in the equity, they will more focus on maintaining Basel III capital and liquidity ratios, risk management, and effective monitoring of management. Because the managers are more concerned about the bank profit when they have their own shares in the banks, managers will disclose the information by holding a buffer of capital and indicate the solvency of the banks to the financial investors using capital adequacy and liquidity ratios.

This study is pivotal for researchers and policymakers because it provides significant insights for the banking industry around the globe. The present work adds to the literature of Basel III in several ways. Firstly, our work has conceptualized the relationship of Basel III ratios with the bank performance. Secondly, the study claims the novelty by presenting a moderating role of managerial ownership on the nexus of Basel III ratios and bank performance. Such conceptualization of managerial ownership has not been seen in the literature of Basel III. Thirdly, this study integrates Modigliani and Miller propositions with the stakeholder theory to derive the relationship among variables. Fourthly, this study is likely to help the banks and strengthen its resiliency due to integration of governance attribute with

Basel III ratios. Finally, this study offers a methodological base for the future researchers to explore the influence of Basel III ratios on the bank performance.

The remainder of the paper proceeds as follows: Sect. 2 discusses relevant literature review and hypothesis development. Theories are explained in Sect. 3. Section 4 presents a conceptual framework followed by methodology and operationalization of variables, and finally conclusion is drawn in the last section.

2 Literature Review and Hypothesis Development

This section presents the development of the hypothesis and shed light on the previous studies.

2.1 Capital Adequacy Ratio (CAR)

Capital adequacy is the equity capital and other securities that are held by the banks against the risky assets as a hedge. CAR helps banks to absorb unexpected losses (Giordana & Schumacher, 2017). Mujtaba et al. (2021) conducted a study on banking industry of emerging economies. They explored a positive impact of Basel III capital requirement on profitability (ROA) and risk-taking of banks. Sanyaolu et al. (2019) found positive significant impact of CAR on profitability of the banks which implies that banks with sufficient amount of capital improve their profit. Most of the studies have found positive significant impact of CAR on firm performance (Athanasoglou et al., 2008; Berger, 1995; Goddard et al., 2004), whereas Goddard et al. (2013) demonstrated negative nexus between CAR and shareholder's return. They criticized Basel III on the condition of maintaining the CAR at a certain level because opportunity cost of holding capital is more which consequently reduces the shareholder value of the banks. However, in line with literature and buffer theory, it advocates that bank with higher level of equity capital is more resilient and improves the firm performance. Thus, the following hypothesis is postulated,

Hypothesis 1 CAR has positive significant influence on the performance of the banks.

2.2 Net Stable Funding Ratio (NSFR)

NSFR was proposed in Basel III to meet the long-term stability and mitigate the mismatch between the left side and the right side of the balance sheet. Pakravan (2014) argues that incorporation of liquidity ratios in Basel III accord is to cope with

the future liquidity crisis. Hence, the banks are obligated under Basel III liquidity condition to maintain enough liquidity funds. In order to avoid the long-term liquidity chaos, banks must maintain the NSFR value greater or equal to 100%.

The debate regarding the relationship between NSFR and firm performance has not reached to final conclusion. Some of the studies have supported the positive impact of NSFR on profitability of the banks. According to findings of Said (2014), NSFR has significantly influenced the profitability of the banks operating in Malaysia. Similarly, another study by Mohd Said (2018) showed a positive significant association of NSFR on net interest margin, ROA, and ROE. But some of the studies have found negative impact of NSFR on firm performance. During the global financial crisis period, the NSFR of Greek banks has negatively influenced ROA and ROE (Maria & Eleftheria, 2016). Dietrich et al. (2014) conducted an empirical study to examine the impact of NSFR on bank performance. However, they failed in demonstrating a significant association of NSFR with ROA, ROE, and net interest margin. Setiyono and Naufa (2020) found that NSFR reduces the profitability of the banks. In theory, NSFR has negative influence on the profitability of banks (Dietrich et al., 2014). When banks increase the NSFR, they lower their lending capacity which consequently lower the profit (Le et al., 2020). However, the banks improve their profitability with the short-term loans. Hence, our study postulates the following hypothesis:

Hypothesis 2 *NSFR has negative significant impact on the performance of banks.*

2.3 Liquidity Coverage Ratio (LCR)

BCBS introduced liquidity coverage ratio (LCR) in Basel III to meet the short-term liquidity needs and market risk. During low market liquidity, it is difficult for the banks to shrink the balance sheet for the reason of being costly at that time. As liquidity buffers cushion the banks against liquidity shortfalls (Shah et al., 2018), they are required to maintain LCR greater or equal to hundred percent to cover the cash outflows for 30 days. LCR is the division of high-quality liquid assets (HQLA) by net cash outflows expected to increase in stress time. It includes high-quality liquid assets which can easily be sold without losing its actual value, for instance, government securities.

Prior to Basel III, there were no liquidity regulations. Therefore, little evidence is available related to LCR impacts on profitability of banks. Evidence available has drawn conflicting conclusion on the relationship between LCR and profitability. Most of the studies have shown a negative impact of LCR on bank performance. Exploring British banks, Banerjee and Mio (2018) found that LCR negatively affect the profitability of the banks. Giordana and Schumacher (2017) demonstrated a study to identify the impact of Basel III capital and liquidity requirement on the probability of bank's default and profit. Using GMM, they demonstrated that LCR reduces the chances of bank's default. However, they found the impact of LCR on

profitability (ROA) of banks a less clear-cut indicating that funding structure matters for profitability rather than portfolio of assets. In a recent study of Setiyono and Naufa (2020), no significant impact is found between LCR and bank's profitability. However, from theoretical perspective, LCR weigh down the profitability of banks because of less return on liquidity. But the study conducted by Mashamba (2018) examined positive significant impact of LCR on profitability of the firms. This may be for the reason that banks managed their liquidity in a manner that is consistent with LCR. Hence, it can be assumed that Basel III liquidity regulation has no detrimental effects on banks. However, to be in line with the theory, our study postulates the following hypothesis:

Hypothesis 3 *LCR has negative significant impact on the performance of banks.*

2.4 Moderating Role of Managerial Ownership

The continuous occurrence of financial crunches from the last three decades have led the banking industry toward reforms and transformation in ownership (Mujtaba et al., 2021). Prior literature indicates that the separation of ownership and management in organizations has led to agency problems, which ultimately influence the risk-taking. With occurrence of regulatory reforms, the risk-taking of the banks highly depend on the governance structure (Laeven & Levine, 2009). Therefore, it can be assumed that as regulatory reforms affect risk-taking of banks, it will also have adverse impact on the profitability of the banks. Thus, our study assumes a moderating role of managerial ownership as a factor in improving bank profitability which will do trade-off between Basel III requirements and bank performance. Though the Basel III capital and liquidity requirements help the banks in the times of crisis, holding capital and liquidity buffers due to opportunity cost lowers the profitability of the banks. This can be overcome if the managers have ownership in the equity. They will do trade-off between the regulatory requirements and bank performance.

The managerial ownership means that equity shares are owned by the board. When they have shares in the banks, they will make favorable decisions in the best interest of the banks because they are ones directly getting affected by the decisions. Thus, Basel III regulations will be highlighted in decision-making in order to bring resiliency and improve the firm performance. According to stakeholder theory, managerial ownership improves the firm performance. Hence, the following hypothesis is postulated.

Hypothesis 4 *Managerial ownership moderates the relationship between Basel III regulatory requirements and performance of the banks.*

2.5 *Performance Indicator*

Every organization has some objectives, and the achievement of those objectives is indicated with performance of indicators. Literature shows that different metrics are used to indicate the performance of the organizations such as economic value added, shareholder value added, return on assets, return on equity, Tobin's Q, net interest margin, etc. (Banerjee & Mio, 2018; Lai & Shad, 2017; Moudud-Ul-Huq et al., 2020; Shad & Lai, 2015; Tahir et al., 2018, 2020; Shah et al., 2021; Lai et al., 2021). The current study uses two performance indicators, return on equity (ROE) from the shareholder perspective and Tobin's Q from market perspective.

3 **Theoretical Framework**

This study aims to produce a conceptual framework that shows the causal relationship between Basel III ratios and firm performance under the moderation effect of managerial ownership. The study uses two theories: Modigliani and Miller theory (MM theory) related to capital structure and stakeholder theory related to corporate governance.

3.1 *Modigliani and Miller Theory*

The global financial crisis has escalated the debate on the resilience of banking industry. Countries across the globe have passed policy reforms to strengthen their banking systems. Basel III regulations, which stress on increase capital and liquidity requirement, are an important segment of the prudential regulations to safeguard the financial sector and reduce negative impact of financial crunches on the broader economy. However, increasing capital requirements have unintended results for the reason that capital and liquidity buffers are associated with high cost of doing business, restrictions to credit with having negative effects on the economy (Mantecon, 2020). But the narrative of Basel III capital and liquidity requirement effects on the value of bank is in contrast to the irrelevance proposition of Modigliani and Miller (1958).

According to MM proposition, capital structure has no significant role in the value creation of the firm in a frictionless world where the information is openly disclosed and markets are complete. If the firm is highly leveraged or has more equity, it does not influence the firm value. In other words, if the banks finance their operations from borrowings or equity, it does not affect the firm value. Usually, banks maintain Basel III ratios on the basis of capital structure they possess. The more debts the banks obtain, the large regulatory ratios banks need to preserve in order to safeguard the investors. In contrast, large equity capital reduces the

regulatory ratios of banks. Large part of the literature supports the argument that additional capital and liquidity requirements reduce bankruptcy costs (Mantecon, 2020). The bank's adherence to capital and liquidity regulations reduces the chances of insolvency and improves financial performance at the time of financial turbulence (Fahlenbrach et al., 2012; Beltratti & Stulz, 2012). Cornett et al. (2011) argues that high capital is beneficial for banks because it improves the resiliency of banking sector and helps in provision of credit when liquidity dries up. Alger and Alger (1999) also contend that bank profitability is not affected in the presence of high liquid assets. Thus, this study conceptualizes that Basel III capital and liquidity requirement will strengthen the banking sector and perform well in the time of crisis. Moreover, economist believes that higher capital requirement of Basel accords positively influences the performance of banks. For instance, Berger (1995) finds both statistically and economically significant nexus between the CAR and ROE.

3.2 Stakeholder Theory

Freeman is considered as the "father" of stakeholder theory in various articles and books (Laplume et al., 2008). According to stakeholder theory, the banks should not only care about the shareholders but also consider the interest of wide stakeholder groups. Stakeholders are ones that contributes in organization's objectives directly or indirectly (Freeman, 1984). There is always conflict of interest between the shareholders and managers from risk-taking perspective and bank value. Managers are more risk averse as they are more concerned about their future and security of their job. The lower risk by the banks leads to lower firm value. When the banks take risk, they are obligatory to maintain minimum capital and liquidity requirement in order to cope with financial distress.

Managers have always more information about the banks as compared to shareholders and stakeholders. Due to opportunistic behavior, they can hide information and make decisions in their own best interest. When managers get equity ownership, their interest will align to that of shareholders and stakeholders. Managers will think more regarding the bank's solvency and profit maximization because they will be the one to be directly affected. They will trade off between the equity capital and debts to finance the bank operations. In this way, managers safeguard the shareholders from high equity costs due to high regulatory requirements. Similarly, they also meet the interest of borrowers by adherence to Basel III requirements. Matemilola et al. (2018) argues that managers are the critical resources, and they can improve firms' financial performance by their influential decisions. Owning shares in the bank, managers will put all their efforts in the best interest of the banks which will ultimately improve the performance of the bank. Thus, the study uses the lens of stakeholder theory to support the moderating role of managerial ownership.

4 Conceptual Framework

The conceptual framework of this study is depicted in Fig. 1. According to Shad et al. (2019) and Shah et al. (2021), conceptual framework is a systematic tool that integrates the concepts logically and leads to a process of solving the problems in the best way. Prior literature shows a bifacial nexus of Basel III capital and liquidity requirements with bank performance. In line with capital buffer theory and liquidity buffer theory, this study postulates a significant influence of Basel III regulatory requirements on bank performance. Using a lens of stakeholder theory, managerial ownership can significantly accelerate the nexus between Basel III regulatory capital and bank performance. Dependent variable shows the performance of the banks indicated with return on equity and Tobin’s Q. Three ratios, CAR, LCR, and NSFR, are used as an independent variable. Managerial ownership is used for moderating the role between the dependent and the explanatory variable.

4.1 Implication of the Proposed Conceptual Framework

Conceptualizing Basel III capital and liquidity ratios under moderation of managerial ownership will have some potential important implications. Firstly, this paper provides conceptual evidence to top management of banks to appreciate Basel III regulations in order to return to pre-crisis status quickly. If the banks do not maintain the Basel III ratios, chances of failure might increase. CAR, LCR, and NSFR provide cushion to liquidity risks and other financial risks. Secondly, the integration of managerial ownership on the nexus between Basel III ratios and financial performance will increase the expectation of shareholders and stakeholders. Depositors

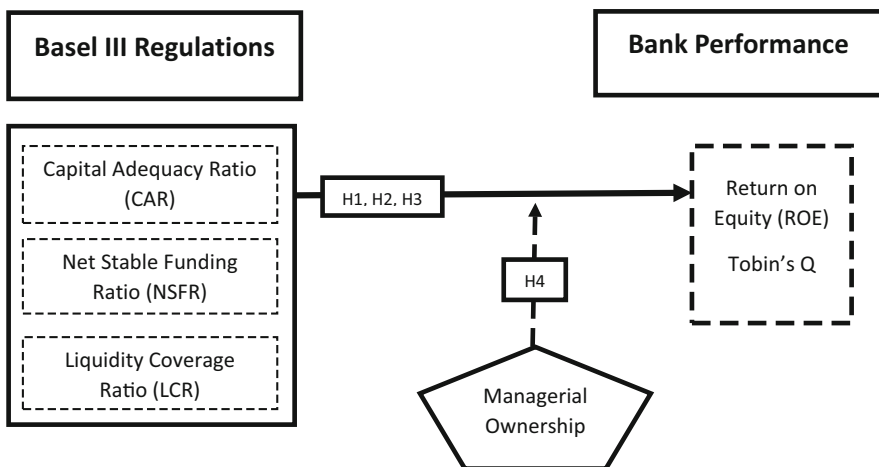


Fig. 1 Conceptual framework of the study. Source: authors’ own design

and borrowers are important stakeholders of the banks. If the managers get ownership of shares, they will be more concerned about the resiliency of banks and financial performance. They will strictly monitor and maintain the minimum requirement as per guidelines issued in Basel III. Managers will also provide full information to shareholders and stakeholders which will reduce the information asymmetry cost and ultimately improve the firm performance. Thirdly, practitioners and policymakers can obtain economic sustainability by acknowledging the Basel III regulations and role of managers. This study can be used as a reference by rating agencies, managers, and other industry practitioners on Basel regulation implementation.

5 Methodology and Variable Operationalization

The population of this study is the overall banking industry of Malaysia. The sample of this study includes banks that are using Basel III capital and liquidity regulations. The study proposes 6 years data (2015–2020). The time span is chosen from 2015 to 2020 because it includes all the Basel III deadline of adopting the liquidity and capital ratios. The first liquidity requirement was LCR with effect from 2015 and fully implementation of Basel III regulations by 2018. So, it covers before and after impact of Basel III on bank performance. Required data for performance indicators and Basel III ratios can be obtained from data streams like Bloomberg database, from Thomson Reuters, or from annual reports and websites of the concerned bank. Moreover, the data of managerial ownership can be collected from the director reports of the banks. The study proposes multiple linear regression to identify the causal link between Basel III and bank performance. The operationalization of the variables is given in Table 1.

Table 1 Operationalization of variables

| Variables | Measurement | Reference (s) |
|---------------------------------|---|-------------------------------|
| Capital adequacy ratio | (tier 1 + tier 2)/risk-weighted assets | (Mujtaba et al., 2021) |
| Net stable funding ratio (NSFR) | Available stable funding/required stable funding ratio $\geq 100\%$ | (Setiyono & Naufa, 2020) |
| Liquidity coverage ratio (LCR) | High liquid assets/net cash outflow $\geq 100\%$ | (Giordana & Schumacher, 2017) |
| Managerial ownership | Shares held by directors/overall share equity | (Ehsan & Javid, 2018) |
| Return on equity | Net income/shareholder equity | (Jan et al., 2019) |
| Tobin's Q | (Market value of equity + book value of liability)/total assets | (Moudud-UI-Huq et al., 2020) |

Source: all ratios are compiled by the author

6 Conclusion

This paper aims to conceptualize the intertwined relationship of Basel III ratios and bank performance under moderating effect of managerial ownership. The interrelation between Basel III and bank performance is supported by many studies, but the integration of managerial ownership as a moderator has not been investigated so far. This study has proposed two performance indicators, ROE and Tobin's Q, in order to avoid the prejudiced findings. Finding of this study will be important to practitioners and policymakers of the banking industry to achieve economic sustainability and lessens the probability of financial distress. For efficient working of banks, adherence of banks to Basel III regulations is of utmost importance along with the mandatory role of managers.

Literature on the impact of Basel III and firm performance is available. However, the moderating role, specifically managerial ownership, is not explored to the best of the authors' knowledge. Further research is encouraged to empirically investigate and validate the proposed conceptual framework. Furthermore, factors other than managerial ownership can also be proposed.

References

- Adu-Gyamfi, M. (2016). The bankruptcy of Lehman brothers: Causes, effects and lessons learnt. *Journal of insurance and financial Management*, 1, 132–149.
- Alger, G., & Alger, I. (1999). *Liquid assets in banks: Theory and practice* (pp. 1–39). Universite des Sciences Sociales.
- Alsharif, M., Nassir, A. M., Kamarudin, F., & Zariyawati, M. (2016). Basel III: Main issues for GCC banks. *International Journal of Economics, Commerce and Management*, 4, 541–563.
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18, 121–136.
- Banerjee, R. N., & Mio, H. (2018). The impact of liquidity regulation on banks. *Journal of Financial Intermediation*, 35, 30–44.
- Barth, J. R., Caprio, G., & Levine, R. (2004). Bank regulation and supervision: What works best? *Journal of Financial Intermediation*, 13, 205–248.
- Beck, T., Coyle, D., Dewatripont, M., Freixas, X., & Seabright, P. (2010). Bailing out the banks: Reconciling stability and competition. *Centre for Economic Policy Research, London*, 18, 1–92.
- Beltratti, A., & Stulz, R. M. (2012). The credit crisis around the globe: Why did some banks perform better? *Journal of Financial Economics*, 105, 1–17.
- Berger, A. N. (1995). The relationship between capital and earnings in banking. *Journal of Money, Credit and Banking*, 27, 432–456.
- Bibi, S., & Mazhar, F. (2019). Determinants of bank's profitability & liquidity and the role of BASEL III in islamic & conventional banking sector of Pakistan: A case study of NBP. *The Economics and Finance Letters*, 6, 40–56.
- Bis. (2018). Structural changes in banking after the crisis. *CGFS Papers*, 1–119.
- Bitar, M., Pukthuanthong, K., & Walker, T. (2018). The effect of capital ratios on the risk, efficiency and profitability of banks: Evidence from OECD countries. *Journal of International Financial Markets, Institutions and Money*, 53, 227–262.

- Blundell-Wignall, A., & Atkinson, P. (2010). Thinking beyond Basel III: Necessary solutions for capital and liquidity. *OECD Journal: Financial Market Trends*, 2010, 1–23.
- Cornett, M. M., Mcnutt, J. J., Strahan, P. E., & Tehranian, H. (2011). Liquidity risk management and credit supply in the financial crisis. *Journal of Financial Economics*, 101, 297–312.
- Dietrich, A., Hess, K., & Wanzenried, G. (2014). The good and bad news about the new liquidity rules of Basel III in Western European countries. *Journal of Banking & Finance*, 44, 13–25.
- Ehsan, S., & Javid, A. Y. (2018). Bank ownership structure, regulations and risk-taking: Evidence from commercial banks in Pakistan. *Portuguese Economic Journal*, 17, 185–209.
- Fahlenbrach, R., Prilmeier, R., & Stulz, R. M. (2012). This time is the same: Using Bank performance in 1998 to explain Bank performance during the recent financial crisis. *The Journal of Finance*, 67, 2139–2185.
- Freeman, R. E. (1984). Strategic management: A stakeholder approach. *Pitman series in business and public policy*, 1–276.
- Giordana, G. A., & Schumacher, I. (2017). An empirical study on the impact of Basel III standards on banks' default risk: The case of Luxembourg. *Journal of Risk and Financial Management*, 10, 2–21.
- Goddard, J., Liu, H., Molyneux, P., & Wilson, J. O. S. (2013). Do Bank profits converge? *European Financial Management*, 19, 345–365.
- Goddard, J., Molyneux, P., & Wilson, J. O. S. (2004). The profitability of European banks: A cross-sectional and dynamic panel analysis. *The Manchester School*, 72, 363–381.
- Goodhart, C. (2011). *The Basel Committee on banking supervision: A history of the early years 1974–1997* (pp. 1–603). Cambridge University.
- Jakovljević, S., Degryse, H., & Ongena, S. (2015). A review of empirical research on the design and impact of regulation in the banking sector. *Annual Review of Financial Economics*, 7, 423–443.
- Jan, A. A., Tahir, M., Lai, F.-W., Jan, A., Mehreen, M., & Hamad, S. (2019). Bankruptcy profile of the Islamic banking industry: Evidence from Pakistan. *Business Management and Strategy*, 10, 265–284.
- Kenneth, U. O., & Adeniyi, A. M. (2014). Prediction of Bank failure using camel and market information: Comparative appraisal of some selected banks in Nigeria. *Res J Finance Account*, 5, 1–17.
- Kozolchyk, B. (1992). The paperless letter of credit and related documents of title. *Law and Contemporary Problems*, 55, 39–101.
- Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93, 259–275.
- Lai, F.-W., & Shad, M. K. (2017). Economic value added analysis for enterprise risk management. *Global Business & Management Research*, 9, 338–347.
- Lai, F.-W., Shad, M. K., & Shah, S. Q. A. (2021). Conceptualizing corporate sustainability reporting and risk management towards green growth in the Malaysian oil and gas industry. *SHS Web Conf.*, 124, 04001.
- Laplume, A. O., Sonpar, K., & Litz, R. A. (2008). Stakeholder theory: Reviewing a theory that moves us. *Journal of Management*, 34, 1152–1189.
- Le, M., Hoang, V.-N., Wilson, C., & Managi, S. (2020). Net stable funding ratio and profit efficiency of commercial banks in the US. *Economic Analysis and Policy*, 67, 55–66.
- Mantecon, T. (2020). An analysis of the potential impact of heightened capital requirements on banks. *Cost of Capital*, 1–50.
- Maria, P., & Eleftheria, G. (2016). The impact of Basel iii indexes of leverage and liquidity crdiv/crr on bank performance: Evidence from Greek banks. *SPOUDAI-Journal of Economics and Business*, 66, 79–107.
- Mashamba, T. (2018). The effects of Basel III liquidity regulations on banks' profitability. *Journal of governance & regulation*, 7, 34–48.
- Matemilola, B. T., Bany-Arifin, A. N., Azman-Saini, W. N. W., & Nassir, A. M. (2018). Does top managers' experience affect firms' capital structure? *Research in International Business and Finance*, 45, 488–498.

- Merikas, A., Merika, A., Penikas, H. I., & Surkov, M. A. (2020). The Basel II internal ratings based (IRB) model and the transition impact on the listed Greek banks. *The Journal of Economic Asymmetries*, 22, 1–16.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48, 261–297.
- Mohd Said, R. (2018). Basel III new liquidity framework and Malaysian commercial banks profitability. *Journal Pengurusan*, 52, 111–120.
- Moudud-Ul-Huq, S., Biswas, T., & Proshad Dola, S. (2020). Effect of managerial ownership on bank value: Insights of an emerging economy. *Asian Journal of Accounting Research*, 5, 241–256.
- Mujtaba, G., Akhtar, Y., Ashfaq, S., Abbas Jadoon, I., & Hina, S. M. (2021). The nexus between Basel capital requirements, risk-taking and profitability: What about emerging economies? *Economic Research-Ekonomska Istraživanja*, 1–22.
- Pakravan, K. (2014). Bank capital: The case against Basel. *Journal of Financial Regulation and Compliance*, 22, 208–218.
- Said, R. M. (2014). Net stable funding ratio and commercial banks profitability. *International Proceedings of Economics Development and Research*, 76, 34–39.
- Sanyaolu, W. A., Siyibola, T. T., Ogunmefun, G. T., & Makinde, A. B. (2019). Determinants of profitability of Nigerian deposit money banks. *Economic Review: Journal of Economics & Business/Ekonomska Revija: Casopis za Ekonomiju i Biznis*, 17, 47–62.
- Sathyamoorthi, C., Mapharing, M., Mphoeng, M., & Dzimir, M. (2020). Impact of financial risk management practices on financial performance: Evidence from commercial banks in Botswana. *Applied Finance and Accounting*, 6, 25–39.
- Setiyono, B., & Naufa, A. M. (2020). The impact of net stable funding ratio on bank performance and risk around the world. *Buletin Ekonomi Moneter Dan Perbankan*, 23, 543–564.
- Shad, M. K., & Lai, F. W. (2015). A conceptual framework for Enterprise risk management performance measure through economic value added. *Global Business and Management Research*, 7, 1–11.
- Shad, M. K., Lai, F.-W., Fatt, C. L., Klemeš, J. J., & Bokhari, A. (2019). Integrating sustainability reporting into enterprise risk management and its relationship with business performance: A conceptual framework. *Journal of Cleaner Production*, 208, 415–425.
- Shah, S. Q. A., Khan, I., Shah, S. S. A., & Tahir, M. (2018). Factors affecting liquidity of banks: Empirical evidence from the banking sector of Pakistan. *Colombo Business Journal*, 9, 1–18.
- Shah, S. Q. A., Lai, F.-W., Shad, M. K., Konečná, Z., Goni, F. A., Chofreh, A. G., & Klemeš, J. J. (2021). The inclusion of intellectual capital into the green board committee to enhance firm performance. *Sustainability*, 13, 1–21.
- Tahir, M., Jan, A. A., Shah, S. Q. A., Alam, M. B., Afridi, M. A., Tariq, Y. B., & Bashir, M. F. (2020). Foreign inflows and economic growth in Pakistan: Some new insights. *Journal of Chinese Economic and Foreign Trade Studies*, 13, 97–113.
- Tahir, M., Shah, S. Q. A., Khan, M. M., & Afridi, M. A. (2018). Intellectual capital and financial performance of banks in Pakistan. *Dialogue (Pakistan)*, 13, 105–118.
- Yang, Z., Gan, C., & Li, Z. (2019). Role of bank regulation on bank performance: Evidence from Asia-Pacific commercial banks. *Journal of Risk and Financial Management*, 12, 1–25.

Part VI
Eurasian Economic Perspectives: Growth
and Development

Research Trends in the Field of Islamic Social Finance



Jamila Abubakar and Ahmet Faruk Aysan

Abstract This paper is a bibliometric study of the literature in Islamic social finance. The study analyzes 595 articles, conference papers, and book chapters in Islamic social finance from 1991 to 2020 published in 262 Scopus indexed journals. The authors sourced the bibliographic data using the keywords “Islam and social finance,” “waqf,” “zakat,” “microfinance,” and variations thereof. This study is essential, especially in the wake of the COVID-19 pandemic and the pandemic-induced economic disruption leading to increased global income and social inequalities, putting even more pressure on the SDG’s funding gap. Novel solutions to plug the funding gap are being sought, and recent literature has shown Islamic social finance’s potential as a solution to the SDG’s funding gap. The study finds that researchers in the field closely link Islamic social finance with sustainability and sustainable development concepts, as evidenced in keywords used by authors. We also find that Malaysia and Indonesia are leading the research in ISF. The study aims to map the field of Islamic social finance and provide a reference point for future researchers to identify the gaps in the literature and their role in enriching academic discourse in ISF to position Islamic finance appropriately in the sphere of development economics.

Keywords Islamic social finance · Zakat · Waqf · Islamic microfinance · Bibliometric · Trends · Sustainable

1 Introduction

The Islamic economy is based on principles that balance financial objectives with social responsibility and impact. As such, Islamic social finance (ISF) has always existed within the Islamic economic system. The more recent rapid growth and

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expansion of the Islamic finance industry have contributed to the Islamic social finance sector's visibility and growth.

Rehman (2019) defines Islamic social finance as a form of finance rooted in Islamic ethics and intended for social benefit. Traditionally, ISF was a means of social impact based on Islamic philanthropic concepts such as zakat (almsgiving), Sadaqa (charity), waqf (endowment), and Qard Hassan (interest-free loans). More recently, Islamic microfinance has been added to this group, aiming to address poverty reduction and socioeconomic development.

Zakat is among the five pillars of the Islamic faith, and it is compulsory on all Muslims who attain the minimum wealth necessary according to Islamic jurisprudence. Zakat is a form of taxation, and its main objective is to ensure equitable distribution of wealth and to promote social justice. Recently, discussions in academia and practice center around the centralization and efficient collection and distribution of zakat for maximum socioeconomic impact.

Unlike zakat, waqf is entirely voluntary and depends on people's benevolence. According to Kuran (2001), "a waqf is an unincorporated trust established under Islamic law by a living person for the provision of a designated social service in perpetuity." The waqf institution has played a significant role in addressing economic, social, and environmental objectives in premodern Islamic economies since around 750 CE (Kuran, 2001). Awqaf (the plural of waqf) have been used to provide public goods to communities and ensure equitable distribution of resources among people.

Similarly, Islamic microfinance institutions (IMFI) target low-income groups with no access to financial services to alleviate poverty and promote social inclusion. Unlike conventional microfinance institutions, IMFIs provide ethical alternatives to interest-based microfinance loans (Rahim Abdul Rahman, 2010). IMFIs offer loans on a profit and loss sharing or Qard Hassan (interest-free) basis. Studies show that in some countries, SMEs find it easier to access Islamic loans than conventional loans (Aysan et al., 2016). This and religious beliefs that restrict Muslims from accessing conventional loans have triggered the growth of IMFIs.

There is a shortage of literature on ISF compared to its conventional counterpart. Most recently, academic literature shows a growing trend calling for the revival of ISF institutions to address modern-day socioeconomic inequalities and promote a circular economy. Nevertheless, there is a need to intensify research in this area for two reasons: the first reason is the economic impact of the COVID-19 pandemic which has led to the widening of income and social inequalities worldwide. According to the OECD (2020), the SDG annual funding gap currently sits at 2.5 trillion (de Schrevel, 2020), and ISF provides an alternative solution, especially in Muslim and Muslim majority countries. Rehman (2019) estimates the global yearly potential for zakat at USD 1 trillion. This estimate represents a massive potential for bridging the SDG's funding gap and the post-COVID recovery mobilization. The second reason is that the SDGs align with the objectives of shariah (Islamic law) in that both promote the concept of justice and equity and ensure no one is left behind.

Moreover, the principles of Islamic economics encourage socially responsible practices, social justice, and cooperation. These two reasons are why researchers

need to focus more on ISF, especially in achieving SDG goals in Muslim majority countries. There is a need to intensify research in this area to position the Islamic economy, more specifically ISF, right where it needs to be, producing innovative research with practical policy implications that can further the SDG's agenda and make a global impact.

This paper reviews research in ISF literature to highlight research activities and emerging trends for future researchers' benefit. Bibliometric studies are growing in popularity because as the volume of academic contributions in a field rapidly increases, it becomes ever more challenging to have a clearer picture of research dynamics. Bibliometric studies make it feasible to remain current with publications and the significant players within a field (Andres, 2009). There have been bibliometric studies in different subject areas related to Islamic finance and economy (Atan and Johari, 2017; Handoko, 2020; Khan et al., 2020). The most relevant to this study is Atan and Johari (2017). The authors review waqf literature published between 2006 and 2016 and found that most papers in the field relate to cash waqf and are qualitative in their analysis. They also found that Malaysia is leading the academic discussions in waqf literature. This study is different because it analyzes ISF in its entirety, and it is the first bibliometric study in ISF to the best of the authors' knowledge.

The rest of the paper is structured as follows: Sect. 2 describes the data extraction method and the bibliometric tools used in the study. Section 3 presents the study's findings in two parts of descriptive analysis and author analysis, while Sect. 4 discusses the study's limitations and concludes the paper.

2 Data and Methodology

2.1 Data Extraction

The data for this study was downloaded from the Scopus database using the following keywords: "Islam" or "Islamic" and "social finance" or "social-finance" and "waqf" and "zakat" and "microfinance" or "micro-finance." The keywords were chosen based on their topical relevance to Islamic social finance. The search generated 708 documents. The first step of screening was to refine the search results to limit the publications to journal articles, book chapters, and conference papers published globally in English. The second step of screening involved reviewing abstracts of all 708 articles to ensure that they are relevant to the study. We finally identified 595 relevant documents to be included in the study.

2.2 Bibliometric Tools

This study uses Biblioshiny for statistical analysis of the bibliometric data set to present critical indicators on productivity, impact, and relevance of authors, documents, and institutions. Additionally, the network visualizations of the study were created using VOSviewer software. VOSviewer facilitates social network analysis of authors, institutions, and documents based on our sample data on the ISF field of literature.

3 Results

3.1 Descriptive Statistics

Table 1 describes the main characteristics of the data. Out of the 595 documents retrieved from the Scopus database, 485 articles, 63 book chapters, and 47 conference papers were published in 260 journals and books from 1991 to 2020. These 595 documents have been referenced by other publications 22,582 times. These publications have garnered an average of 3.89 citations each. On average, a publication in this data set takes 5.5 years to get cited after publication.

1200 authors appeared 1500 times in the data set. The data set has a collaboration index of 2.55. The collaboration index indicates the degree of collaboration of

Table 1 Descriptive analysis: main information about data

| Description | Results |
|---------------------------------|-----------|
| Timespan | 1991:2020 |
| Sources (journals, books, etc.) | 260 |
| Documents | 595 |
| Average years from publication | 5.18 |
| Average citations per document | 3.892 |
| References | 22,582 |
| Document types | |
| Article | 485 |
| Book chapter | 63 |
| Conference paper | 47 |
| Authors | |
| Authors | 1201 |
| Author appearances | 1500 |
| Authors' collaboration | |
| Single-authored documents | 186 |
| Co-authors per documents | 2.52 |
| Collaboration index | 2.55 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

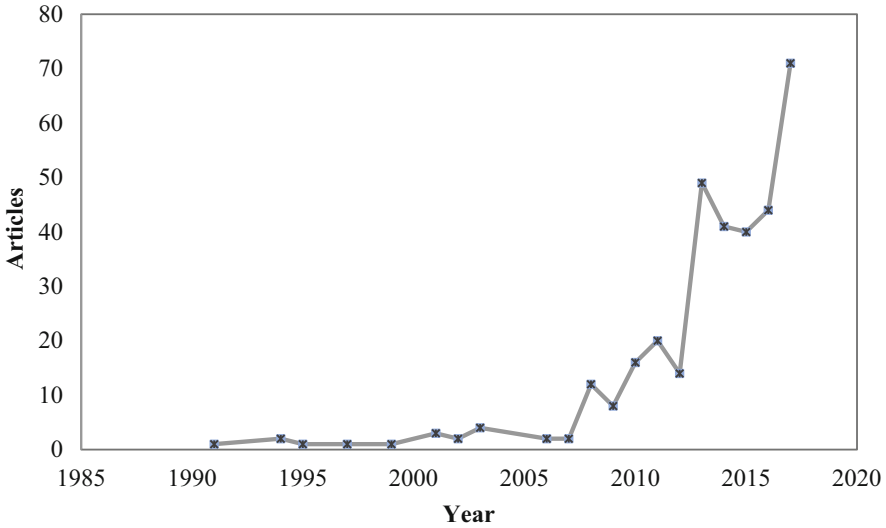


Fig. 1 Temporal evolution of ISF publications in Scopus indexed journals. *Source:* own work based on bibliographic data from Scopus using Biblioshiny software for analysis

authors in the field for the study period. About 68.7% of the documents have at least two authors making the average number of authors per document 2.55.

Although ISF researchers published a few articles between 1991 and 2006, it wasn't until 2007 that a clear interest began to show. This interest is consistent with the growth of the larger field of Islamic finance. Figure 1 shows a sharp increase in production between 2012 and 2013, followed by a slight dip and an eventual steady increase in productivity from 2015. Why the sudden increase in research productivity in 2007, 2012, and 2015? These spikes in production will be explained using the co-occurrence networks in Figs. 2 and 3.

The co-occurrence of publications' indexed keywords helps understand the temporal evolution of productivity in ISF academic literature. In network visualizations, the nodes denote the items' importance (in this case, the keyword). The links show related items; the links' thickness and distance indicate the degree and strength of the connection between items. Figures 2 and 3 visualize the relationships of all keywords (indexed keywords and authors' keywords). Of the keywords used in this study, zakat, waqf, and Islamic microfinance are strongly linked to "sustainable development." Zakat and microfinance have strong links with "Indonesia" and "Malaysia." Additionally, zakat has the most robust connections and is closely linked conceptually with "poverty," "financial inclusion," "Islam," and "Islamic social finance." Waqf also has strong connections with "Islamic social finance," "economic development," and "governance." Waqf occurs 95 times in the data set. As expected, Islamic microfinance has close connections with "financial inclusion," "Bangladesh," "Islamism," "economic development," and "empowerment."

temporal evolution of documents in Fig. 1). For example, between 1990 and 2000, we observe relatively few papers in ISF. These papers focused on Islamic law, taxation, and governments in relation to development and developing countries. The co-occurrence of government and developing countries could result from the institutional challenges faced by developing countries that jeopardize their growth (Aysan et al., 2007, 2013).

However, approaching 2010, the focus changes toward poverty alleviation, charity, and Islamism. This is consistent with the post-2007 global financial crisis that steered an interest in Islamic finance. Comparative studies of Islamic finance with conventional finance emerged. In some studies, the behavioral aspect of Islamic and conventional bank customers are compared (Aysan et al., 2015, 2018). There was a widespread belief that Islamic financial institutions fared better during the crises than their conventional counterparts and that Islamic banking principles may prevent another crisis. Furthermore, the financial crisis led to economic disruptions worldwide and affected people's lives and livelihoods, encouraging more research toward promoting Islamic social finance to address socioeconomic issues.

After 2015, the most significant discussions are about zakat, waqf, Islamic microfinance, and their links to sustainability and sustainable development. This also aligns with the emergence of the SDGs and the heightening of global discussions on sustainability. Authors in the field believe that Islamic finance has a significant role in accelerating SDG achievement (Aysan et al., 2021b). Additionally, a novel concept—efficiency—appears after 2015 and does not co-occur with keywords in the other time slices. The concept of efficiency in this time slice is triggered by the growth of IMFIs and rising concerns of information asymmetry. Studies such as those by Widiarto and Emrouznejad (2015) and El-Komi and Croson (2013) indicate that IMFIs face information management limitations that negatively impact their social and financial efficiency. Furthermore, information management was a recurring issue discussed by several studies in this data set as a factor negatively affecting the efficiency and profitability of IMFIs.

An essential aspect of this analysis is where these articles are published. Table 2 represents the top 10 journals by the number of articles published. Table 3 gives a more comprehensive measure by ranking the journals according to impact using their h-index. The h-index is a function of a journal or author's output and citation impact. The most important source for publishing ISF literature is the *Humanomics* journal, with the highest number of published articles and the highest impact. Likewise, the *International Journal of Islamic and Middle Eastern Finance and Management* and *Journal of Islamic Accounting and Business Research* hold positions two and three for both productivity and impact. From positions three to ten, the ranking of the journals is not consistent between productivity and impact.

Table 4 shows the top 10 countries with the most extensive number of published documents in the Scopus database based on the first author's country affiliation. These 10 countries contribute about half (50.76) of ISF literature. Malaysia and Indonesia are essential to the ISF literature discussion, as seen in the keyword network. Consistently, Table 4 shows Malaysia and Indonesia have the highest numbers, contributing 26.7% and 8.7% of the total articles in the data set, respectively.

Table 2 Top 10 sources by number of articles published in ISF

| Ranking | Sources | Number of articles |
|---------|---|--------------------|
| 1 | <i>Humanomics</i> | 25 |
| 2 | <i>International Journal of Islamic and Middle Eastern Finance and Management</i> | 22 |
| 3 | <i>Journal of Islamic Accounting and Business Research</i> | 22 |
| 4 | <i>Al-Shajarah</i> | 19 |
| 5 | <i>Humanities & Social Sciences Reviews</i> | 13 |
| 6 | <i>ISRA International Journal of Islamic Finance</i> | 13 |
| 7 | <i>Global Journal Al-Thaqafah</i> | 12 |
| 8 | <i>Journal of King Abdulaziz University: Islamic Economics</i> | 12 |
| 9 | <i>Journal of Islamic Economics, Banking, and Finance</i> | 11 |
| 10 | <i>Middle East Journal of Scientific Research</i> | 11 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

Table 3 Top 10 sources by the impact of articles published in ISF

| Ranking | Element | h-index |
|---------|---|---------|
| 1 | <i>Humanomics</i> | 9 |
| 2 | <i>International Journal of Islamic and Middle Eastern Finance and Management</i> | 8 |
| 3 | <i>Journal of Islamic Accounting and Business Research</i> | 5 |
| 4 | <i>Asian Journal of Social Science</i> | 4 |
| 5 | <i>International Journal of Social Economics</i> | 4 |
| 6 | <i>Middle East Journal of Scientific Research</i> | 4 |
| 7 | <i>Global Journal Al-Thaqafah</i> | 3 |
| 8 | <i>Humanities & Social Sciences Reviews</i> | 3 |
| 9 | <i>International Journal of Civil Engineering and Technology</i> | 3 |
| 10 | <i>Islamic Law and Society</i> | 3 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

Table 4 Top 10 most productive countries (based on corresponding/first authors' affiliation)

| Country | Publications | % Contribution |
|--------------|--------------|----------------|
| Malaysia | 159 | 26.72 |
| Indonesia | 52 | 8.74 |
| USA | 21 | 3.53 |
| Pakistan | 18 | 3.03 |
| UK | 16 | 2.69 |
| Saudi Arabia | 13 | 2.18 |
| Nigeria | 7 | 1.18 |
| Brunei | 6 | 1.01 |
| Australia | 5 | 0.84 |
| Bangladesh | 5 | 0.84 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

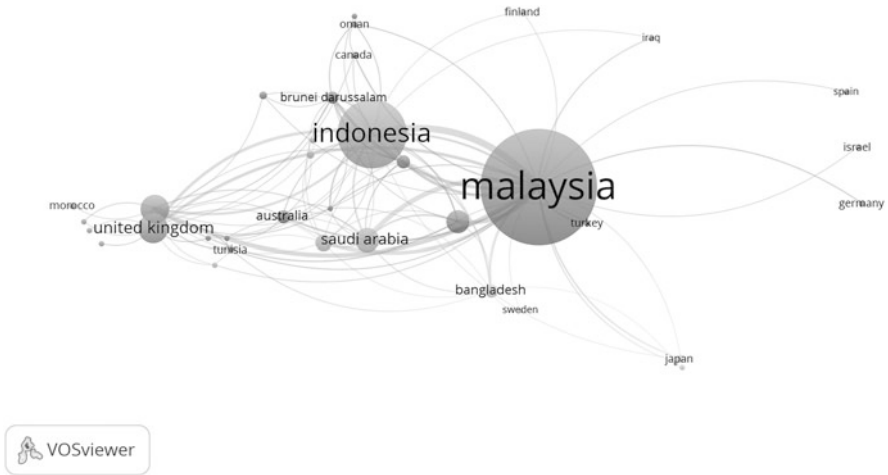


Fig. 4 Citation map of corresponding/first authors’ country. *Source:* own work based on bibliographic data from Scopus using VOSviewer software for analysis

Figure 4 represents the citation map based on corresponding authors’ countries. It allows us to visualize the degree of communication between countries and a country’s influence in the data set. The data set had a network of 62 countries but only 41 connected countries. Malaysia has the most powerful network in ISF literature with 4 clusters, 28 links, 265 total link strengths (TLS), and 265 documents. Indonesia appears in six clusters indicating a more diversified research interest but slightly weaker connections and influence with 21 links, 132 TLS, and 128 papers. The USA and UK follow these two countries in influence and degree of communication. The strongest link between countries is Malaysia and Indonesia.

3.2 Analysis of Authors

This section analyzes the authors’ contribution to ISF, their affiliations, and their most cited documents by ranking them in order of impact and/or output. Table 5 shows Kuran T is one of the pioneers in ISF literature, and his papers published in 2001 and 2017 appear highly cited. Bhuiyan AB, Ismail AG, and Rahman AR, on the other hand, have shorter production timelines but are ranked top three due to the number of authored documents and the impact of those documents. While the author’s productivity level matters, using the h-index alone to measure an author’s impact may sometimes undervalue their contributions.

The h-index does not consider the highly cited individual works. For example, Kuran T has 207 total citations (the highest in the data set) but is ranked 13 according to impact. As a result, we include in the table the total number of citations per author

Table 5 Top 20 authors' impact and total citations

| Ranking | Author | Production year start | Documents | h-index | g-index | Total citations |
|---------|----------------|-----------------------|-----------|---------|---------|-----------------|
| 1 | Bhuiyan A.B | 2011 | 8 | 4 | 5 | 33 |
| 2 | Ismail A.G | 2011 | 8 | 4 | 6 | 37 |
| 3 | Rahman R.A | 2013 | 8 | 4 | 6 | 39 |
| 4 | Ab Rahman A | 2012 | 7 | 3 | 7 | 51 |
| 5 | Johari F | 2013 | 7 | 4 | 5 | 29 |
| 6 | Hassan M.K | 2007 | 6 | 3 | 6 | 61 |
| 7 | Saad Raj | 2014 | 6 | 3 | 3 | 17 |
| 8 | Siwar C | 2011 | 6 | 3 | 5 | 28 |
| 9 | Ab Aziz M.R | 2014 | 1 | 1 | 1 | 3 |
| 10 | Alam M.M | 2015 | 5 | 2 | 2 | 5 |
| 11 | Doktoralina CM | 2018 | 5 | 1 | 2 | 5 |
| 12 | Kassim S | 2016 | 5 | 2 | 4 | 16 |
| 13 | Kuran T | 2001 | 5 | 4 | 5 | 207 |
| 14 | Mawardi I | 2018 | 5 | 1 | 2 | 5 |
| 15 | Mohammed MO | 2014 | 5 | 2 | 5 | 27 |
| 16 | Saiti B | 2016 | 5 | 2 | 2 | 7 |
| 17 | Widiastuti T | 2018 | 5 | 1 | 2 | 5 |
| 18 | Abduh M | 2013 | 4 | 2 | 2 | 6 |
| 19 | Abdullah M | 2018 | 4 | 2 | 3 | 13 |
| 20 | Adeyemi AA | 2014 | 4 | 2 | 2 | 5 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

and their g-index, which corrects for the highly cited papers in a data set. It is important to point out that the authors' performance indicators in Table 5 are in relation to the data set, not their overall ranking in academic literature.

Figure 5 shows the social network of authors in the data set. The analysis found 87 linked items in 13 clusters with a total link strength of 204. The nodes represent researchers, and the node's size indicates the number of documents authored. The length of the links shows the closeness and strength of the relationship between researchers. Shorter links indicate more robust relationships. Ismail AG appears to be the most connected author in the data set with a TLS of 21. He also has a more diversified research interest, having appeared in nine clusters. Bhuiyan AB has a TLS of 20, while Rahman RA has a TLS of 15. The network visualization shows Bhuiyan and Ismail AG tend to work closely together. Omar N is not ranked among the top 20 authors but has a TLS of 12 and has worked with the three most influential authors in the data set.

As shown in Table 6, the top three universities by corresponding author's affiliation are the International Islamic University Malaysia, University of Malaya, and Universiti Teknologi MARA all located in Malaysia. Out of the top 10 universities, only 8 and 10 are from Indonesia. This ranking is consistent with the results

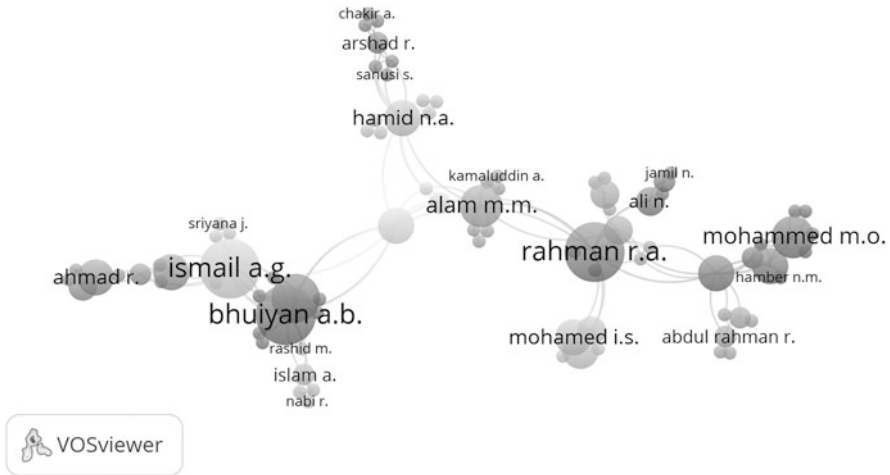


Fig. 5 Co-authorship network of authors. *Source:* own work based on bibliographic data from Scopus using VOSviewer software for analysis

Table 6 Top 10 universities based on corresponding/first authors’ affiliation

| Ranking | Affiliations | Publications |
|---------|---|--------------|
| 1 | International Islamic University Malaysia | 54 |
| 2 | University Of Malaya | 37 |
| 3 | Universiti Teknologi Mara | 36 |
| 4 | Universiti Kebangsaan Malaysia | 24 |
| 5 | Universiti Utara Malaysia | 24 |
| 6 | Universiti Sains Malaysia | 16 |
| 7 | Universiti Sains Islam Malaysia | 15 |
| 8 | Universitas Indonesia | 14 |
| 9 | International Islamic University | 13 |
| 10 | Universitas Airlangga | 11 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

seen earlier. The keywords identified in this study show that ISF researchers have focused significantly on Malaysia and Indonesia, and country analysis shows Malaysia and Indonesia as the most productive countries.

Similarly, Fig. 6 shows that Malaysia, Indonesia, and the USA lead the research in this field based on corresponding authors’ countries. The graph shows the top 10 countries based on the number of publications in the data set. MCP and SCP indicate multicountry and single-country publications, respectively. The chart shows that the corresponding authors in the top 10 mostly collaborate with researchers in their country except researchers from Saudi Arabia, Nigeria, and Bangladesh.

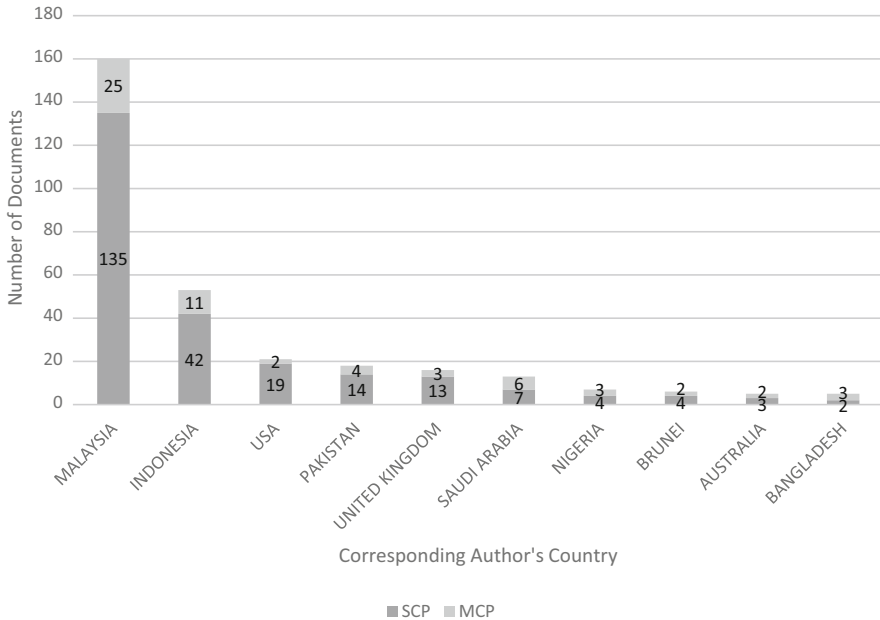


Fig. 6 Corresponding author’s country. SCP indicates single-country publications, and MCP indicates multicountry publications. *Source:* own work based on bibliographic data from Scopus using Biblioshiny software for analysis

Finally, we identify the publications with the highest citations and their bibliographic coupling. As shown in Table 7, the articles by Kuran (2001), Wajdi Dusuki (2008), Benthall (1999) are the most cited in the data set with 140, 62, and 56 total citations, respectively. Kuran (2001) researches the history, impact, and limitations of the waqf system in delivering public goods. On the other hand, Wajdi Dusuki (2008) and Benthall (1999) research the modern practical applications of ISF tools in Muslim communities. Wajdi Dusuki (2008) sheds light on how IMFIs can maintain institutional viability, competitiveness, and sustainability while simultaneously serving the needs of the poor, while Benthall (1999) studies religious teachings and the actual practice of organized charity in Muslim countries. Table 5 also displays “TC per year,” which is the average citations per year of the publications’ existence, and a normalized TC adjusts for the article’s age. The normalized TC eliminates the time effect on citation rates as older articles enjoy time in acquiring citations.

The bibliographic coupling of documents shown in Fig. 7 helps us determine the influence and relevance of publications in the data set. Bibliographic coupling occurs when two publications reference a third document. A node represents a document, and the node’s size indicates the document’s coupling strength. The links show the relationship between publications, and the clusters signify diversification of research interest. Out of the 595 publications in the data set, bibliographic coupling

Table 7 Top 10 most globally cited documents

| Ranking | Publication | Author/year | TC | TC per year | NTC (yearly) |
|---------|---|---|-----|-------------|--------------|
| 1 | The Provision of Public Goods Under Islamic Law: Origins, Impact, and Limitations of the Waqf System | Kuran T (Kuran, 2001) | 140 | 6.67 | 2.33 |
| 2 | Banking for the poor: the role of Islamic banking in microfinance initiatives | Wajdi Dasuki (Wajdi Dusuki, 2008) | 62 | 4.43 | 4.68 |
| 3 | Financial worship: the Quranic injunction of almsgiving | Benthall J (1999) | 56 | 2.44 | 1 |
| 4 | God, gifts and poor people: On charity in Islam | Kochuyt T (2009) | 50 | 3.85 | 3.33 |
| 5 | Social and financial efficiency of Islamic microfinance institutions: A data envelopment analysis application | Widiarto I (Widiarto & Emrouznejad, 2015) | 47 | 6.71 | 7.58 |
| 6 | A framework to analyze the efficiency and governance of zakat institutions | Wahab Na (Wahab & Rahim Abdul Rahman, 2011) | 41 | 3.73 | 5.47 |
| 7 | Islamic institutions and property rights: the case of the “public good” Waqf | Shatzmiller M (Shatzmiller, 2001) | 37 | 1.76 | 0.62 |
| 8 | <i>Poverty and Charity in Middle Eastern Contexts</i> | Kuran T (Kuran, 2003) | 36 | 1.89 | 2.4 |
| 10 | Distribution and management of zakat fund: Recommended proposal for Asnaf Riqab in Malaysia | Salamon (2018) | 35 | 8.75 | 15.21 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis. TC means total citation, TC per year means total citation per year, and NTC means normalized total citation



Fig. 7 Bibliographic coupling of documents. Source: own work based on bibliographic data from Scopus using VOSviewer software for analysis

Table 8 Top three most bibliographically coupled documents with bibliographic coupling information

| Publication | Clusters | Links | Total link strength |
|--------------------|----------|-------|---------------------|
| Atan N.A.B. (2017) | 6 | 117 | 218 |
| Widiarto I. (2015) | 10 | 99 | 212 |
| Tamanni L. (2017) | 7 | 124 | 203 |

Source: own work based on bibliographic data from Scopus using Biblioshiny software for analysis

establishes 500 relationships. The data set has 15 clusters with 6431 bibliographic coupling links and a TLS of 9024.

The top three most bibliographically coupled documents have the following bibliographic coupling characteristics (Table 8):

The article by Atan and Johari (2017) holds the most influence in the data set given its strength of bibliographic coupling links. As mentioned earlier, Atan and Johari (2017) have reviewed a qualitative/quantitative literature of waqf publications between 2006 and 2016. The study focuses on academic contributions to waqf literature and acts as a resource for researchers in understanding the field's conceptual structure. The study also proposes waqf as a solution to poverty. Widiarto and Emrouznejad (2015) conducted a comparative empirical study and found that IMFIs surpass conventional microfinance institutions in social and financial efficiency when employing input-oriented strategies. The reverse is true when IMFIs use an output-oriented strategy. Tamanni and Liu (2013) contribute a chapter from *Microfinance for Entrepreneurial Development*. The chapter provides an overview of IMFIs and discusses the basic differences between IMFI and conventional microfinance institutions. As the most influential documents in the data set, these three publications tell us that researchers in this field are concerned with poverty alleviation through microfinancing.

4 Conclusion

Islamic social finance has played a significant role in Muslim communities for a long time. More recently, there has been a rise in academic research and contribution to the socioeconomic discourse and international development by researchers in ISF. This study uses data downloaded from the Scopus database to analyze publications and researchers in the ISF field. The study finds that the researchers have closely linked poverty alleviation, sustainability, and sustainable development to ISF, and these concepts have been growing in the keywords associated with recent publications. Additionally, changing global conditions influence the theme of research in this field.

The study found that Malaysia and Indonesia are leading ISF research and have collaborated with researchers worldwide. In this paper's results section, future researchers can identify the literature gaps to determine their role in driving

academic discussions that create practical, sustainable solutions for the world's current socioeconomic problems through Islamic social finance.

One of the limitations of this study is that it is not exhaustive in its analysis of the researchers. This study could have explored several more dimensions of the authors' characteristics, such as analyzing researchers' co-authorship patterns to further understand collaboration trends in the field. Furthermore, the keywords used for data retrieval from Scopus could have included "Islamic-crowdfunding" and "Sadaqa," but attempts to do so by these authors proved unsuccessful. Future endeavors to analyze ISF literature should expand the scope to include Islamic crowdfunding. Additionally, the study focuses on publications in the Scopus database. Expanding the research to include other databases will deliver more enriching results.

Even though global conditions have always influenced ISF discourse, the recent emergence of disruptive technologies is not obvious in the bibliometric analysis of the field. This could be partly due to the elimination of crowdfunding from the keywords used by this study because crowdfunding is one of the critical ways the ISF has utilized digital technologies but cannot be the entire reason. Digital technologies could increase the efficiency of zakat and waqf management and could broaden the reach of IMFIs and increase their efficiency. Nevertheless, the concept of digitalization and digital technology is not in this bibliometric analysis.

Digitalization and sustainable practices must be interwoven in all aspects of life and business to ensure resilience in a post-pandemic world. Although technology such as blockchain and FinTech can increase social impact and revolutionize the field of development, they are still understudied (Aysan et al., 2021a). For that reason, future research in ISF must explore emerging technology such as FinTech, blockchain, and cryptocurrency to develop ideas to advance the field of Islamic social finance.

References

- Andres, A. (2009). *Measuring Academic Research*. <https://doi.org/10.1533/9781780630182>
- Atan, N. A. B., & Johari, F. B. (2017). A review on literature of Waqf for poverty alleviation between 2006-2016. *Library Philosophy and Practice*, 2017(1).
- Aysan, A. F., Bergigui, F., & Disli, M. (2021a). Blockchain-based solutions in achieving SDGs after COVID-19. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2). <https://doi.org/10.3390/joitmc7020151>
- Aysan, A. F., Bergigui, F., & Disli, M. (2021b). Using blockchain-enabled solutions as SDG accelerators in the international development space. *Sustainability*, 13(7). <https://doi.org/10.3390/su13074025>
- Aysan, A. F., Disli, M., Duygun, M., & Ozturk, H. (2018). Religiosity versus rationality: Depositor behavior in Islamic and conventional banks. *Journal of Comparative Economics*, 46(1), 1–19. <https://doi.org/10.1016/j.jce.2017.03.001>
- Aysan, A. F., Disli, M., Ng, A., & Ozturk, H. (2016). Is small the new big? Islamic banking for SMEs in Turkey. *Economic Modelling*, 54, 187–194. <https://doi.org/10.1016/j.econmod.2015.12.031>

- Aysan, A. F., Disli, M., Ozturk, H., & Turhan, I. M. (2015). Are Islamic banks subject to depositor discipline? *The Singapore Economic Review*, 60(01), 1550007. <https://doi.org/10.1142/S0217590815500071>
- Aysan, A. F., Güler, M. H., & Orman, C. (2013). Sustaining growth in emerging markets: The role of structural and monetary policies. In *A new model for balanced growth and convergence: Achieving economic sustainability in CESEE countries* (pp. 122–143). <https://doi.org/10.4337/9781782548171.00017>
- Aysan, A. F., Nabli, M. K., & Vénganzonès-Varoudakis, M. A. (2007). Governance institutions and private investment: An application to the Middle East and North Africa. *Developing Economies*, 45(3), 339–377. <https://doi.org/10.1111/j.1746-1049.2007.00042.x>
- Jean-Philippe de Schrevel. (2020). How Blended finance can plug the SDG financing gap | development matters. <https://oecd-development-matters.org/2020/01/22/how-blended-finance-can-plug-the-sdg-financing-gap/>.
- El-Komi, M., & Croson, R. (2013). Experiments in Islamic microfinance. *Journal of Economic Behavior and Organization*, 95, 252–269. <https://doi.org/10.1016/j.jebo.2012.08.009>
- Handoko, L. H. (2020). Bibliometric analysis and visualization of Islamic economics and finance articles indexed in Scopus by Indonesian authors. *Science Editing*, 7(2), 169–176. <https://doi.org/10.6087/KCSE.213>
- Benthall, J. (1999). Financial Worship: The Quranic Injunction to Almsgiving Author(s): Jonathan Benthall Source: The Journal of the Royal Anthropological Institute, 5(1) (Mar., 1999), pp. Published by: Royal Anthropological Institute of Great Britain a. 5(1), 27–42.
- Khan, A., Rizvi, S. A. R., Ali, M., & Haroon, O. (2020). A survey of Islamic finance research— Influences and influencers. *Pacific Basin Finance Journal*, 101437. <https://doi.org/10.1016/j.pacfin.2020.101437>
- Kochuyt, T. (2009). God, gifts and poor people: On charity in Islam. *Social Compass*, 56(1), 98–116. <https://doi.org/10.1177/0037768608100345>
- Kuran, T. (2001). The provision of public goods under Islamic Law: Origins, impact, and limitations of the Waqf System. *Law & Society Review*, 35(4), 841. <https://doi.org/10.2307/3185418>
- Kuran, T. (2003). The Islamic commercial crisis: Institutional roots of economic underdevelopment in the Middle East. *Journal of Economic History*, 63(2), 414–446. <https://doi.org/10.1017/S0022050703001840>
- OECD. (2020). How Islamic finance contributes to achieving the sustainable development goals. *OECD Policy Paper*, 30(June), 1–44.
- Rahim Abdul Rahman, A. (2010). Islamic microfinance: An ethical alternative to poverty alleviation. *Humanomics*, 26(4), 284–295. <https://doi.org/10.1108/08288661011090884>
- Rehman, A. (2019). Islamic finance for social good. UNDP Website https://www.undp.org/content/undp/en/home/blog/2019/IFN_ANNUAL_GUIDE_2019_Islamic_Social_Finance.html.
- Salamon, H. B. (2018). Distribution management of Zakat Fund: Recommended proposal for Asnaf Riqab in Malaysia. *International Journal of Civil Engineering and Technology*, 9(3), 56–64.
- Shatzmiller, M. (2001). Islamic institutions and property rights: The case of the ‘Public Good’ Waqf Author(s). *Journal of the Economic and Social History of the Orient*, 44(1), 44–74. Published by: BRILL Stable.
- Tamanni, L., & Liu, F. H. (2013). *What is Islamic microfinance?* (Vol. 2011, pp. 169–195). <https://doi.org/10.1007/978-3-319-62111-1>
- Wahab, N. A., & Rahim Abdul Rahman, A. (2011). A framework to analyse the efficiency and governance of Zakat institutions. *Journal of Islamic Accounting and Business Research*, 2(1), 43–62. <https://doi.org/10.1108/17590811111129508>
- Wajdi Dusuki, A. (2008). Banking for the poor: The role of Islamic banking in microfinance initiatives. *Humanomics*, 24(1), 49–66. <https://doi.org/10.1108/08288660810851469>
- Widiarto, I., & Emrouznejad, A. (2015). Social and financial efficiency of Islamic microfinance institutions: A data envelopment analysis application. *Socio-Economic Planning Sciences*, 50, 1–17. <https://doi.org/10.1016/j.seps.2014.12.001>

Return Migration as a Driver of Regional Development: A Case of Northeast Estonia



Jelena Rootamm-Valter and Anne Herm

Abstract The article aims to summarize the results of a study carried out for the local governments of the border region of Northeast Estonia to determine internal and international patterns of in-migration, present the expectations of the in-migrants, and introduce their possible input into the development of the region. Since 1992, the population of the region has been decreasing and meets a number of sociocultural and economic challenges. Increasing in-migration is an important factor of development. Using interview for data collection and qualitative content analysis, a qualitative research was conducted, as statistical data did not provide sufficient input for analysis. Based on interviews held in 2020, the study indicated that initial in-migration is not likely to give permanent input to the development of the region. Return migration shows valuable potential, as returners have higher living standards and qualifications than the average of the region. They are attracted by low prices of real estate, high-paid jobs, free formal education and its high quality, the possibility to use their first language, and rejoining local communities. While planning the future development of the region, it is important to take into consideration the expectations of return migrants for education, social care, and cultural and natural environments.

Keywords In-migration · Return migration · Country of transition · Border region · Municipality · Regional development

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1 Introduction

A matter of concern of both state and local authorities of each country is the difference in local resources that may not provide conditions for achieving equivalent welfare of the population in all regions. Inequality slows down the development of a country as a whole, including its relatively healthier parts, not only the ones with poorer resources, and may affect the progress even in neighboring countries (Cörvers & Mayhew, 2021). Inner peripheries have become an important subject of study quite recently, and the importance of the factor of location is growing continuously (De Toni et al., 2021).

The development of each region depends, among other factors, on the actions of local governments. Their efforts are directed toward enlarging the resources at their command and on finding the most effective ways for their implementation, in order to achieve the best possible rate of welfare for their citizens.¹

The tasks of local governments have become more and more complicated as the understanding of welfare, well-being, or state of content has been changing and the variety of citizens' needs has been expanding. At the same time, citizens themselves are the most valuable resource for the well-being of local communities. For the local governments, income of their citizens is very important because a significant part of their income tax fills local budgets directly (in 2021, in Estonia, 11.96% of the income of a person, Income Tax Act, 1999).

Although Estonia is a small country, differences in natural resources and even in historical circumstances have caused significant differences in the welfare of the population of its regions and municipalities. Moreover, during the last decade, a number of administrative changes have been made in Estonia, including in its Northeast region in 2018 (Administrative Reform Act of 1 July 2016). The administrative division and the borders of local municipalities and the number and structure of their population have been changed. Therefore, local governments need as detailed information on these updates and changes as possible, as input for their development programs in Estonia. Municipalities usually have rather precise data of births and deaths at their disposal, but it is less representative in the case of migration. In our view, one of the reasons for this is absence of comparable statistical data that would allow tracking trends of migration through periods long enough to come to conclusions about them. The other reason lies, in our opinion, in the lack of detailed enough statistical data on the characteristics of migrants, especially where return migration is concerned. So, when planning the development activities, the local governments face a lack of information about upcoming changes in the structure of its population caused by migration. Our study contributes into filling this gap in the case of the municipalities of Northeast Estonia.

¹In the EU, local governments follow common principles and ways presented in the European Charter of Local Self-Government in 1985 (European Charter of Local Self-Government, 1985). Estonia signed it in 1995 (International Agreement, 1995), and its principles and provisions were taken into force even earlier (Local Government Organization Act, 1993).

According to our knowledge, the studies that consider the specific situation of a post-Soviet country's regional migration are almost missing. Most of the migration studies of the post-Soviet area focus on out-migration to the countries with higher living standards. If internal migration is handled, it is studied in urban-rural context (Gorny & Kaczmarczyk, 2019a, b). Our study contributes more generally to the literature on regional migration patterns. It is also specific in that it includes, but also distinguishes, both internal migration from other parts of the country as well as international migration. That is rather rare in regional migration studies. Our qualitative research' focus on return migration seems to be a new, yet unnoticed trend in the migration processes of Eastern European countries. The case of Estonia and its Northeast part is particularly interesting because being an EU member state it accommodates a large part of immigrant population from Russia that arrived during Soviet occupation and that may be a factor for shaping the migration patterns today.

The article aims to present how different patterns of in-migration have formed and how different groups of in-migrants may affect the development of the region and its municipalities.

The analysis includes the results of an ad hoc qualitative case study that expands a quantitative overview of recent trends of migration in the region conducted by the authors (Rootamm-Valter et al., 2021). The quantitative analysis allows us to conclude that in Estonia, at this stage of rapid development of a post-Soviet democratic country, even in the case of a peripheral Northeast region, in-migration begins to exceed out-migration both from foreign countries and from regions with higher living standards in the country itself. The qualitative stage of the study elicits that a significant part of in-migrants is returners with different background who are ready to contribute to the development of the region with their improved qualifications and funds.

The first part of the article presents statistical demographic and socioeconomic characteristics of Northeast Estonia based on authors' calculations. Theoretical standpoints of the migration processes relevant for the study are given in the next part followed by the methodology of the study. Results and discussion present the aspects of initial and return migration. Finally, conclusions and a list of references are presented.

2 Demographic and Socioeconomic Characteristics of Northeast Estonia

The Northeast region of Estonia covers 8% of the country's land territory and is inhabited by 11% of the Estonian population according to the 2011 Census (Tiit & Servinski, 2015). Due to the largest enterprises in Estonia being located in the region, 88% of its population is urban (Tiit & Servinski, 2015). The region is a permanent subject of concern linked to economic, ecological, and social circumstances. The situation of the region is special also because it is a border region of the

Schengen zone, as well as the EU, with Russia. The main economic activities include mining and utilizing local natural resources like oil shale for power and other materials for uranium production, as well as making use of convenient cargo sea harbors. However, in parallel, there is a population occupied in agriculture and tourism, thanks to the areas of natural beauty and rich fauna and flora that lie next to the mining areas.

When studying migration in the Northeast region of Estonia, it is necessary to take into consideration the historical consequences that have influenced population composition and characteristics. Their effects extend the migration flows that are observed today (Raagmaa, 1996; Kulu & Tammaru, 2000; Katus et al., 2002). During the Soviet period, since the 1940s, the intensive development of industry was accompanied by huge immigration flows from other areas of the Soviet Union (Sakkeus, 1994), which resulted in the current population composition consisting of 66% foreign origin (Statistics Estonia, 2021). The conditions for migration in Estonia have been changing dramatically since the restoration of the independence of the Republic of Estonia in 1991. After the dismantling of economic links from the Soviet economy, the region has suffered from high unemployment rates (Statistics Estonia). Personal perspectives became uncertain for many people with immigration background who unexpectedly lost their earlier advantages linked to the Soviet economic and social policies. Since 1992, the population of the region has decreased continuously and almost linearly, and that was because of both negative natural change and net migration. Despite accommodating two of the five biggest cities of Estonia, its share decreased from 14% to 11% of the Estonian population within 30 years (authors' calculation based on Statistics Estonia). Since 2000, the net annual out-migration rate has fluctuated between 0.6% and 0.9%. With the highest difference between in- and out-migration flows after the economic crisis of 2009, the exodus has lasted for almost 10 years (Fig. 1). The decreasing trend of the population number has been a concern of the public and of policymakers. Therefore, the public debates mainly focused on the decrease of population due to out-migration. At the same time, especially during the last decade, the region suffers underqualified labor shortages in the occupations of new developing sectors, business-to-business services, ICT, construction, engineering, etc. (Estonian Unemployment Insurance Fund, n.d.).

Over this period, the number of persons in younger birth cohorts decreased dramatically. Among those born between 1991 and 2000, about a quarter has left the region since 2016. The impact of the large out-migration of these cohorts is particularly painful because of the sharp decrease in the number of birth cohorts since the beginning of the 1990s (Fig. 2). Whereas moving to the capital city Tallinn or other places in Estonia for studies is quite common at a younger age of around 16–20 years, it is a warning that the older cohorts born in the 1990s and 1980s are also remarkably decreasing due to migration (Fig. 2). Nevertheless, there are some signs indicating that this decrease has slowed down recently, as seen on Fig. 1.

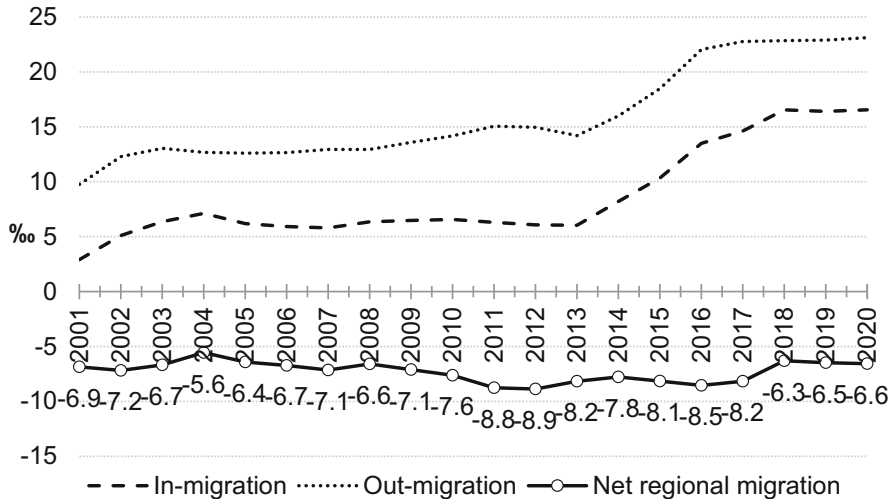


Fig. 1 Migration rates in Northeast Estonia, 2000–2020 (3-year smoothed). Source: Statistics Estonia (2021) and authors’ calculation

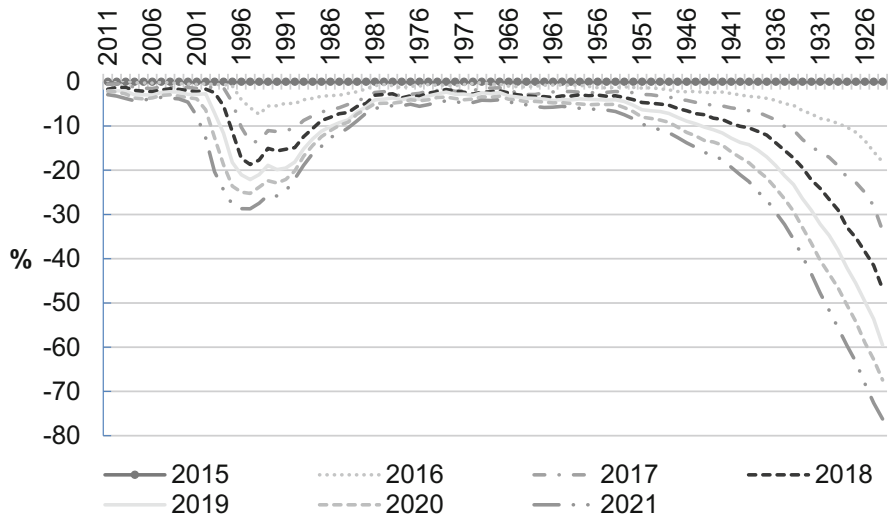


Fig. 2 Proportion of birth cohorts in the population of the Northeast Estonia in 2016–2021 compared with January, 1, 2015 (2015 = 0; 3-year smoothed). Source: Statistics Estonia (2021) and authors’ calculation

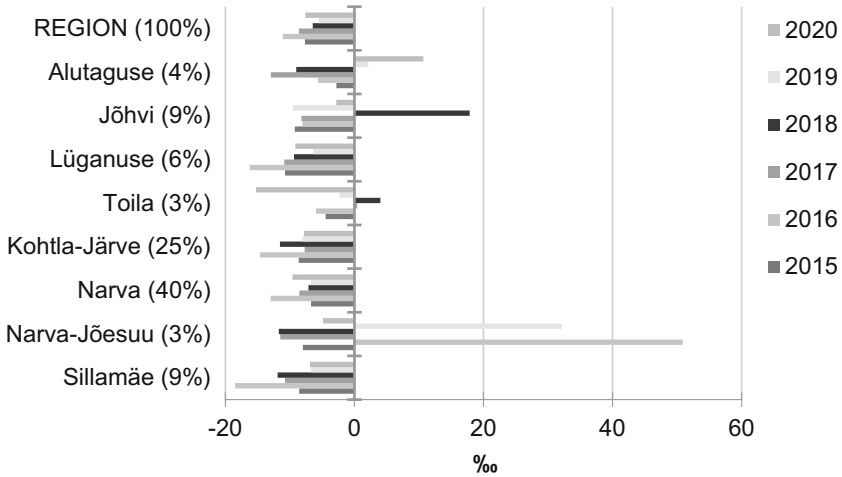


Fig. 3 Total annual net migration rates and share of population in municipalities of Northeast Estonia, 2015–2020. *Source:* Statistics Estonia (2021) and authors' calculation

Whereas the small signs of the positive change in net migration seem to appear during recent years², the positive net migration is still far to reach, but after the remarkably high negative values of the net migration, during recent years, the difference between in- and out-migration has become smaller compared to the average of the two decades (Fig. 1). Most municipalities, and particularly those with largely urban populations, lose the population due to the out-migration and so determine the trends in migration for the whole region.

In contrast, some small rural or semirural municipalities exhibit deviation from general trend in the region, having experienced positive net migration during some of the recent years (Fig. 3).

Mainly, inter-regional migration is responsible for the overall situation in the whole region and in each municipality, whereas international migration rates are fluctuating a lot over the years (Fig. 4). Nevertheless, in several years, the international net migration has had quite an important decreasing effect on negative total net migration in the region.

The latter information on annual population change and migration flows is based on official statistics that define the migration event as the change of usual residence from and to other regions of Estonia or from and to abroad (Statistics Estonia). These data do not indicate if people who move in are the same who moved out some time ago in the past. Nevertheless, we assume that at least part of the decreasing negative balance between in- and out-migration can be counted for return migration of

²Sharp increases in annual rates of in- and out-migration from 2000 to 2002 and from 2013 to 2015 are indicated due to methodological changes in data collection and production by Statistics Estonia. We presume that, in general, the effect of these changes to net migration is minimal.

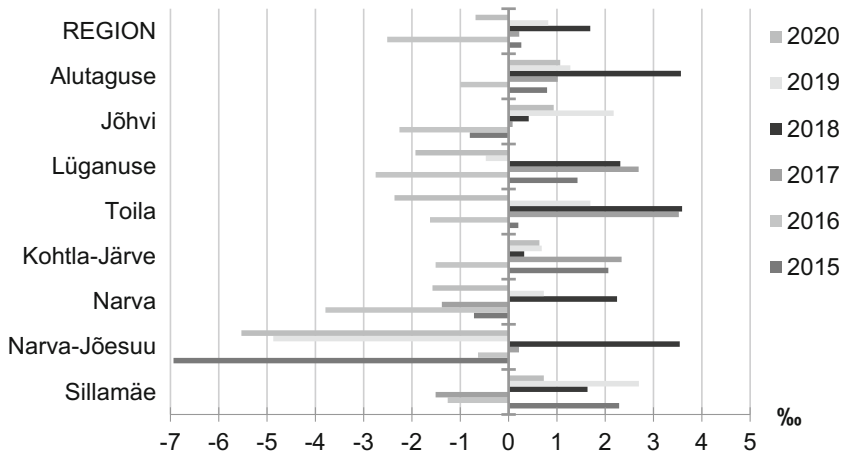


Fig. 4 Annual net international migration rates in the municipalities of Northeast Estonia, 2015–2020. *Source:* Statistics Estonia (2021) and authors' calculation

previously out-migrated or emigrated persons or those linked to the region in some other way.

Concluding the demographic data, we may say that population composition of the region is a mixed result of past immigration flows linked to extensive development of industry, relatively low fertility rates of population with immigrant background, and out-migration during the post-Soviet period. Moreover, the population of the region has decreased faster than in Estonia as a whole due to out-migration and aging. Decreasing population is one of the most serious problems for the local governments. At the same time, recent trends in net migration reveal possible changes that could support the improvement of the situation. It is necessary to take a deeper look into migration processes in order to identify which new services must be provided by regional authorities and local governments.

Eight municipalities of the region differ significantly from each other by the variety of their resources and features of their progress during the last decades. Some controversies in the development of the region and its municipalities can be seen at Fig. 5: the smaller the queue number in range, the higher the level of development (Ministry of Finance, 2018). It can be also seen that the gap between the levels of development of municipalities in the region has not changed for quite a long time and it is becoming even wider (Fig. 6). So intention of the local governments of the region to get more detailed information about in-migration for planning development programs is fully justified.

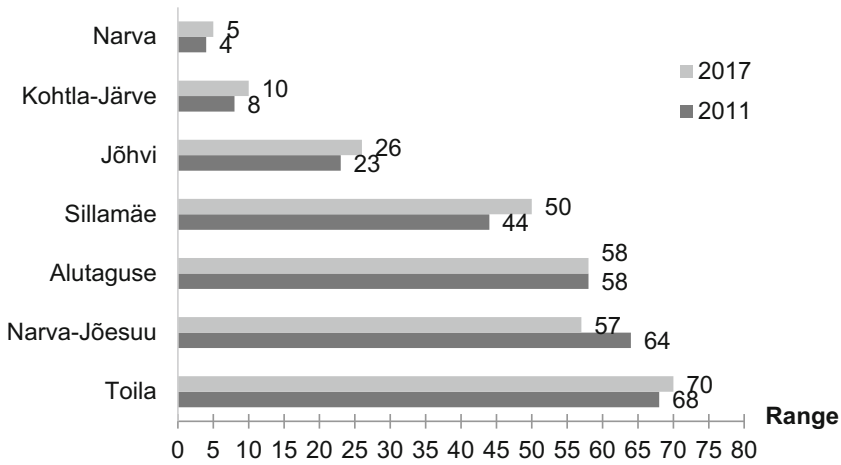


Fig. 5 Range of regional potential of the municipalities of the Northeast region among 79 municipalities of Estonia in 2011 and 2017. *Source:* Ministry of Finance (2018)

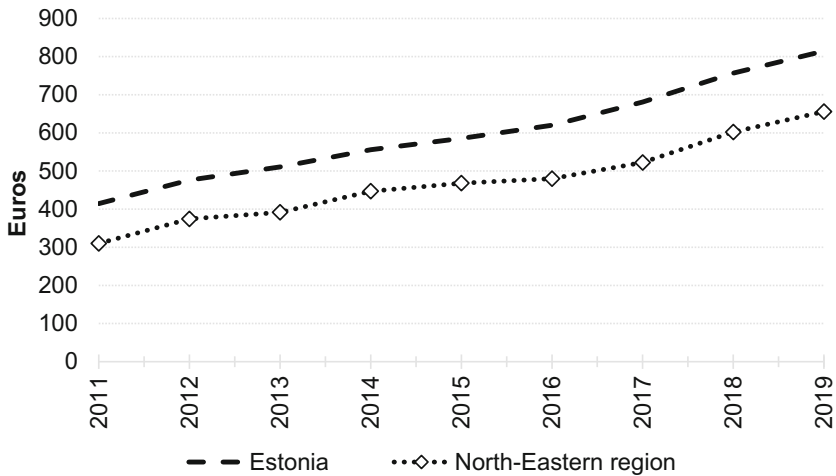


Fig. 6 Disposable income per household member in a month 2011–2019. *Source:* Statistics Estonia (2021), and authors’ calculation

3 Theoretical Standpoints

Migration and development are linked and influence each other. Migration may be driven both by a lack of development and by a growth in socioeconomic development (Castelli, 2018). From a personal point of view, one’s status and perspectives for employment, age, language, and place of origin could affect the decision to move or to stay. It seems that people who view themselves as firmly rooted in their region

are less likely to move away. In a Canadian study, the most important factor for considering migration was, firstly, the region itself; secondly, employment opportunities elsewhere; and, thirdly, the costs of moving (Rheault, 2019). The same factors may also be encouraging for return migration after the purpose of emigration has been fulfilled or the conditions of the place of origin have improved.

The processes of migration that occurred in Estonia may be explained by the approach presented by de Haas (2021). According to his theory, migration is “an intrinsic part of broader social change” (de Haas, 2021, p.13), and it is a function of capabilities and aspirations.

In our study, the intensive migration processes that influence the present situation in the Northeast region of Estonia may be caused by both historical circumstances developed during and after the WWII and the recent developments that have taken place during the last decade of the twentieth and beginning of the twenty-first century. From that point of view, the circumstances under which the present population of the region was formed, and the specifics of the current and future migration processes, are important.

Historically, the first period of Soviet occupation from 1940 until 1952, including the events of World War II that resulted in the German conquest in 1941–1944, was characterized in Estonia including in its Northeast region by various types of involuntary migration. These migrations occurred in a situation that has been defined by de Haas (2021, p. 27) as “absence of reasonable option to stay.” These migrations included deportation to the northern parts of the Soviet Union in 1941 and 1944–1952 (Mälksoo, 2001). Large migration flows directed to Western Europe and further during WWII (Kulu & Tammaru, 2000) could also be seen as a choice between life and death. It was a period when the Northeast region lost most of its indigenous population, which was thereafter replaced by migrants from the territory of the Soviet Union during a 40-year period (1950–1990) resulting in an extremely high portion of the population with migrant background.

At the time of Soviet occupation, migration to and from Estonia was limited by the territory of the Soviet Union and may be defined as internal migration between the regions. Statistics on this period covered migration flows only partially, excluding all that was linked to military forces and military industry, including the whole city of Sillamäe in the Northeast region, and migration due to the Soviet repression. Nevertheless, some historical facts and research, which were made after Estonia gained independence in the 1990s, proposed estimates for the number of population lost due to the war and Soviet repressions (Lippmaa & Maremäe, 2003; Buschweiler, 2021). Yet, this period of migration of the Northeast region is connected with the rapid development of industry: the immigration that started in the 1950s from different parts of the Soviet Union may have counted up to hundreds of thousands of relatively high-qualified workforce. It may be classified as involuntary with some features of voluntary migration or a kind of mixed-type migration, taking into account recruiting methods that were implemented in the Soviet Union (Fetchenko, 2015; Popova, 2010) and that have not yet been thoroughly studied. Having settled, the migrants did not have easy opportunities to leave for both economic and legal reasons. These circumstances may have created favorable ground for fulfilling

further migration aspirations when Estonia gained independence in 1991 and the opportunities for voluntary migration occurred quite suddenly. Still, although statistics show more active migration from the Northeast region to foreign countries and more developed regions of Estonia in comparison with other regions of the country, massive emigration of the non-indigenous population did not take place. On the contrary, a number of studies indicate the birth and quick development of unique local cultures based on this population, for example, in the city of Narva (Burdakova & Nõmm, 2019, 2021). As the population of other urban municipalities of the Northeast region had been formed similarly, we may take into consideration this cultural factor while explaining the reasons for migration in the region.

When linking the historical background of the current demographic situation in Northeast Estonia and the specificity of its migration today, it seems to be appropriate to consider the wish (aspiration) to settle in a given country or place of destination for a long time, probably for generations. A totally suitable migration classification is missing in academic literature for such an approach, even in the meta-approaches like ones by Baggio (n.d.) and by de Haas (2021). Since such classification helps us to explain the results of our study, we have constructed one for the analysis. Nevertheless, the type of migration that we observe in Northeast Estonia could be specific, and therefore the proposed classification would be suitable only for this case study.

The reasons for voluntary migration have been handled in numerous studies. Some of them stress the importance of subnational and regional welfare and its specifics in regions, whereas different groups of population may determine welfare in a different way and behave accordingly (Daigneault et al., 2021). The preferences may be caused by regional inequalities and may not correspond to the common prevailing views. Local factors may weigh up even advantages of the well-organized urban environment with relatively higher living standards. These considerations point to the necessity of more localized approaches (Cörvers & Mayhew, 2021). The importance of taking into consideration specificities and challenges of inner peripheries in the planning of regional development is convincingly presented in a number of recent studies in Europe (De Toni et al., 2021).

A place, country, or region of residence, desired or not, may result from initial, intermediate, or return migration of the person. Initial migration is movement from one country or place to another for final settlement according to the person's wish. If a person cannot move to a desired country or place directly, a decision may be done in favor of intermediate migration. In this case, the person moves first to a country or place where necessary preparations can be conducted. In case of international migration, it could mean learning a language and to obtain certain rights or conditions that facilitate their further migration to the desired destination. It corresponds to transit migration (Baggio, n.d.) with the difference that the intermediate migration, as we define it, has a specific definite purpose. Return migration at the first sight does not fit this classification. It is true, but only conditionally. If the qualities of a country or place of origin changed compared to when the person emigrated as an initial migrant or if the person changed his or her qualities, the same pattern would work for the return migration. The improvements in the country of origin may encourage

return migration, as stated before (Debnath, 2016). This approach is valid for both voluntary and involuntary migrations, considering that the person has the possibility to choose the country or region of destination. It could fit for both international and internal migrations.

Since the focus of migration studies has mainly been on the challenges of forced or involuntary migration, resulting in a number of useful recommendations (UNDP, 2021; Brauder, 2018), there is now a need to look further into other aspects of the field. Whereas many authors have analyzed push-and-pull factors and their mutual interaction in migration processes, while stressing the economic aspects, we think that it is not only economic reasons that make migration desirable (Van Hear et al., 2018).

However, the challenge is to establish when and why some drivers are more important than others, which combinations are more potent compared to others, and which are more susceptible to change through external intervention. Nevertheless, all the so-called usual factors are still relevant, often as a mixture of psychological, social, and economic factors, and apply for both internal and international migrations (Expert Advisory Group on Migration and Population, 2020). Studies also indicate a rising influence of the factors of the natural environment (Pawlewicz et al., 2020). The younger generation migrating for studies in higher education continues to manifest on a local or municipal level (Filomeno, 2017). Recent studies provide evidence of the mixed motivation of that type of migration, which also needs to be taken into consideration when planning local developments (Staniscia & Benassi, 2018). The youth's intention may not be to leave forever. Traditional and everlasting factors of migration are expertly and completely presented in de Haas' concept as functional, increased income, education, and living standards (de Haas, 2021, pp.15–16), and seem to remain the same through at least last century. It is remarkable that these factors are equally important for both international and internal migrations, as it occurs in the cited sources.

4 Methodology of the Qualitative Study of In-Migration

The analysis of the quantitative data shows that in-migration may become a factor that slows down the population decrease in Northeast Estonia and thus supports the development of the region. Nevertheless, it does not provide enough information for designing a long-term development program for the region. On the one hand, more detailed information is needed for planning the development of all the social service networks, from education to social care. On the other hand, information is needed about the quality of possible in-flow of the labor force for planning the development of infrastructure for progressing business activities, as well as for projecting the budget of the municipalities. Some of the research questions to be answered are as follows:

- Which qualities of the region as a whole, and of each municipality, have been considered by in-migrants as advantages compared to their former places of residence, and what makes them interesting enough to settle in the region for a long period of time, even for generations to come?
- How much development potential do they carry as labor force for the development of each municipality and the region as a whole?
- How do the living conditions of particular municipalities meet the expectations of in-migrants of different ages, educational levels, and life experiences?
- What can be done at the municipal and regional level for attracting in-migrants to settle there?

Thus, a qualitative study was conducted to answer these questions. The study was expected to highlight some essential characteristics of migrants and provide a systematized pattern of the migration to the region. We also expected to collect information on return migration in order to consider it separately, as it may play an important role in regional development. The study of return migration is especially exciting, because it may shed light on the reasons of out-migration and the factors that could help reduce it. However, this type of migration is not presented in official statistics.

Data was collected through semi-structured focus group interviews (Krueger & Casey, 2009). Residents of eight local communities were interviewed with 3–12 informants in each group. The number of informants in a group was limited due to the restrictions linked to the COVID-19 pandemic, and some additional interviews were held individually to provide the necessary representation of all municipalities. Interviews with officials responsible for completing the development programs in municipalities were also held, in order to identify the main ideas of the future development program and to compare them with the expectations of in-migrants. The total number of informants was 66, and data collection took place from October until December 2020.

The questions covered migration history from childhood to the current place of residence, as well as social networks, characteristics of education, working skills and experience, lifestyle preferences, achieved living standards, expectations to the natural and living environment, reasons of migration to a particular municipality, need for social services, coping with the environment, prospective for settling in a region for a long period of time, and expectations to the further development of a municipality and the region as a whole. Data analysis was conducted by qualitative content analysis (Elo et al., 2014) using previous selective coding.

This qualitative survey allowed us to find answers to research questions and to determine the main patterns of in-migration, including return migration, in the municipalities. In a broader sense, in-migrants may be divided into initial newcomers who are immigrants from abroad, in-migrants from other regions of Estonia who do not have experience of living in Northeast Estonia, and return migrants of different types who have experienced this on their own or through their parents, grandparents, or other relatives.

5 Results and Discussion

Answering the research questions, we choose to present the results and develop the discussion based on the patterns of in-migration that might be presented as a result of analysis. Common and general trends and suggestions will be introduced in the conclusion. On a large scale, in-migrants may be divided into initial newcomers who do not have former experience of living in Northeast Estonia and return migrants of different types. This common division (Baggio, *n.d.*) brings us to the question of what attracts these different groups and how can it be interpreted, taking into consideration the needs of development of the municipalities and the region as a whole. The initial migration will be characterized first.

5.1 *Initial Immigration*

Initial immigrants from abroad arrive mainly from Russia, from a border region shared with Estonia, and from St. Petersburg. They strongly prefer the city of Narva, as quantitative data has proven (Statistics Estonia, 2021). Immigrants choose the region because of a large number of quickly developing small and medium businesses that provide different engineering jobs, a relatively familiar social and cultural environment, and convenient conditions for applying for Estonian citizenship. The possibility of communicating in their native language socially as well as with local authorities and educating children in Russian at local schools that provide highly rated education (Schleicher, 2019) are also important attractions.

Immigrants of the group of 35–55 years old move mainly to the city of Narva. They are well-educated, often have their own businesses in the Northeast region, and move to Estonia as families—couples with children. Their living standards are relatively high, and they often improve their living conditions as the prices of real estate there are low. The probability of them settling in Narva for at least a generation depends on the development of business and its infrastructure in the region. If it provides enough resources and jobs for secondary and especially the tertiary sector, they may stay. If not, they move ahead to the capital city of Estonia or other European countries. Still, during their stay in the region, their impact on its development may become rather considerable, so local governments with the support from the governmental and EU tools of regional economic policy should probably pay more close attention to better use the potential of the described group for further development of the region.

Similar but probably a smaller group of initial immigrants coming from the foreign countries consists mainly of single male persons of the ages 25–35—well-educated engineering specialists of the secondary and tertiary sector, logistics, medical and service personnel of different levels, ITC, etc. They come from the peripheral cities of Russia situated close to the borders, from Ukraine, Belarus, and other former Soviet republics. They choose to live in urban municipalities of the

region with the aim of getting relatively high-paid jobs compared to their own country, which often needs lower qualifications than what the migrants actually have. The main aim of their emigration to Estonia and particularly in its Northeast region seems to be the adaptation to the European social and legal environment in the favorable conditions that are described above. They prefer to live in rented apartments rather than buying property and often seem to prepare for emigration to more developed European countries with higher salary rates and large communities of the migrants from their homelands. The impact of this group of immigrants on the development of Northeast Estonia is not as valuable as of the first group, but it still helps to reduce the constant lack of labor force in some particular areas. Probably the cost of their adaptation is covered by their impact on the economic life of the region. Still, constant turnover of population, though it is quite usual for the border regions (Hrynkevych, 2017; Estrada, 2017; Huang et al., 2020), from a wider point of view cannot be estimated as a positive factor of local development, and its encouraging by municipalities may be considered only as a short-term policy.

In-migration of the described groups is limited by the legal restrictions: yearly quotas for immigration to Estonia and requirement to wages that are paid to them (Aliens Act, 9 September 2009). Their wages have to be at least Estonian average and in a number of cases at least twice as high that is one of the measures that provide proper assumption for their input into development of the region.

The last and seemingly the smaller group of initial immigrants from foreign countries consists of the graduates of the secondary schools, who come to the Northeast Estonia urban municipalities for gaining third-level education that later allows them to stay in Estonia or other European countries. These young people come from different regions of Russia, Ukraine, and a number of other countries of former Soviet Union. As the professional and third-level education is in the most cases free of charge, it attracts students though living costs in Estonia is higher than in their own countries. Special attraction is a possibility to receive professional education at European standards in Russian language. It is also important that young people get students Schengen visas for living in Estonia. They stay in the region mostly as long as their studies last, from 3 to 5 years. Probability of their settling in Northeast region is relatively low because of the high mobility of people of that age, especially the ones from developing countries (Kyvliuk & Sviridenko, 2017; Szendrey & Fiala, 2018). Still, if the region provides favorable jobs, they may stay and become a valuable addition as the qualified specialists who are able to cope with the local social and cultural environment and fill the gap of the lacking workforce in the region. So the efforts of local governments to cooperate with the colleges and universities developing curricula that answer the needs of the local labor market correlates with their wish to increase a number of inhabitants who also become valuable taxpayers.

To sum up, these three patterns of initial immigration from the foreign countries belong to voluntary mobility (de Haas, 2021) that is limited by legal restrictions of the country of destination, as well as economic requirements to qualification that are necessary to get a job with particular wage. The common features are, according to capability approach, possibility to leave their home country and favorable conditions

that are provided by specifics of the Northeast region. Practically, the only regional limitation of the Northeast region is state of its labor market. As for the sociocultural conditions, Northeast region with its mostly Russian-speaking population and a possibility of communication in Russian language offers a favorable ground for coping with the local conditions.

As for the aspirations, the Northeast region seems to meet both their intrinsic and functional wishes (de Haas, 2021) but often only at the stage of coping with the legal, economic, and social conditions of the EU. It is also convenient that the Estonian region with Russian-speaking population that is situated close to the Russian border and immigrants' former homes. So the Northeast region and especially border city of Narva may become an intermediate station where immigrants stay up to 8 years that is necessary for naturalization in Estonia and then move ahead to more developed Estonian regions or other European countries or elsewhere. So the region constantly carries a duty of adaptation of the immigrants, though partly it is smoothed by their input to local economy and social life. It is possible to predict that as long as the gap between quality of life in Northeast and capital city region of Estonia remains, the border region will suffer under pressure of out-migration of relatively short-staying initial immigrants. Such a state of a springboard is specific for quickly developed Eastern European countries, for countries in transition, and especially for the regions with mixed population. That has to be taken into consideration while planning the further development of the Northeast region.

5.2 *Return Migration*

Qualitative survey allows to conclude that return migration may make quite a big part of both international and internal in-migrations to the region of Northeast Estonia. The study let us draw four particular patterns of return migration. The construction is based on a more general graphic description of patterns of migration that are presented in one of our previous studies (Rootamm-Valter et al., 2021). Some of them are common for all the municipalities of the region; the other are specific. Three of them, A, B, and C, belong to internal migration and one, D, to international migration.

Pattern A represents persons mostly in the 40s and even elder who left seeking for jobs during the last decade of the twentieth and the beginning of the first decade of twenty-first century, when restructuration of economy started. For example, unemployment rate reached 22.2% in 2002 which was 54% higher than the average of Estonia (Statistics Estonia, 2021). The place of destination of internal out-migration was the wealthiest region of Estonia with the capital city in its center. By now, these citizens are preparing to retire and are eager to come back "home," as they indicate social and cultural environment of their former place of living. It seems that these processes have not been a subject of close study in the countries of transition though the subject is actual and studied in the developed countries (Giner-Monfort, 2018). Coming back, they would soon be in need for high-quality social care services as

they are used with the higher living standards to compare with the local ones. Returnees buy property of the higher value than average in the region which is still much cheaper than in the places from where they leave. That affords them relatively better living conditions than they had experienced before. They will be also able to buy social care services in addition to those that are provided by the local governments or the state for free. From the point of view of local municipalities, in order to be ready for such demand, it is wise to start developing a network of social care services of the higher quality than before and widen their scale and amount.

Pattern B describes young people at the age of 20–30 who left approximately at the same period and a little later for the capital city, but also for other Estonian municipalities mainly for education and on-the-job training. They return to Northeast at the age of 30–38, sometimes with their families and minor children as they have advantages in qualification over local people and thus better possibilities for continuing their career, mainly in public sector positions. It seems to be common trend for the countries of transition (Radu et al., 2020; Tverdostup & Masso, 2015). They also say that they prefer to educate their children in an environment that is held out in their first language—Russian—especially in free education in addition to the formal studies. These trends seem to be similar in a number of European countries in transition (Bagdonaitė, 2020).

The keyword for successful coping seems to be a common language, which is also stressed in the studies conducted in other countries and cultures (Despagne, 2019). Though in some countries children of return migrants meet difficulties of adapting to a local education (Ciomaga, 2019), our study does not indicate such problems in Northeast Estonia. Returning families buy property that provides them relatively better living conditions than they had had before. It means that the efforts that had been made for development of formal education by both the state and the municipalities have paid off and it is wise to set it as one of the priorities in the future.

Pattern C includes a special group of in-migrants from different parts of Estonia who return to the birthplaces of their parents, grandparents, and other relatives of older generations. Historically, the local population was involuntarily moved from the places of their permanent settlement, and their younger descendants feel that they have to return. They come with families, often having three or four children that are more than in average in Estonia (Puur & Rahnu, 2011). These in-migrants often prefer to live in the villages; they either work in the public sector or start their own businesses in agriculture and other green areas. They also stress the importance of attending small village schools for their children. All in all, this pattern may point at the delayed reaction on involuntary migration that took place in the region during turbulent years of the twentieth century. That is stressed by the area of occupation these return migrants choose.

Pattern D is quite similar to pattern A with the difference of the starting point of return migration. Returnees come back to Northeast Estonia from EU countries with higher living standards compared to Estonia, like Germany, Norway, and also the UK and the USA. They are also preparing for retirement, and their living standards, expectations, and needs are similar to the ones of the internal return migrants. The

only significant difference is their even stronger feeling of belonging to the local culture and special strength of their local identity.

Practically all the returnees stress the possibility to raise their living standards, thanks to low commodity and real estate prices in the Northeast as well as the better access to a number of free or relatively cheaper social and education services. Their incomes are relatively higher than the average of the region, thanks to relatively higher qualification. Returnees value the quality of local natural environment and a lot of advantages for living or spending their free time in nature and possibilities to get high-paid jobs and cope to familiar sociocultural environment, often defined as a “home.” It is a favorable ground for them to be motivated to contribute into the local development. For municipalities, return migration is a valuable source for quickening their development, so it is wise to take into consideration the expectations and wishes of returners.

6 Conclusion

The Northeast region of Estonia—a country in transition—is situated on the border with Russia. The region not only does suffer on the lag of welfare compared with other regions of the country but is also having a continuous decrease of population due to population aging and considerable out-migration. Most of the population of the region is of foreign origin, coming from the Russian-speaking territories of former Soviet republics. Although the slow increase of in-migration has been indicated recently in a number of municipalities, statistical data does not provide enough input for long-scale development programs and for seeing if this trend brings development potential or further challenges.

The qualitative study conducted in the end of 2020, based on the data of 66 interviews, allows us to conclude that initial migration flows are not very promising for raising the development potential of the region. It is attracting highly educated and qualified migrants from former Soviet republics as a convenient place for coping with the European environment for further migration to more developed countries with higher living standards.

At the same time, a flow of initial immigration was identified. Four patterns of return migrants represent both internal and international migrants who are coming back to their birthplaces having acquired higher qualifications and filling the gap of well-paid top specialists at the local labor market. Low real estate prices allow them to achieve higher living standards in comparison with most of the local population and to use the advantages of Estonian school education for their children. This is valid for both international and internal in-migrants. A considerable number of return migrants value local nature and the familiar sociocultural environment that they indicate as their home. Urban return migrants with the Russian mother tongue stress the importance of rejoining the local Russian-speaking community. Authors have come to the conclusion that the presented set of reasons for return migration are typical for a slow-developing border region of a country in transition and may be of

interest to regions that are in a similar situation. The results of the study give an indication to the authorities to take into consideration the needs of return migrants in their development programs and to consider their increasing input to the elevation of welfare in the region.

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References

- Administrative Reform Act. (1 July 2016). *Riigi Teataja* I 21.06.2016, 1.
- Aliens Act. (9 December 2009). *Riigi Teataja* I 08.07.2021, 17.
- Bagdonaitė, J. (2020). Remigration in Lithuania in the 21st century: Readiness of the education system to accept students from returning families. *Vilnius University Open Series*, 3, 6–15.
- Baggio, F., (n.d.) *Descriptive classifications of migration*. Scalabrini International Migration Institute, [online] Available at: <http://www.simiroma.org/Baggio/TS109/Classification%20Baggio%20EN.pdf> Accessed 12 September 2021.
- Brauder, H. (2018). *Local and municipal responses to cross-border migration: Providing services to migrants independent of status. Executive summary*. IOM.
- Burdakova, O., & Nõmm, J. (2019). Narvskye “svadebnye dostoprimitel’nosti” kak komponenty lokalnogo teksta [Narva “wedding sights” as components of the local text]. *Nordic and Baltic Studies Review*, 4, 64–95.
- Burdakova, O., & Nõmm, J. (2021). O formirovaniy syuzhetov voyennoy istoriyi 1944 g. v lokalnom tekste g. Narvy. [About the formation of narratives of the military history of 1944 in the local texts of the city of Narva]. *Nordic and Baltic Studies Review*, 6.
- Buschweller, C. (2021). Between integration and isolation: The social pendulum of Narva, Estonia. *Cornell International Affairs Review*, 14(1), 90–136.
- Castelli, F. (2018). Drivers of migration: Why do people move? *Journal of Travel Medicine*, 25(1).
- Ciomaga, F. (2019). The educational reintegration of the remigrant pupils in Romanian schools case study in Vrancea County. *Journal of Pedagogy*, 67(2), 85–105.
- Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.
- Daigneault, P.-M., Blich, L., & Béland, D. (2021). Taking subnational and regional welfare states seriously: Insights from the Quebec case. *Journal of European Social Policy*, 31(2), 239–249.
- de Haas, H. (2021). Theory of migration: The aspirations-capabilities framework. *Comparative Migration Studies*, 9(8) Springer.
- De Toni, A., Di Martino, P., & Dax, T. (2021). Location matters. Are science and policy arenas facing the inner peripheries challenges in EU? *Land Use Policy*, 100.
- Debnath, P. (2016). Leveraging return migration for development: The role of countries of origin a literature review. KNOMAD’s Thematic Working Group, World Bank.
- Despagne, C. (2019). “Language Is What Makes Everything Easier”: The awareness of semiotic resources of Mexican transnational students in Mexican schools. *International Multilingual Research Journal*, 13(1), 1–14.
- Elo, S., Kääriäinen, M., & Kanste, O. (2014). Qualitative content analysis: A focus on trustworthiness qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 1–10.
- Estonian Unemployment Insurance Fund. (n.d.). Occupational barometer, [online] Available at: <https://www.tootukassa.ee/eng/baromeeter>. Accessed 12 September 2021.

- Estrada, M. (2017). Brasiguai identities: An outcome of the pursuit of land across the Brazilian and Paraguayan shared border region. *Exchange*, 5(1), 41–57.
- European Charter of Local Self-Government. (15 October 1985). European Treaty. ETS No. 122. European Council.
- Expert Advisory Group on Migration and Population. (2020). *The internal migration in Scotland and the UK: Trends and policy lessons*. Scottish Government.
- Fetchenko, I. (2015). Analiz sovetskoy sistemy sodeystviya zanyatosty vypusknikov vuzov (molodyh sestialistov) y yspolzovaniye ye elementov segodnya. [Analysis of the Soviet system of promoting the employment of university graduates (young specialists) and the use of its elements today]. *Humanities, Social-Economic and Social Sciences*, 6(2).
- Filomeno, F.A. (2017). Theories of local immigration policy. Series of citizenship and migration. Springer.
- Giner-Monfort, J. (2018). End to dream? British retired residents in Spain and their return patterns. *Journal of Spatial and Organizational Dynamics*, 6(4), 360–374.
- Gorny, A., & Kaczmarczyk, P. (2019a). Introduction: Migration and mobility in the context of post-communist transition in central and Eastern Europe (part 2). *Central and Eastern European Migration Review*, 8(2), 9–38.
- Gorny, A., & Kaczmarczyk, P. (2019b). Introduction: Migration and mobility in the context of post-communist transition in Central and Eastern Europe (part 1). *Central and Eastern European Migration Review*, 8(1), 5–8. Received 24 June 2019.
- Hrynkevych, O. (2017). Transgranichnyi factor obrazovatelnoy migratsiyi ukraynskoy molodezhy v Polshu: Vozmozhnosty y ugrozy. [cross-border factor of educational migration of Ukrainian youth to Poland: Social-economic opportunities and threats]. *Економічний часопис*, 21(1–2), 26–30.
- Huang, D., Lang, Y., & Liu, T. (2020). Evolving population distribution in China’s border regions: Spatial differences, driving forces and policy implications. *PLoS One*, 15(10), 1–21.
- Income Tax Act (1999). *Riigi Teataja* 26.03.2021, 3.
- International Agreement. (1 April 1995). European Charter of Local Self-Government *Riigi Teataja* II 1994, 26, 95.
- Katus, K., Puur, A., & Põldma, A., (2002). Eesti põlvkondlik rahvastikuareng. [Cohort population development in Estonia]. RU Sari D, nr 2. Tallinn: Eesti Kõrgkoolidevaheline Demouuringute keskus.
- Krueger, R. A., & Casey, M. A. (2009). *Focus groups. A practical guide for applied research*. Sage.
- Kulu, H., & Tammaru, T. (2000). Ethnic return migration from the east and the west: The case of Estonia in the 1990s. *Europe-Asia Studies*, 52(2), 349–369.
- Kyvliuk, O., & Sviridenko, D. B. (2017). Academic mobility as “Brain Drain” phenomenon of modern higher education. *Studia Warmińskie*, 54, 361–371.
- Lippmaa, E., & Maremäe, E. (2003). The beginnings of uranium production in Estonia. *Oil Shale*, 20(2), 167–174.
- Local Government Organisation Act. (2 June 1993). *Riigi Teataja* I, 25.06.2021, 7.
- Mälksoo, L. (2001). Soviet genocide? Communist mass deportations in the Baltic States and International Law. *Leiden Journal on International Law*, 14(4), 757–787.
- Ministry of Finance. (2018). *Piirkondliku potentsiaali indeks 2017*. [Index of regional potential 2017] Tallinn: Ministry of Finance, [online] Available at: <https://www.rahandusministeerium.ee/et/kohalikud-omavalitsused-haldusreform-maavalitsused/finantsulevaated>. Accessed 12 September 2021.
- Pawlewicz, K., Gwiaździńska-Goraj, M., & Krupickaitė, D. (2020). Differences in the environmental, social and economic development of Polish–Lithuanian trans-border regions. *Social Indicators Research*, 147, 1015–1038.
- Popova, I. (2010). Organizovany nabor kak forma privlecheniya naseleniya na Yevropeysky Sever vo vtoroy polovine 1940-h ynachale 1960-h godov. [organized hiring as a form of attracting the population to the European North in the period of the second half of the 1940s to the beginning of the 1960s]. *Известия РГГУ им. А. И. Герцена*, pp. 63–67.

- Puur, A., & Rahnu, L. (2011). Teine demograafiline üleminek ja Eesti rahvastiku nüüdisareng [Second demographic transition and current development of the Estonian population]. *Akadeemia*, 12, 2225–2272.
- Raagmaa, G. (1996). Shifts in regional development of Estonia during the transition. *European Planning Studies*, 4(6), 683–703.
- Radu, B. M., Bălan, M., & Uzlaşu, C. (2020). The impact of migration on the country of origin. *Internal Auditing & Risk Management*, 15(3), 41–51.
- Rheault, L. (2019). Why are Canadians reluctant to leave their province? *American Review of Canadian Studies*, 49(3), 428–448.
- Rootamm-Valter, J., Herm, A., Rämmer, A., Kudriavtseva, V., & Lahi, H., (2021). Ida-Virumaa elanike sisserände suunad ja seda mõjutavad tegurid. Lõppraport. [Factors influencing the migration of the residents of Ida-Virumaa and the possibilities of local governments to regulate it. Final Report]. Narva: Narva College of the University of Tartu. [online] Available at: https://www.narva.ut.ee/sites/default/files/nc/ida-virumaa_randeuuring_loppraport_fin.pdf. Accessed 12 September 2021.
- Sakkeus, L. (1994). In S. Adrists (Ed.), *The Baltic States. The politics of east-west migration* (pp. 68–85). Palgrave Macmillan.
- Schleicher, A. (2019). *PISA 2018: Insights and interpretations*. OECD, [online] Available at: <https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf>. Accessed 12 September 2021.
- Staniscia, B. & Benassi, F. (2018). Does regional development explain international youth mobility? Spatial patterns and global/local determinants of the recent emigration of young Italians. *Belgeo* 3.
- Statistics Estonia. (2021). Population. Statistical database. [online] Available at: <https://andmed.stat.ee/et/stat>. Accessed 15 September 2021.
- Szendrey, J., & Fiala, L. (2018). “I Think I Can Get Ahead!” perceived economic mobility, income, and financial behaviors of young adults. *Journal of Financial Counseling and Planning*, 29(2), 290–303.
- Tiit, E.-M. & Servinski, M. (2015). Eesti maakondade rahvastik. Hinnatud ja loendatud. Tallinn: Statistikaamet.
- Tverdostup, M. & Masso, J. (2015). The labour market performance of young return migrants after the crisis in CEE countries: The case of Estonia. *Business administration working paper series* (vol 98, pp. 3–31), University of Tartu Faculty of Economics & Social Sciences.
- UNDP. (2021). Human development report 2020: The next frontier—human development and the Anthropocene.
- Van Hear, N., Bakewell, O., & Long, K. (2018). Push-pull plus: reconsidering the drivers of migration. *Journal of Ethnic and Migration Studies*, 44(6), 927–944.

Financing Sustainable Economic Growth: Evidence from Europe



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Abstract An important part of this article's argument is that environmentally friendly finance and investment practices are becoming increasingly important. To implement the Sustainable Developmental Goals, private sector resources are needed. It's important to develop and execute technologies that help investors make the right decisions. Sustainable finance policy for the European Union is being developed with help from the European Commission's High-Level Expert Group on Sustainable Finance. Sustainability considerations were to be integrated into risk management, among other things, as part of the action plan for sustainable economic growth's goals, as well as promoting transparency and long-term thinking in the financial and economic activity. The adoption of a European Union taxonomy for sustainable development activities was one of the most critical and urgent objectives outlined in the action plan for financing sustainable economic growth. Additionally, the classification method can be freely used by other business owners. To evaluate the utilization of source data and international deals that incorporate financial sustainability, the technique is based on a desk survey. The findings reveal that a great deal of work has been done to ensure financial stability and a great deal of money has been invested in this goal.

Keywords Sustainable development · Economy · Finance · European Union taxonomy · Multidimensionality · Innovation · Green Deal

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1 Introduction

Since the birth of globalization, economic sustainability has been one of the most essential components in stabilizing the numerous facets of social, political, and environmental stability. Sustainability is essential in today's society as well because it affects both economic and political advancements.

Finally, sustainable development is a deliberate effort to reverse the effects of past behavior that have harmed the environment, as evidenced by the increased rate of global warming, diminished ozone layer protection, rising water table levels, desertification, logging-related deforestation, and other indicators. Technology, industrialization, and urbanization have drained our natural resources. Humans and other animals on Earth are now at risk of extinction because of Earth's rapid economic and social development. Due to a lack of focus on environmental sustainability, the ecosystem has been damaged, resulting in an increase in natural disasters such as increased radioactivity, floods, and tsunamis, as well as significant shifts in the climate. There is a danger that we will run out of the planet's natural resources if we don't change our unhealthy lifestyles. As a result, several regulatory policies have been implemented, one of which is sustainable development. Environmental protection law and legislation promoting social and economic stability have both been passed (Chichilnisky, 1997).

The concept of sustainable development has been of essential importance, which has grown with time and with technological advances. However, with political and economic growth, the concept of sustainable development became more diverse. This theoretical theory was principally linked to social advancement. Sustainable development has grown into a number of categories, including environmental sustainability, economic sustainability, corporate sustainability, scientific sustainability, political sustainability, cultural sustainability, and others. Sustainable development has been credited with helping to shape the current global sociocultural scene, and practically every policy decision made by a country—whether at the national or international level—aims to promote sustainable development. A country's social and political dynamics are influenced by economic sustainability, which is one of the most critical characteristics of sustainable development, for example, sustainable development is the ultimate goal of any government program (Parris, 2003).

SDGs emphasize balancing the requirements of the economy and environment in order to achieve socioeconomic and socio-environmental success. Prosperity benefits not only the current but also the future generations. Each of these goals may be broken down into three distinct categories: economic growth, social inclusion, and environmental preservation.

There are three pillars of sustainable development that are being implemented in every area of the economy and society, from agriculture to infrastructure to energy to water to transportation and urbanization. Every organization's financial system is heavily interwoven with sustainable development in order to build a healthy community that adheres to social, economic, and environmental challenges in a

long-term strategy. By encouraging the use of cutting-edge technologies and so aiding environmental preservation, it benefits society as a whole and each individual as well. The goal of sustainable development is being pursued by several countries, which are putting in place action plans to safeguard various environmental areas and ensure that resources are being used appropriately. Nine billion people are predicted to be in the world by the year 2050. Developing a plan that ensures that each person may enjoy a substantial quality of life without harming our natural resources is a major challenge in sustainable development. For sustainable development, social justice and equal opportunity, climatic sustainability, conservation of natural resources and biodiversity, and the safeguarding of water bodies, as well as renewable energy, sustainable nutrition and health, controlled population, sustained employment, and sustainable economic growth are all aims (Zdan, 1997).

This is evident from the large number of developmental action plans that have been formulated by the international as well as the national organizations. Some of these plans include the green finance (financial policy), European Union taxonomy (socioeconomic policy), Green Deal (socio-environmental policy), Sustainable Development Goals (socioeconomic and socio-environmental policy), and multidimensionality (socioeconomic policy). There are many others. Sustainable development and the provision of prosperous lives for our future generations are expressly addressed by the implementation of these initiatives.

The aim of the paper is to address the financial sustainable action plans, undertaken by the different organizations on different levels, to assist in environmental sustainability, through improvised investments, which in turn supports the human life. The paper also presents specified evidence on financing of sustainable development and the evidence of sustainable action plans as executed by organizations, thereby giving an insight into the efficacy and effectiveness of these plans, and elaborates the complete sustainable facets, collectively, with pertinent provision of each of the plan, which makes it different from other papers.

The paper constitutes elaboration of the green fiscal policies, European Union taxonomy, European Green Deal, Sustainable Development Goals (SDGs), significance of sustainable development, and finally conclusion.

2 Green Finance and Financial Policies

Many national and international policies have been included into economic and financial policies, especially after the 2008 global economic crisis, which was inflicted by rising oil and energy costs. New methods for long-term economic growth free of the threat of collapse have been actively sought. Sustainable economic development's primary goal was to minimize the financial exclusion, inefficient redistribution system, pay inequities, and negative financial externalities that caused the financial crisis. As a result, federal and provincial governments across the country and around the world have adopted these principles. Independent bureaus, such as banks and other financial institutions, in addition to governments,

implemented these policies, which greatly contributed to the accomplishment of economic sustainability. Economic policies for investments in environmentally friendly businesses have been introduced by several European and American banks and financial institutions, for example, fiscal green finance (Wang, 2016). Increasing money flows from financial institutions, such as insurers and banks, in addition to the public and commercial sectors; “green finance” refers to financing for sustainable development processes. In order to boost long-term investments in sustainable financial initiatives, sustainable finance examines environmental, social, and governance (ESG) challenges and hazards. Internationally, Europe is regarded as a major player in the field. As part of its 2018 action plan on funding sustainable growth, the European Commission has recently termed economic sustainability “green finance.” The term “green finance” refers to a type of financial or economic activity whose primary goal is to benefit the environment. Debt, loans, and investments are all included in a hierarchical array that is utilized to safeguard the environment in one way or another. With the help of green finance, environmental impact can be minimized, while development projects move toward a green and sustainable future.

It has thus been implemented into an economic sustainability action plan, which provides environmental protection, financial gains, and economic stability (Taghizadeh-Hesary, 2019). One way to think of green finance is that it’s an amalgamation of economic growth with environmental protection and finance that’s linked to financing sustainable economic growth. Green money or the Green Deal has been generally recognized and applauded, especially in light of climate change and the rise in global warming. The increase in Earth’s surface temperature that accompanied this climatic change and global warming proved harmful to the animals that called it home. As a result, environmental conservation became an urgent priority, and regulations were developed to balance environmental protection with economic development. This led to the development of green funding, which was beneficial to both ends. To achieve social, political, economic, and environmental sustainability, this creative concept has played a crucial role in putting forward some solutions for the flow of private finance to green investment.

Green Finance, which combines financial operations with environmental principles, has proved helpful to businesses, investors, consumers, and financial lenders. Green finance is therefore an arrangement of policies, institutions, and financial infrastructure that directs money to environmentally friendly projects and activities via financing such as loaning and other financial services like insurance and bond issuance (Sachs, 2019).

As the importance of sustainability development initiatives grows, so does recognition of the Green Finance idea. The European Central Bank, the World Economic Forum, and the United Nations have all expressed support for it recently. The United Nations’ 17 Sustainable Development Goals (SDG), in particular, will greatly benefit from green finance. As part of UN efforts to apply green funding in investments made by businesses and in other development projects, the UN’s environmental committee is closely linked to the UN Economic and Social Council.

Now, a number of public and private universities are working together to ensure that the financial system's future is secure (Zhang, 2019).

A number of environmental projects are being implemented by the United Nations in order to help countries reorganize their business regulations so that green borrowing becomes a requirement for all investments. Beyond green borrowing, the United Nations is directing every country in the world to place a higher priority on producing clean energy through investments in renewable energy sources. In doing so, the globe will be able to implement the 2030 strategic development goals and long-term energy infrastructure. There will be a total shift away from fossil fuels toward renewable ones including solar, wind, and biomass energy as well as hydroelectricity and tidal power. The major projects, incorporated in the developmental scheme of the green finance, are:

- Prevention of pollution, by sustainable control of the polluting factors
- Production of efficient and renewable energy
- Conservation of biodiversity
- Formation of circular economy and implementation of circular financial measures
- Use of sustainable natural reserves and land

Currently, the green finance scheme's development projects receive the bulk of its funding from the United States, China, and France (Barua, 2019). Euro-dominated green debt is currently held by the European Central Bank in order to fund the projects described above. A number of countries have also established their own autonomous boards and national organizations in order to support their green initiatives. For instance, the Green Horizon Summit, a virtual event which was organized in London to promote green finance. If the green finance is sustained effectively, then the environment will be sustained, and the ecosystem will be protected. Moreover, the OECD Centre on Green Finance and Investment is also working for the protective development of the environment. The Green Climate Fund is also supporting the investment in the green finance, with emphasis on climatic sustainability. Hence, this will lead to the achievement of sustainability goals by 2030, as anticipated (Volz, 2018).

3 European Union Taxonomy

Besides the financial and economic policies, several other strategic plans have been implemented for the sustainable development action plan, which incorporate the mechanisms for environmental protection, for instance, the European Union taxonomy. The EU taxonomy is the result of an international effort that has been principally embraced by the European Commission. For the progress of sustainable development, the EU taxonomy's goal is to help investors analyze their financial decisions so that they can divert capital toward the creation of sustainable businesses and technologies that will be safe for our environment. It is imperative for the international corporations and markets that conduct business in the European

Union (EU) to be knowledgeable of the implications of the taxonomy (Rancan, 2020). The taxonomy is a list of financial operations with enforcement guidelines to evaluate the contribution of these international companies toward six environmental objectives: In order to ensure the long-term sustainability of water and marine resources, we must address climate change mitigation, adaptation, and transformation of our economy to a circular one. According to a press release, the new taxonomy is expected to improve the amount of capital invested in environmentally friendly businesses across a wide range of industries. 93.5% of the greenhouse gas emissions in the European Union are a result of the activities of these corporate units.

To begin with, the European Commission developed the EU taxonomy in light of the escalating effects of climate change and the accompanying global warming. It was adopted to achieve a sustainable climate and environment by 2030, which will not only benefit economic growth but also safeguard the environment from various threats. The EU Taxonomy Climate Delegated Act, the Corporate Sustainability Reporting Directive, and other delegated acts are the primary components of this EU taxonomy, which aims to promote both financial and environmental sustainability. The Climate Delegated Act of the European Union encourages long-term investments that benefit both Europe's economy and the planet. Taxonomy developed by the European Union as part of this legislation instructs businesses, investors, and politicians on how to engage in economic activities that support long-term environmental stability. Companies and investors benefit from this since it protects them from environmental threats that could have a significant impact on their business and also from greenwashing. Investing in projects that benefit both the economy and the environment is a win-win situation for investors and companies alike. These companies are also able to be environmentally and climate-friendly because of this. Similarly, the Corporate Sustainability Reporting Directive (CSRD) is formulated to convey the knowledge and information of sustainable development and its significance to the business community including manufacturers, investors, and consumers. This enables the companies to evaluate and assess the provisions of sustainable development before investing, helping them to make the right decision and financing in the economic growth and environmental stability. Other delegated Acts, which are reported to be six, are formulated to ensure that the financial institutions incorporate the provisions of sustainable development in their financial procedures, which will also protect climate and environment (Esposito, 2021). These delegated acts are binding rules for the investors and companies that they must imply while making an investment or undertaking a business plan.

4 Green Deal

As part of the European Union taxonomy, the European Green Deal has been designed to help finance sustainable economic growth and other development goals. To help European citizens and enhance their health, the Green Deal has been developed as a development strategy that emphasizes a healthy environment

and a healthy climate while conserving natural resources and biodiversity. According to the Green Deal, the major goal is to achieve the anticipated results of Europe's climate-neutral policy by 2050 in order to prevent global warming and stabilize the climate. Companies must therefore establish and implement a framework to support sustainable development as part of this agreement. Traditional company trends might be changed, and current business methods that ensure long-term growth could be substituted.

Toward a climate-neutral Europe by 2050, the European Green Deal aims to increase the well-being and health of its citizens while also protecting and enhancing the EU's natural resources and biodiversity. As a result, the Green Deal's essential goals cannot be realized without the explicit involvement of manufacturers and investors, who may greatly boost the deal's trustworthiness. There is a strong connection between the Green Deal and the aforementioned delegated acts, as each of them establishes a uniform set of criteria that corporations can apply when making project investments to ensure that their money is being put to good use. The European Green deal's main policy areas are as follows:

- Improving environmental sustainability and climate stability in accordance with the EU's 2030 and 2050 environmental plans:
 - To eliminate all pollutants and create a toxic-free environment
 - To ensure a safe and healthy living environment for the general public
 - To preserve the ecosystem's biodiversity that serves this purpose
- Improving the economy by making it easier and more efficient for businesses to operate
- Supporting the development of environmentally friendly and efficient sources of energy and encouraging new ideas and research

While other continents may still be dealing with climatic and environmental challenges, Europe will be the first to achieve climate neutrality by 2050, thanks to the European Green Deal. It includes the complete transformation of the existing trends to the sustainable development. The anticipated outcome of the Green Deal in the transformation of the transportation industry is that by 2050, emission of carbon dioxide will be reduced by 55% from cars and by 50% from vans. And by 2050, the carbon dioxide emission will eliminate (Fig. 1).

Similarly, Green Deal will be of substantial importance for the industrial revolution, as it is expected that by 2030, approximately 35 million buildings would be renovated in Europe and 160,000 new jobs will be created in the construction industry, as a result of the sustainable development action plan. The development of sustainable and efficient energy sources is also an integral part of the Green Deal, and it is expected that 40% of new renewable energy will be produced by 2030. Final and primary energy consumption will be improved by 36–39% by 2030, paving the way for more sustainable energy sources (Fig. 2).

By 2030, it is predicted that 3% of all buildings' total floor area will be refurbished and 49% of structures will have created renewable energy sources, as

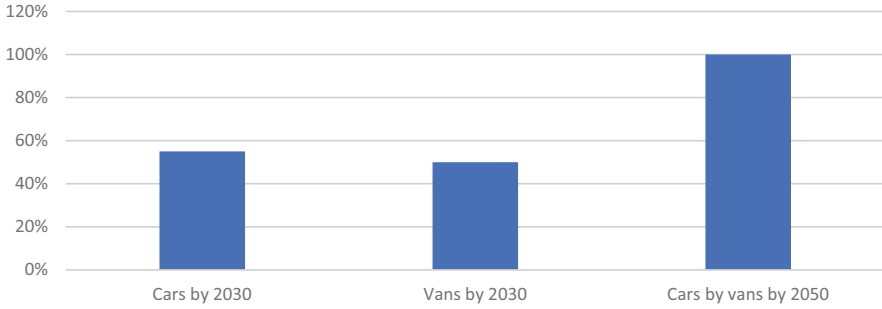


Fig. 1 Reduction in emission of carbon dioxide. Source: (Rosenow, 2013)

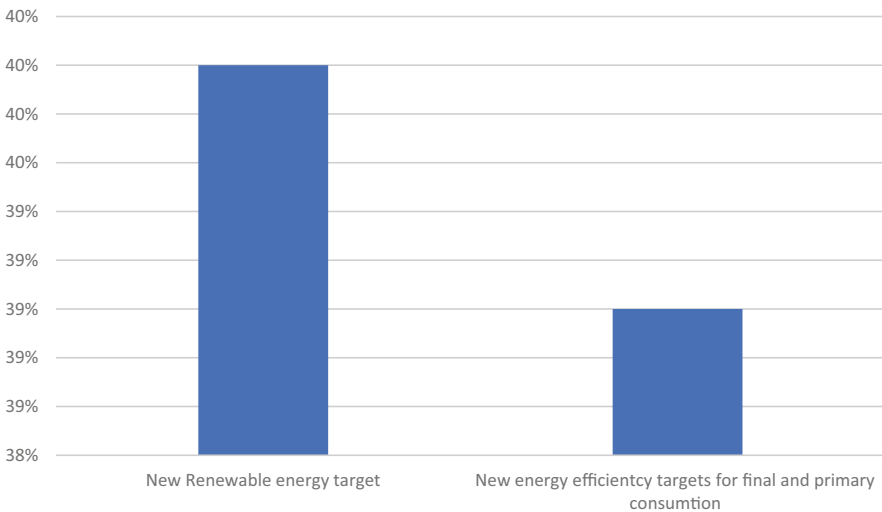


Fig. 2 Development of sustainable energy sources by 2030. Source: (Pettifor, 2015)

part of the effort to create greener lives. To top it all off, the Green Deal calls for an annual rise in renewable energy heating and cooling use of 1.1% until 2030.

Sustainable development of nature is also a major part of the Green Deal, as the environmental sustainability is directly related to the nature. As a part of the developmental program, the deal is aimed at improving living conditions, maintaining a healthy environment. Therefore, efforts are made for this purpose, which is evident from the rise in the carbon sinks. At the start of the Green Deal, the carbon sinks were only 230 m, which increased to 268 m in 2020, and are expected to increase to 310 m by 2030 (Fig. 3).

Hence, this shows the significance of the Green Deal in the sustainable development, which is directly following the European Union taxonomy, the financing of sustainable development of both economies and the environment, enabling the organizations and individuals to take such financial actions as to ensure

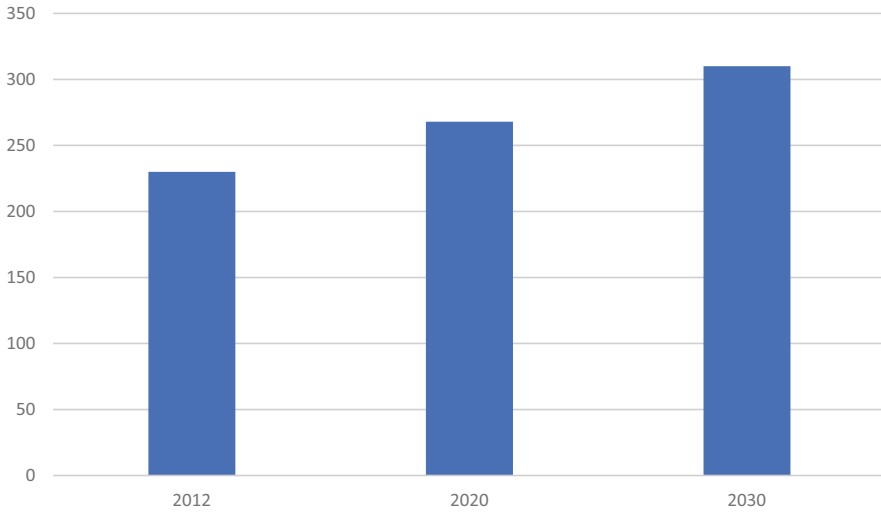


Fig. 3 Sustainable development of carbon sinks over the years by increasing deposition in meters. Source: (Siddi, 2020)

environmental protection and economic growth. And as a part of environmental protection, the Green Deal is associated with the protection of nature, biodiversity, ecosystem, as well as climate while ensuring that capital is invested for their sustainable development, thereby improving the living conditions for humans and other species of the planet. EU climate change strategy began in 2020 and aims to achieve net-zero emissions of greenhouse gases by 2050 and to demonstrate that Europe’s economy would grow without extending their consumption of resources. In order to ensure that countries that formerly relied on fossil fuels do not fall behind in adopting more efficient energy sources, such as renewable energy, the Green Deal has a set of guiding rules.

5 Sustainable Development Goal

In addition to the Green Deal, a number of other programs have been launched to ensure the long-term financial viability of the environment. As part of the United Nations’ 2030 Agenda for Sustainable Development, SDGs are one of the most significant programs. For the Sustainable Development Targets (SDGs), developed and developing countries alike were given an action plan by the United Nations, which includes 17 goals aimed at protecting the environment and economy (Gaffney, 2015). The major purpose of these goals is to increase the flow of money toward sustainable development, which can benefit both the economy and the environment.

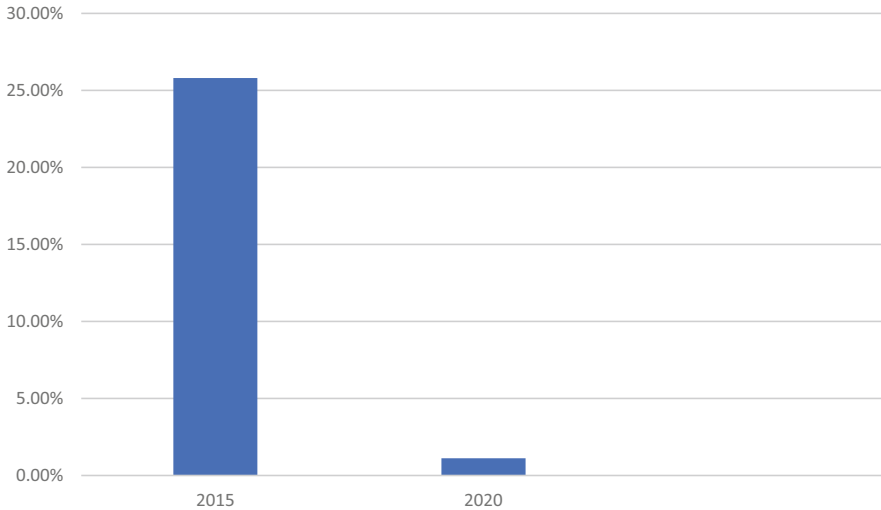


Fig. 4 Number of people living under extreme poverty. Source: (Robert, 2005)

They're all intertwined, with each of them being part of a broader picture of sustainable development. In order to achieve these goals, the United Nations has taken a number of steps. Aside from directing nations worldwide to take specific actions to safeguard environmental resources and ecosystems, the United Nations has also issued directives aimed at preserving biodiversity and the climate. And besides these factors leading to environmental sustainability, there are several other factors leading to sustainable development, for instance, the social sustainability, including equality, social justice, peace, women empowerment, technological sustainability, industrial sustainability, and infrastructural sustainability. Hence, all of the set targets of the Sustainable Development Goals are aimed at financing the sustainable development programs, which can ultimately lead to the betterment of the Earth in different socioeconomic and sociocultural ways.

The United Nations, to check out the progress, undertaken by the goals has set up monitoring indicators, which include numerous tools that indicate and visualize the progress made to achieve each of the goals. If we track down the success of each of these goals, it has been evaluated that SDG has been quite successful. Considering the poverty, it is found that in 2015, the year in which Sustainable Development Goals were adopted, approximately 1.9 billion people were living in extreme poverty, which reduced to 88 million people living in extreme poverty in 2020, while it is predicted that only 359 billion people will be poor by 2030. This clearly demonstrates the success of the SDG (Fig. 4).

Similarly, if we consider hunger in the world, it was estimated that 795 million people went to bed hungry in 2015, but that number is expected to drop to 150 million by 2021, proving that one of the Sustainable Development Goals has been met (Fig. 5).

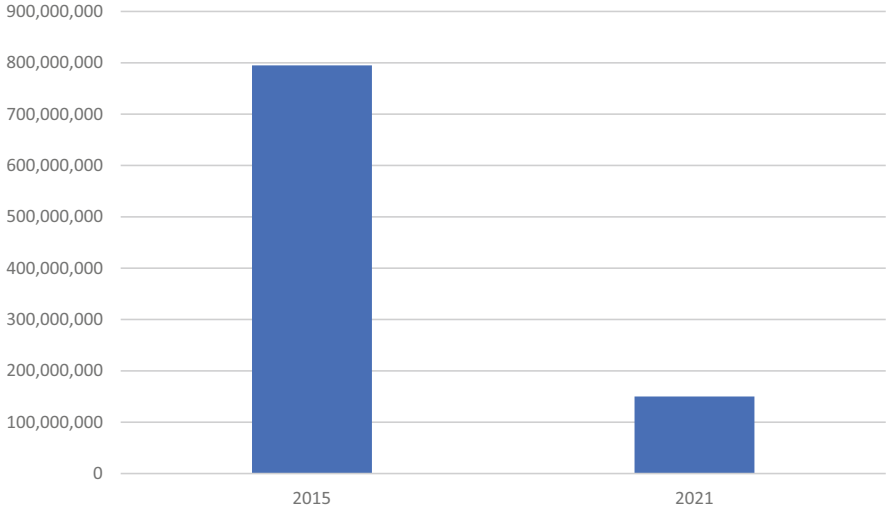


Fig. 5 People sleeping hungry in the world. Source: (Stafford-Smith, 2017)

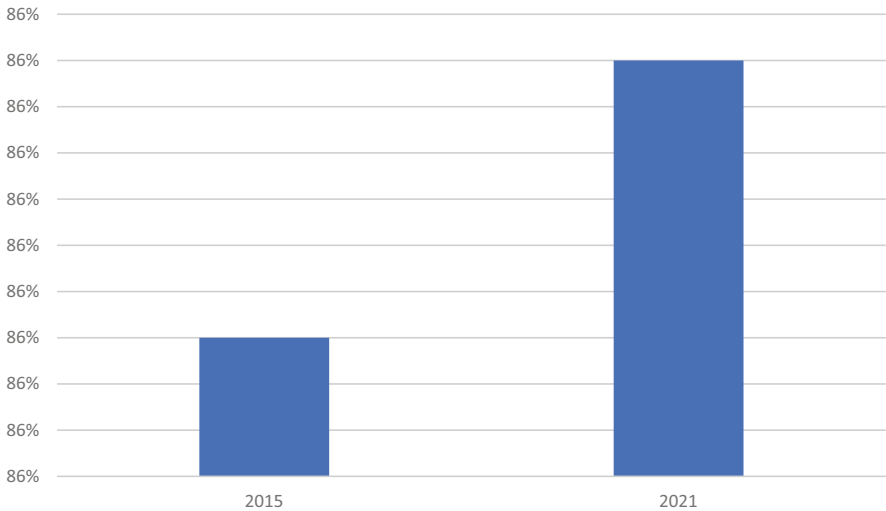


Fig. 6 Literate people of the world. Source: (Nilsson, 2016)

For educational sustainability, approximately 86% of the world’s population was estimated to be literate in 2015, which grew to 86.3% in 2021, showing only a small amount of progress. It is a serious problem, though, and substantial efforts are being made to address it (Fig. 6).

The quality of life has also been somehow sustainable, with the advancement in the technology and infrastructure. People are now less vulnerable to social injustices and discrimination. Women are now more empowered and more independent.

Hence, we can say that Sustainable Development Goals are on the successful way, leading to social, political, cultural, environmental, industrial, and technological sustainability.

6 Significance of Financial Sustainability

Sustainability as mentioned earlier is evaluated in three broad categories: environmental, economic, and social. And among these three categories, the economic sustainability is considered the most significant, as the environmental and social sustainability are largely dependent on it. Economic sustainability, according to economists, is a key stepping stone to social and environmental well-being and progress. As a result, states should prioritize economic sustainability above all else, both internationally and nationally. Different economists have characterized financial sustainability in different ways. This ability to implement financial policies in a manner which ensures debt is eliminated and investment is enhanced has been viewed by some. The ability of a government, organization, or individual to ensure that capital is used in a way that leads to increased investment and revenue, which in turn leads to social stability, economic advancement, and environmental protection, has been defined by some economists as financial sustainability (Quayes, 2012).

A country's social, political, environmental, diplomatic, and geographic systems are all dependent on the financial system's strategic framework, which has long been considered the backbone of the country's national policy. Financial sustainability also strengthens the economy to ensuring that investments are made in the proper direction, leading to innovation as well as stability and long-term growth. We're talking about sustainable development here, so financial sustainability is important because it encourages environmental sustainability by investing in business projects that protect the environment from various threats (such as pollution) and thus ensure the economic development of the business as a whole.

The United Nations has formulated a committee, which comprises of specialists, having experience in the finance, environment, climate, and conservation, which enables them to act together, in the correct direction, leading to long-term growth and prosperity (Tehulu, 2013). This is, in fact, the collaboration of the policymakers and the financial regulators, which work together for the shift of the economy to a low-carbon economy. There are three fundamental aspects of this sustainable fiscal policy, which include:

1. Investment in the low-carbon economy and other sustainable sectors
2. To support modern research and innovation, by financing researchers and scientists
3. By investing in the right investing opportunities

The flow of cash into projects that lead to a green ecological economy based on the sustainable development of society and the environment is what is meant by investing in a low-carbon economy, since it ensures that the environment is protected

in all the possible, leading to maximum conservation and minimum pollution. To support modern research and innovation refers to the upbringing of the modern ideas and innovative research which leads to the protection of the environment, thereby leading to socioeconomic stability and environmental sustainability. Similarly, the right investment opportunity refers to all the developmental projects, which can lead to sustainable development in all sectors, of industry, infrastructure, agriculture, energy production, transportation, and others.

Additionally, there are a number of socioeconomic elements that have a direct impact on sustainable development, as well. The Financial Stability Plan is one of the most important aspects in this socioeconomic development. First developed in the United States, the Financial Stability Plan has since been implemented by a number of countries. After the global financial crisis of 2008, which resulted in the largest economic loss before the pandemic, the Financial Sustainability Plans were developed. Financial institutions around the world have collapsed due to a complex set of factors that were in place before to this global crisis. Governments throughout the world implemented a variety of measures to safeguard banking institutions and economies in other organizations once the crisis began. The rehabilitation process involved the implementation and enactment of strategic measures, primarily fiscal and monetary policies, to avert a future financial system collapse. These monetary policies included the Financial Sustainability Plans. The world has felt the need for a sustainable economy, with strong and autonomous financial institutions and banks, with decreased debts, and with increased investment. And these were the primary motive behind these plans (Tarasenko, 2020).

The Financial Sustainability Plans were not an independent policy, but they are a complete set of provisions that monitor the financial system of the government, regulating how the government should spend its treasury and how it should respond to any future crises. And hence, the FSPs helped the world to deal with the financial bankruptcy inflicted by the COVID-19. The Financial Sustainability Plans collaborated with several countries, which made a strategic alliance to cope with the poverty, unemployment, corporate failure, and other problems (Kremen, 2019). Moreover, under the FSPs, these countries also helped other countries to cope with the economic crises, which is evident from the strategic alliance of the countries during the pandemic. And hence, this plan was an important plan of the general fiscal stimulus policy, enabling the governments to function effectively and respond actively during financial problems.

And this has led to the economic stabilization of several countries, which are constantly paving their ways to economic superiority, including the United States, Russia, China, Japan, Germany, the United Kingdom, and India. Economic sustainability is directly linked to social stability and environmental sustainability, which leads to the improvement of people's socio-ecological well-being. Hence, financial, social, and environmental sustainability are interdependent and are the most substantial indicators of the prosperity (Lupu, 2015). Moreover, financial sustainability is now the most fundamental factor for a country, especially because of the technological revolution and the globalization, which have digitalized the whole world.

7 Multidimensionality in Sustainable Development

The concept of multidimensionality in sustainable development is a relatively new one. Ecological sustainability is about integrating many social, economic, and environmental variables in order to solve different challenges encountered by people throughout the world. This is called multidimensionality in sustainability. To ensure that people have the basics of life, such as food, shelter, education, clothes, and health care, the multidimensionality of multidimensional sustainable development has been designed primarily for their socioeconomic advancement. As a result, the multidimensionality has been defined as the improvement of an individual's social, economic, and environmental well-being. Multidimensionality supports a person's financial well-being by taking into account their economic integration, allowing them to obtain the necessities of life, such as food, shelter, and clothing. As a concept, multidimensional social integration refers to a person's right to social rights regardless of his or her race or gender or ethnicity or color of caste or religion, social justice, freedom, liberty, freedom of speech, and choice within the bounds of the law in a society that is both sustainable and just. When it comes to the multidimensional approach to sustainable development, one of its most important components is environmental integration, which is concerned with the protection of an individual's environment. In other words, multidimensionality is all about helping people, and the planet grows in three different ways: socially, economically, and environmentally (Harris, 2000).

Many sustainable development programs have included multidimensionality. There are 17 SDGs, all of which have to do with improving people's economic well-being, and this is one of those goals. Many socioeconomic issues and advancements can be attributed to poverty, which is sometimes referred to as the underlying cause of poverty. Inequality in education, health care, safety, and living conditions, for example, can all be traced back to a lack of financial resources. A multidimensional challenge and the greatest hurdle to sustainable development, it is said, have been identified as poverty. The SDGs include an overarching objective to reduce poverty and the proportion of the population living in poverty. Fighting poverty requires a system developed by the United Nations to ensure that investments are made for the benefit of people's financial security. Nearly half of those living in extreme poverty are predicted to be lifted out of poverty by 2030, and by 2050, the entire population will be economically advanced, and poverty will be a thing of the past. As a result, the United Nations has devised an MPI (Multidimensional Poverty Index) to keep tabs on people's economic improvement and the rate at which it has progressed (Omer, 2008).

The MPI has been hailed as the most effective measure made thus far in helping people meet their basic requirements and improve their quality of life. A multifaceted approach to poverty is used to examine how poverty is linked to socioeconomic and environmental issues. Every country is required by the UN to report its national MPIs to the worldwide MPI, documenting the progress made. It is also useful since it supports the 2030 Agenda and other 16 Sustainable Development Goals by offering

a three-dimensional perspective that will allow governments to foresee socioeconomic development in a detailed and three-dimensional way.

7.1 Monitoring of the Progress

The Multidimensional Poverty Index is used to monitor the poverty in the world, as well as the progress achieved in eradicating the poverty. It is monitored through a strategized mechanism, in which the governments of different countries send their national MPIs to the UN, which evaluates the extent of poverty by comparing it with the MPIs of other regions. Moreover, national MPIs are used by the national governments to evaluate the poorest and the least poor regions and hence undertake developmental programs accordingly.

7.2 Formulation of an Integrated and Coordinated Policy

The MPIs had been considered significant for the policymakers, which assist them to formulate regional and national policy, considering the extent of the socioeconomic development. Moreover, it also enables the policymakers to evaluate the impact of their policies in each region and hence to execute future policies effectively.

7.3 Equal Development of Rural and Urban Areas

The monitoring of the socioeconomic development achieved by the MPI had been of significant importance, as it allows the government to ensure that every region of the country is equally developed, including the rural as well as urban areas. Another strategy to ensure that all residents, regardless of ethnicity or religion, are promoted socially and monetarily is to implement this policy (Barua, 2019).

As a result, MPI can play a critical role in advancing people's socioeconomic status. The development of the environment will occur as a result of people's social and economic progress, which will lead to the advancement of communities and societies. As a result, multifaceted sustainable growth will be possible (Jabareen, 2008).

8 Conclusion

Every state action, whether national or international, is a strategic doorway to sustainable development, according to its relevance, and sustainable development has played an essential part in the modern sociocultural globe of the world. Social, environmental, and economic aspects of sustainable development (SED) are addressed in every aspect of development, from agriculture and infrastructure to energy and water use, transportation, and building and manufacturing.

The three pillars of economic growth, social equity, and environmental protection must all be strengthened in order to ensure long-term sustainability. To promote social and environmental well-being, the economy is employed through the sustainable system. Social justice and equal opportunity are included in this socio-environmental advancement. Climate sustainability and the protection of natural resources are also included. The conservation of biodiversity, the preservation of water bodies and land, and the production of efficient sources of energy, the renewable energy, are all included in this socio-environmental advancement (Gaffney, 2015).

As a result, policies at the national and international levels incorporate sustainable economic and financial policies to help fund sustainable development. With the goal of ensuring long-term economic stability, it was implemented in order to eradicate the financial exclusion and inefficient redistribution system. The financial sustainability action approach incorporates these financial policies, which are effective essential mechanisms of financing, to assure environmental protection, financial profit, and financial stability. There are a few policies that fall under this category, including Green Finance. In the same way, EU taxonomy has been a joint effort at the international level, as the European Commission has primarily confirmed. The EU taxonomy's goal is to help investors plan their financial decisions in a way that would encourage sustainable development. They are able to do this by making it easier for them to invest in environmentally friendly businesses and technologies. Companies, investors, and politicians are encouraged by the EU taxonomy, which specifies that businesses that contribute to the development of a sustainable or green environment should be encouraged. Green Deal aims to mitigate global warming and to stabilize the environment and climate by achieving expected results of European carbon-neutral policy by 2050, executed by EU taxonomy. As a result of the Green Deal, humans and other animals will have better access to resources for their long-term well-being and survival, including natural resources, biodiversity, ecosystems, and the climate (Jabareen, 2008).

Additionally, the United Nations has adopted the Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. These goals are carried out in order to enable the flow of money toward long-term, sustainable development.

Financial sustainability is defined by the national receptacle of a country's financial stability, which in turn influences the country's social, political, environmental, diplomatic, and geographical systems. Additionally, the importance of

financial sustainability is highlighted in the context of multidimensionality. To ensure that people have access to the basic essentials of life, such as food, shelter, education, clothes, and health care, the multidimensionality of multidimensional sustainable development has been created. To protect one's environment, environmental integration is an important part of multifaceted sustainable development: a balanced and stabilized environment with long-term ecosystem and climate. Communities and societies will benefit from the advancement of people's social and economic standing, which in turn will lead to improvements in the environment. As a result, multifaceted sustainable development will be achieved, and multidimensionality is all about ensuring the social, economic, and environmental well-being of all people on the planet. (Dince, 1999). And hence it will eventually lead to the prosperity and advancement of Earth, with enhanced quality of life and better living conditions for our present as well as our future generations.

However, in order to enhance the sustainable development, specified provisions can be taken to enhance the efficiency and efficacy of the programs pertained to the attainment of sustainability. Some of these recommendations are as follows:

- When it comes to implementing the Sustainable Development Goals (SDGs), the EU and United Nations should work together more closely to ensure that all of the SDGs are implemented on an international, regional, and domestic level so that all of the SDGs can be achieved efficiently and with the best possible results.
- We need an action plan from the UN and EU to include all nations in implementing sustainability and improving financial integration for environmental benefit.
- The corporate should be considered more, with increased emphasis, as the sustainable and environmentally friendly business would be the more efficient mechanism and will lead to increased sustainability and increased financing of sustainable development.

References

- Barua, S. (2019). Financing sustainable development goals: A review of challenges and mitigation strategies. *Business Strategy & Development*, 19(4), 56–87.
- Chichilnisky, G. (1997). What is sustainable development? *Land Economics*, 73(4), 467–491.
- Dince, I. (1999). Energy, environment and sustainable development. *Applied Energy*, 64(1–4), 427–440.
- Esposito, L. (2021). Extending ‘environment-risk weighted assets’: EU taxonomy and banking supervision. *Journal of Sustainable Finance & Investment*, 11(3), 214–232.
- Gaffney, O. (2015). Sustainable development goals. *SDGs Transform Our World*, 1(82), 4.
- Harris, J. (2000). Basic principles of sustainable development. *Dimensions of Sustainable Development*, 1(1), 23.
- Jabareen, Y. (2008). A new conceptual framework for sustainable development. *Environment, Development and Sustainability*, 1(1), 179–192.
- Kremen, V. (2019). Evaluating the relationship between financial sustainability and socio-economic development of countries. *Central European Economic Journal*, 19(53).

- Lupu, I. (2015). The indirect relation between corporate governance and financial stability. *Procedia Economics and Finance*, 22(1), 538–543.
- Nilsson, M. (2016). Policy: map the interactions between sustainable development goals. *Nature News*, 1(1), 320–322.
- Omer, A. M. (2008). Energy, environment and sustainable development. *Renewable and Sustainable Energy Reviews*, 12(9), 2265–2300.
- Paris, T. M. (2003). Characterizing and measuring sustainable development. *Annual Review of Environment and Resources*, 28(1), 559–586.
- Pettifor, H. (2015). The appeal of the green deal: Empirical evidence for the influence of energy efficiency policy on renovating homeowners. *Energy Policy*, 79(1), 161–176.
- Quayes, S. (2012). Depth of outreach and financial sustainability of microfinance institutions. *Applied Economics*, 44(6), 3421–3433.
- Rancan, M. (2020). Classification of sustainable activities: EU taxonomy and scientific literature. *Sustainability*, 1(1), 12–16.
- Robert, K. W. (2005). What is sustainable development? Goals, indicators, values, and practice. *Sustainable Development*, 75(3), 8–21.
- Rosenow, J. (2013). The green deal and the energy company obligation. *Proceedings of the Institution of Civil Engineers*, 166(3), 127–136.
- Sachs, J. D. (2019). Why is green finance important? *ADBI Working Paper 917*, 1(1), 19.
- Siddi, M. (2020). The European green deal: Assessing its current state and future implementation. *UPI Report*, 1(1), 45.
- Stafford-Smith, M. (2017). Integration: The key to implementing the sustainable development goals. *Sustainability Science*, 1(1), 911–919.
- Taghizadeh-Hesary, F. (2019). The way to induce private participation in green finance and investment. *Finance Research Letters*, 31(1), 98–103.
- Tarasenko, O. Y. (2020). The impact of globalization on the financial sustainability and logistics infrastructure of transition economies. *International Journal of Management*, 1(1), 595–604.
- Tehulu, T. A. (2013). Determinants of financial sustainability of microfinance. *European Journal of Business and Management*, 17(5), 45.
- Volz, U. (2018). Fostering green finance for sustainable development in Asia. *ADBI Working Paper 814*, 1(1), 30.
- Wang, Y. (2016). The role of green finance in environmental protection: Two aspects of market mechanism and policies. *Energy Procedia*, 104(1), 311–316.
- Zdan, H. (1997). Assessing sustainable development: Principles in practice. *U.S. Department of Energy*, 3(1), 166.
- Zhang, D. (2019). A bibliometric analysis on green finance: Current status, development, and future directions. *Finance Research Letters*, 19(1), 425–430.

Part VII
Eurasian Economic Perspectives: Regional
Studies

A Comparative Analysis on the Bureaucratic Process in Establishing Health Cooperatives: The Cases of Turkey and the UK



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Abstract Solidarity and cooperation are the building blocks of cooperatives and strategically significant phenomena that are as old as history of mankind; however, these will not grow old as long as humanity exists considering its economic function. The subject of the study is to comparatively analyze establishment bureaucracies relating to cooperatives in different countries. The aim of the study is to identify the problematic elements and make suggestions as to the solution to these problems by comparatively analyzing the bureaucratic process of establishing cooperatives. The study is limited with the development of policies and established bureaucracy for health cooperatives in the UK and Turkey. In line with the qualitative research method, literature review was conducted, and technical reports and analyses which were prepared by national and international institutions and organizations were utilized. Additionally, semi-structured interviews were performed with both countries' authorized individuals. The information was analyzed through both strength, weakness, opportunity, and threat (SWOT) analysis and political, economic, sociological, technological, legal, and environmental (PESTLE) analysis techniques. Following the evaluation of the findings, the research was concluded with recommendations. As a result of the study, it was found that the UK can make improvements specially to strengthen its digital security, while Turkey can make the applications easier by first moving the applications online.

Keywords Cooperatives · Cooperation · Economy · Health cooperatives · Health economy

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1 Introduction

The motivation of the study was that the cooperative structure could be evaluated as a strategic tool in developing the health sector. Although many studies have been conducted on cooperatives, there is no found study in literature that focuses on health cooperatives comparing Turkey and the UK. This paper aims at filling this gap. Therefore, by recommending what can be improved and developed in the bureaucracies of establishing health cooperatives of countries, it may serve as a guide for those performing academic studies, public policymakers, and those who implement these policies. It is aimed to form different frameworks on the subject with SWOT and PESTLE analyses. The research examines the health cooperative establishment bureaucracies in Turkey and the UK comparatively.

In the study, which is based on the qualitative research method, literature review was made, and technical reports and analyses prepared by national and international institutions and organizations were used. In addition, data was obtained by using a semi-structured interview technique with the officials from Turkey and the UK. After that, data obtained was evaluated through SWOT and PESTLE analysis techniques.

The subject of the study is the bureaucratic procedures of setting up cooperatives in the UK and Turkey. The aim is to investigate whether or not the bureaucratic process of setting up cooperatives affect the rate of cooperatives in that country. The study was limited by comparing the bureaucratic procedures of only health cooperatives in both countries.

The main reason why health cooperatives were chosen is due to their strategic contribution on health services and hence public health. In addition, pandemics and conditions that endanger public health may occur. This situation brings upon extra financial and moral burden on the health sector. Particularly during the past 2 years, the COVID-19 pandemic highlighted the importance of procuring healthcare services. In this sense, it is also known that health cooperatives not only provide support to those receiving healthcare services, but they also provide significant support to hospitals and governments. Hence, these cooperatives have a strategic role in reducing the financial burdens on the health system and remove the political burdens on governments.

Both countries have their own positive aspects as well as those that can be improved. In this context, different suggestions have been presented to improve the cooperative structure, especially the health cooperatives of both countries. For instance, recommendations such as transferring the cooperative establishment process to online for Turkey, increasing the effectiveness of cyberattack prevention systems, and auditing the applications made online for the UK were included in the study.

Cooperatives, inclusive of notions such as solidarity and cooperation, appear as phenomena as old as the history of humanity. Such structures have manifested themselves in various ways in different parts of the world in the process. *Tanomoshiko* in Japan, *Hoi* in China, *Mir* in Russia, *Eranoi* in Ancient Greece,

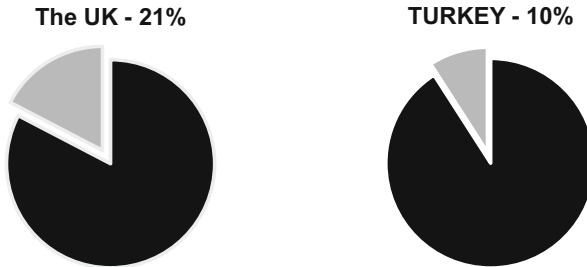


Fig. 1 The rate of membership in cooperatives in total population. *Source:* developed by the authors based on Co-operatives UK (2020), Office for National Statistics (2020), TR Ministry of Commerce (2019b), Turkish Statistical Institute (2020)

and *İmece* in Turkey are among the first samples of this idea (Blankertz, 1940; Gordon, 1918; Bakken & Schaars, 1937; Hazar, 1990). One of the first examples of cooperatives in the modern era was formed by a group called *Rochdale Society of Equitable Pioneers*, established by 28 textile workers in England in 1844.

Global economic crises experienced cyclically in the world have also affected the idea and structure of cooperatives in various ways. Nevertheless, owing to their structure, these organizations have been able to turn this changing process in their favor and have also been able to maintain their fundamental principles in order not to lose their core values. Furthermore, cooperatives that can adapt to developing and changing world conditions due to their flexible structures are also seen as a strategic entrepreneurship ecosystem, especially by developed countries on account of their high scope and effectiveness.

The first data on cooperatives was obtained in 1937 which is of great significance. There were over 850,000 cooperatives with 143 million members in the world (Cole, 1944). Today, while three million cooperatives continue to exist in the world, it is seen that the number of members is one billion. Nevertheless, according to the study conducted by the World Cooperative Monitor based on the data of the 300 cooperatives with the highest turnover, it has been determined that the total turnover of these cooperatives is over two billion USD (International Cooperative Alliance, 2021a; World Cooperative Monitor, 2020). This holds a great importance in terms of determining whence the cooperatives established and what kind of economic power it encompasses.

Even though there are numerous exemplary practices regarding cooperatives in different countries, the UK was chosen as a model country in this study. One of the significant reasons is that it is one of the leading countries in terms of the initiation and focus point of cooperative movement with the Rochdale Society of Equitable Pioneers in the modern era. The reason why the UK was chosen to be compared with Turkey was due to its experience and achievements so far.

In this context, as shown in Fig. 1, when the cooperative rates in both countries are examined, the cooperative rate based on the membership/population ratio is approximately 10%, while the rate of cooperatives is approximately 21% (Co-operatives UK, 2020; Office for National Statistics, 2020; TR Ministry of

Commerce, 2019b; Turkish Statistical Institute, 2020). While the total number of cooperatives in the UK is 7282, there are 219 health and family cooperatives (Co-operatives UK, 2021), whereas in Turkey the total number of cooperatives is 9247 and the number of health cooperatives is only 2 (TR Ministry of Commerce, 2021). The difference between the legislative structure and the establishment procedure and the incentives and supports they offer cause this disparity. The establishment process in countries with high rates of cooperatives is more effective and efficient compared to the bureaucratic structure in countries where the rates are low. Therefore, in the study, an answer is sought to the question of whether there is a relationship between the establishment bureaucracies of the countries and the rates of cooperatives.

This study consists of five parts and is structured as follows: After the introductory part, which includes general information in terms of forming the basis for the study and the subject to be discussed, the theoretical framework of the concept of cooperatives is drawn in the second section, and the concept is examined in detail. The third section includes the methodology part of the study, which includes the data and findings. In the next section, discussion on the findings, general results, and recommendations are included. The study was concluded with the conclusion part.

2 Literature Review

The historical concept of cooperatives dates back over a long span of time. Their main benefit is that they strengthen countries economically. The beginning of the movement is mysterious; historians signify Europe as the point of initiation of the cooperative movement. The foundations of cooperatives were laid in the UK, France, and Greece. The basic principles of cooperatives emerged, in the modern sense, with the first cooperative the Rochdale Society of Equitable Pioneers (Dogarawa, 2005). The laborers, who established the society, tried to overcome the struggles arising from lack of common benefits (Fairbairn et al., 1995). This movement was not only independent and autonomous locally, but it was also internationally interconnected. They are communities where individuals convene together in solidarity to meet the social, environmental, and economic obligations where they are unable to satisfy individually.

Monteiro and Stewart (2015) describe it from the perspective of a voting basis, namely, one member-one vote norm. Stiglitz (2009) claims that they are crucial parts of a pluralistic and steady economy, whereas Birchall (2003) states that they play a strategic role in reducing poverty and the survival of a sustainable economy. While Strand and Freeman (2015) categorize cooperatives as collaboration-centered, Ring and Van de Ven (1992) review the evaluation of relations between organizations. On the other hand, Nemon (2000) brings forward that cooperatives are a kind of a community partnership aiming at maintaining their future. Meanwhile, Brown (1997), Cabaj (2004), Chaland and Downing (2003) consider cooperatives as an entrepreneurship model whose members consolidate in line with the common aim,

Fig. 2 Cooperative principles. *Source:* developed by the authors based on the International Cooperative Alliance (2021b)



goals, and interests, whereas Fairbairn et al. (1995) and Wilkinson and Quarter (1996) approach the concept with a complimentary perspective. For them, cooperatives as a community-oriented entrepreneurship system consist of a specific group of people which consolidate their capital and labor together for a specific aim and purpose. Hence, they not only improve the trust and relations among cooperative members but also bring together their socioeconomic and political resources (Majee & Hoyt, 2009). Moreover, the international institutions such as the UN (United Nations), ILO (International Labour Organization), and ICA (International Cooperative Alliance) state a similar definition for cooperatives by highlighting the particular keywords such as autonomy, voluntariness, common needs, and democratic control (International Labour Organization, 2002; United Nations, 2012).

When the doctrine and perspectives of the institutions and organizations regarding cooperatives are examined, they do not differentiate from each other and are basically based on seven principles determined by ICA (International Cooperative Alliance, 2021b). The movement has formed its own values over time similar to other structures (Fig. 2). Utilizing these effective principles, the movement has achieved its goal and accomplished a high-level contribution to the public economy. As a result, it has visibly contributed to the improvement of the national and global economies, starting at the microscale level (Hoyt, 1996).

The role of cooperatives in economic and social development is not a new phenomenon. So much so that they have been discussed for over a century by many scholars (Adams, 1888; Daniels, 1938; Majee & Hoyt, 2009; Marshall & Godwin, 1971; Roy, 1964). While Gutiérrez (2014) emphasizes the economic aspect of cooperatives, Chayanov (1991) mentions that the main purpose is not economic interests. Today, almost any industry or sector can be a subject to a cooperative. The most effective industries are more likely to be agriculture, education, insurance, financial services, grocery, housing, utilities, or healthcare (National Cooperative Business Association CLUSA International, 2021; Mazzarol et al., 2014). They provide a wide range of services accompanied by many benefits, and Segu'i-Mas et al. (2015) ultimately define the benefit as sustainability. Hence, cooperatives have become an undeniable stakeholder not only with the positive impacts on the

economy (Deller et al., 2009) but also for social life (Picciotti et al., 2014). In spite of this, there are some authors such as Porter and Scully (1987), Koljatic and Silva (2011), and Toms (2012) who consider that cooperatives are inefficient economically and also low-income-generating organizations compared to investor-owned enterprises.

In parallel with the change in paradigms, recently, it is observed that there have been significant conceptual transformations in the understanding of cooperatives, such as social cooperatives or new-generation cooperatives. Torgerson (2001) emphasizes and underlines that new-generation cooperatives, other than traditional ones, for instance, health cooperatives, focus on producing higher added value products. Thus, they are not developing their strength in the market, but they are also increasing their profit (Merrett & Walzer, 2004; Harris et al., 1996). Notwithstanding, health cooperatives and their impacts have also recently been debated not only by policymakers (Obama, 2009; Pear & Harris, 2009) but also by scholars. One of the reasons may be that the positive contribution that health cooperatives can make to the sector and the role they can play have not yet completely been understood by many (King, 2009; Krugman, 2009; Reich, 2009; Sack, 2009; Underwood, 2009). On the other hand, the International Health Cooperative Organization is quite sure that they can specifically help to achieve Sustainable Development Goals 3 determined by the UN (International Health Co-operative Organisation, 2020).

The subject matter of this study is health cooperatives that contribute toward the economies of countries within this field. The first health cooperative was established by Dr. Michael Shadid in 1929 (The Commonwealth Fund, 2009), and the number and effectiveness of health cooperatives around the world are increasing day by day. Today, it is known that approximately 100 million households around the world have access to health services through cooperatives. Moreover, more than 3300 cooperatives serving in this sector and operating in 76 countries provide a turnover of 15 billion dollars (International Health Co-operative Organisation, 2019). For instance, only in Spain, approximately 70% of the pharmacy market is covered by cooperatives (United Nations, 2018). A health cooperative can be formed with people who are health workers, patients, or both (MacKay, 2007). They share a common purpose which is to improve public health and healthcare workers' conditions (United Nations, 2018). They contribute to the growth of the economy and the development of health services in that country. Borzaga and Fazzi (2014) examine this undeniable contribution of cooperatives to the public economy.

3 Methodology

3.1 Data

The UK (England) was chosen as the model country in this study. One of the important reasons for this is the initiation of the cooperative movement in the



Fig. 3 Basic documents required for establishing a cooperative in Turkey. *Source:* developed by the authors based on TR Ministry of Commerce (2019a)

modern era and being one of the leading countries in this sense. In order to make Turkey's bureaucratic structure suitable for cooperatives and to develop the country in the field of cooperatives, it is aimed to complete the deficiencies by comparing it with a leading country in the field of cooperatives. The reason why the UK was chosen in comparison with Turkey stems from the experience and success it has gained so far.

Data was collected mainly using semi-structured interview technique, in addition to the literature review, technical reports, and analyses. Due to the COVID-19 circumstances, the meetings could not be held in-person. The questions were asked with the aim of examining the problems in order to fully understand the bureaucracy of the cooperative establishment and to determine what could be done to facilitate and accelerate this process. In Turkey, data was obtained face to face with the officials of *Kocaeli Provincial Directorate of Commerce*, while in the UK, data was obtained via e-mail with the officials of *Co-operatives UK* on the dates between 20th of January 2021 and 23rd of June 2021. Therefore, the interview was completed by contacting the relevant authorized persons from these two institutions (see Appendix for the asked questions and answers received).

Although an attempt was made to conduct interviews with health cooperatives actively working in both countries, no response was received from either count. For this reason, the interview is limited to the official authorities of the countries. Several issues were taken into consideration in the interview questions. The first of these was to reveal and understand the cooperative establishment processes of both countries. Another issue was to get clues on how to make the process more effective and efficient.

In the context of the effect of the bureaucratic structure in countries that are the subject of the study on the establishment of health cooperatives, it is thought that the simpler the establishment process is, the more effective the cooperatives would be. In Turkey, as can be seen in Fig. 3, the needed documents are an application form, contract, criminal record, commitment letter, bank receipt, copy of diploma, and other documents (TR Ministry of Commerce, 2019a).

The application form and the contract, which include the petition for the establishment permit application of the cooperative which can be obtained from the website of the General Directorate, must be filled. Criminal record certificate of the initial board of directors and supervisory board members must be obtained within the last 6 months prior the date of application. Commitment letter indicates that an up-to-date written undertaking with joint signatures stating that the members of the board of directors and the supervisory board are not related to each other and that the members of the board of directors are not members of the board of directors of



Fig. 4 Basic documents required for establishing a cooperative in the UK. *Source:* developed by the authors based on Cooperatives UK (2021)

another cooperative of the same type. A bank receipt showing that at least 1/4 of the cooperative establishment capital has been deposited in a special account which should be opened in the name of the cooperative to be established and that this account belongs to the cooperative to be established must be submitted. A notarized copy of the diploma proving graduation from the Faculty of Medicine or Faculty of Dentistry must also be submitted. In case there is a legal entity under private law among the founders, a notarized copy of the appointment decision regarding the person who will represent the legal entity must be submitted. If a legal entity under public law wants to become a partner, an official letter regarding the representative notification should be provided. In addition, information or documents showing that the legal person who will be the partner of the cooperative is interested in the cooperative for their purposes should be specified (TR Ministry of Commerce, 2019a, 2020).

Regarding the UK's establishment process, firstly, a business idea which is suitable for a cooperative is required. Secondly, economic resources should be provided for the cooperative. Accompanying this, a business plan should be attached. Furthermore, depending on this plan, a legal form should be chosen. The business idea should match with the legal form. The type of cooperative should be determined, and a governing document should be prepared in connection with the type of cooperative. The governing rules provided by the official website of *Co-operatives UK* and other sponsoring bodies can be adapted within the cooperative's chosen legal form (Fig. 4). After all these selections and documents are completed, an application fee of 150 Pounds is paid to apply (Cooperatives UK, 2021).

3.2 Findings

In the study, the qualitative research method was conducted. The collected data was analyzed and evaluated applying PESTLE and SWOT analysis techniques. Literature review was made along with technical reports and analyses which were prepared by national and international institutions and organizations. The characteristics of the techniques used were effective in choosing a qualitative approach in the study.

One of the reasons why the semi-structured interview technique was chosen is that it is a flexible and variable instrument which can be identified as a mixture of structured and unstructured interviews. It also combines a variety of several closed and open-ended questions ending with how and why (Adams, 2015). Hence, it provides a freer environment for the interviewer to ask flexible questions (Smith,

2019) revealing in-depth data. First, information is gathered by conducting preliminary studies on the subject, and then some pre-prepared questions are asked to the interviewee in order to collect the data in line with this information (Kallio et al., 2016).

As for the analysis techniques, the reason for using the SWOT analysis is to be able to reveal the handicaps, problems, and risks experienced in the establishment processes of cooperatives through a systematic and strategic approach. The PESTLE analysis technique, on the other hand, was preferred because it also provides a systematic approach to the subject through the environmental factors involved and contributes to the establishment processes of cooperatives in terms of developing future vision, dynamics, and adaptation.

3.2.1 SWOT Analysis

With this method, it is aimed to identify the strengths of the system in both countries and highlight them and improve the process by identifying the weaknesses. On the other hand, the purpose is to eliminate the weaknesses and prevent the threats that may arise by evaluating the opportunities and integrating them into the establishment bureaucracy. The information given in italics under the findings in the SWOT analysis tables shows where the findings were obtained.

The online process in the UK allows the process to progress quickly. The fact that two people are enough to establish a health cooperative in the UK and the availability of auxiliary organizations that provide support in legal form and economic issues makes the process much easier. Furthermore, it is an advantage that the documents required for establishment in both countries are stated on the website and can be obtained from there. This process in both countries encourages people to come together and form cooperatives. The strengths of the two countries' cooperative bureaucracy not only facilitate the establishment of cooperatives but also increase people's trust in the system. Accessing documents online in both countries also shortens the establishment process considerably. It can be considered as a great advantage that there is legislation regarding the establishment procedure in the UK and that this legislation is simple, understandable, and accordingly applicable (Table 1).

The establishment fee in both countries (although it is a small amount in the UK) can be considered as a negative factor. With the elimination of the establishment fee, individuals are encouraged to establish a cooperative, and in parallel, these fees can be used more efficiently at another stage of the cooperative process. For instance, these fees could be spent more efficiently for training in the relevant cooperative fields. In the case of Turkey, individuals can be relieved of a great financial burden by reducing the higher application fee compared to the UK. Another issue is that no knowledge of cooperatives in the area to be established is sought in people who apply to establish a health cooperative in both countries. It can be ensured that people have sufficient knowledge in the field of cooperatives and that the effectiveness of the cooperatives to be established in parallel with this can be increased by

Table 1 Strengths

| | Turkey | The UK |
|-----------|---|---|
| S1 | Availability of required documents online (https://ticaret.gov.tr/kooperatifcilik/kooperatiflere-yonelik-hizmetler/kooperatif-kurulus-islemleri/bakanlikca-kurulusu-yapilan-kooperatifler-ve-gerekli-belgeler/saglik-hizmetleri-kooperatif-kurulus-belgeleri) | Availability of required documents online (https://www.uk.coop/start-new-co-op/start) |
| S2 | – | Online applications (Interview) |
| S3 | – | Establishment of a cooperative with a few people (two people) (Interview) |
| S4 | – | Presence of supporting organizations in the establishment process (https://www.uk.coop/support-your-co-op/hr-and-culture/hr-support-packages) |
| | – | Simple, easy to understand, and, accordingly, a more applicable legislation (Interview and determined by the authors) |

Source: own work

providing the necessary trainings on general cooperatives and the cooperative to be established. The in-person application system in Turkey and the fact that some documents require notary approval interrupts and slows down the process. The process can be accelerated by moving the process online and questioning the accuracy of the documents by using methods such as e-signature and QR code. In Turkey, although a diploma proving that the founders of the cooperative have graduated from the Faculty of Medicine or Faculty of Dentistry is required, there is no need for competence in terms of cooperative practice. The requirement of a health diploma to establish a cooperative prevents those who will establish a cooperative in the field of health without a medical diploma. This situation eliminates people who are competent in cooperatives but who cannot establish a cooperative because they do not have a medical diploma, out of the process. For this reason, removing the diploma requirement from the people who will establish the cooperative can make the process more effective. There is no supportive institution in Turkey that will follow the process and assist people who desire to establish a cooperative. In order to eliminate this disadvantage, local governments can make supporting structures. Thus, a structure that is both more accessible and facilitating the process can be obtained (Table 2).

With the developing information technologies, the process in Turkey can be moved completely toward the online systems, providing convenience for both individuals and relevant institutions and organizations. In parallel, the process, which is currently carried out online in the UK, can be simplified and turned into a more user-friendly one. Thus, it can be easier for people to access these online

Table 2 Weaknesses

| | Turkey | The UK |
|-----------|--|---|
| W1 | <i>Establishment fee (1/4 of the capital)</i> (https://ticaret.gov.tr/kooperatifcilik/kooperatiflere-yonelik-hizmetler/kooperatif-kurulus-islemleri/bakanlikca-kurulusu-yapilan-kooperatifler-ve-gerekli-belgeler/saglik-hizmetleri-kooperatifi-kurulus-belgeleri) | <i>Establishment fee (£150)</i> (https://www.uk.coop/start-new-co-op/start) |
| W2 | <i>The absence of qualification requirement for establishing a cooperative in the incorporation documents</i> (Determined by the authors) | <i>The absence of qualification requirement for establishing a cooperative in the incorporation documents</i> (Determined by the authors) |
| W3 | In-person applications (Interview) | – |
| W4 | <i>The requirement of notarization of some documents</i> (https://ticaret.gov.tr/kooperatifcilik/kooperatiflere-yonelik-hizmetler/kooperatif-kurulus-islemleri/bakanlikca-kurulusu-yapilan-kooperatifler-ve-gerekli-belgeler/saglik-hizmetleri-kooperatifi-kurulus-belgeleri) | – |
| W4 | <i>The requirement of diploma sample</i> (https://ticaret.gov.tr/kooperatifcilik/kooperatiflere-yonelik-hizmetler/kooperatif-kurulus-islemleri/bakanlikca-kurulusu-yapilan-kooperatifler-ve-gerekli-belgeler/saglik-hizmetleri-kooperatifi-kurulus-belgeleri) | – |
| W5 | <i>Absence of an organization to provide support in the legal processes</i> (Determined by the authors) | – |

Source: own work

environments and follow the cooperative establishment process. Preestablishment online training can be provided by using the developing education system opportunities. With the global information circulation, the information flow between the cooperatives in different countries, countries can process applications that will accelerate and facilitate the cooperative establishment process. In addition to all these, the fact that articles related to cooperatives have been included in the Constitution and related legislation since the first years of the republic can be considered as a crucial opportunity for the development of the bureaucracy of cooperatives in Turkey. However, the complexity of these regulations in the legislation, the bottlenecks in the hierarchical structure, and the problems that occur due to the fact that the language of the legislation does not appeal to the public reduce the applicability of the legislation. To solve this problem, the language of the legislation can be simplified, and its applicability can be increased (Table 3).

Table 3 Opportunities

| | Turkey | The UK |
|-----------|--|--|
| O1 | <i>Developing information technologies</i> (Determined by the authors) | <i>Developing information technologies</i> (Determined by the authors) |
| O2 | <i>Diversified education opportunities</i> (Determined by the authors) | <i>Diversified education opportunities</i> (Determined by the authors) |
| O3 | <i>An increasing trend of global information circulation</i> (Determined by the authors) | <i>An increasing trend of global information circulation</i> (Determined by the authors) |
| O4 | <i>Availability of legislation for cooperative establishment bureaucracy</i> (https://www.mevzuat.gov.tr/MevzuatMetin/1.5.1163.pdf) | – |

Source: own work

When the threats are evaluated in Turkey, the process may not be carried out in a healthy way due to the insufficient technical knowledge and skills of the personnel. The process can be advanced more easily with people to be selected by giving importance to merit. Additionally, the legal requirement that there are seven people and that there is no kinship relationship makes it difficult to come together during the establishment process and to establish a health cooperative. Cooperatives can be improved in terms of quantity and quality, by reducing the number of people required for establishment and paving the way for establishment with fewer people. In addition, in Turkey, where solidarity and cooperation between relatives are very intense, the condition of not having family ties for the establishment of cooperatives hinders the process. Therefore, removing this requirement may be an important step toward improving the cooperative establishment process. Furthermore, the fact that documents are physically collected and stored in Turkey is in danger of being lost due to the busy bureaucracy. For this reason, it is thought that this risk can be eliminated by moving the process to a secure online environment. The possibility that the application documents do not reflect the truth, because the whole process is carried out online in the UK, can be overcome by developing a control mechanism. In addition, security should be increased, and backup should be made so that online documents are not deleted due to cyber threats. In order to prevent these problems, the development of online control and security mechanisms such as e-signature and a data matrix reading system will contribute (Table 4).

3.2.2 PESTLE Analysis

For comparing the countries, PESTLE analysis is also applied in addition to SWOT analysis. External factors affecting the research subject is examined with PESTLE analysis. It is aimed to investigate the political, economic, sociological, and technological factors that affect the bureaucratic structure and to evaluate how these factors affect the structure and the problems that arise.

Table 4 Threats

| | Turkey | The UK |
|-----------|--|--|
| T1 | <i>Insufficient technical knowledge and skills of the relevant personnel</i> (Determined by the authors) | <i>The possibility that the documents in the online application do not reflect the truth</i> (Determined by the authors) |
| T2 | <i>The requirement of seven people without a kinship relationship for starting the establishment procedure</i> (https://ticaret.gov.tr/kooperatifcilik/kooperatif-nasil-kurulur) | <i>The possible risk of documents gets lost due to cyber threats</i> (Determined by the authors) |
| T3 | <i>The difficulties to preserve the documents</i> (Determined by the authors) | – |

Source: own work

Political

In order to explain the effect of the establishment bureaucracy on the quantity and quality of cooperatives, it should first be discussed how the political authorities approach this issue. Since most of the process related to cooperatives is dependent on the decisions of the government and political parties, articles regarding the establishment bureaucracy of cooperatives should be included in the policies and political agendas prepared. The legal arrangements to be made in this regard would also be effective in the decisions of the government. With the studies prepared in this context, this process can be made simpler and more rational while providing incentives for the citizens, and at the same time, results can be reached quickly. Or the process can be reversed, resulting in reduced efficiency with missing regulations and legal loopholes and even rendering them susceptible to abuse, especially due to the presence of an online structure in the UK. Again, to prevent this situation, an online control mechanism can be developed in both countries. Nevertheless, the fact that applications can be made in line with the capacity and desire of the government in this regard, especially Turkish, which is mentioned in the SWOT analysis, reveals the importance of political factors.

Economic

Looking at the establishment bureaucracy of health cooperatives from a broader perspective, it is seen that there is a reciprocal relationship with economic factors. When this issue is evaluated in terms of establishment bureaucracy in both countries, the fact that they require a fee to establish a health cooperative affects individuals economically. This situation can be eliminated, and this budget can be used at another stage of the cooperative process. Apart from this, especially in Turkey,

with the transfer of the application process to the online environment, the establishment phase, which is facilitated, would have positive effects on the economy, albeit indirectly. It can pave the way for an increase in GDP. In addition, the health cooperatives established at the end of the process can also contribute to the reduction of unemployment by providing employment opportunities to people.

Sociological

When the development of the establishment bureaucracy of health cooperatives is examined in terms of social factors, it can be predicted that it would have visible positive effects. With the development of information technologies, transferring the process to the online systems in Turkey; providing ease of use of the existing online applications in the UK, as well as the innovations obtained with the increase in the global information circulation; and helping the individuals who attempt to establish cooperatives in the process, the improvement of the established cooperatives in terms of quality and quantity can be provided. By forming a structure that strengthens solidarity and produces common solutions to socioeconomic problems, it can provide social balance in parallel with economic balance. However, social welfare can be achieved by developing the underdeveloped regions and increasing the standard of living.

Technological

When the process is evaluated technologically, although the UK provides convenience to users with online applications, in-person applications in Turkey continue. The innovation, sustainability, and development of the organizational bureaucracy can be improved by using technical infrastructure. As a result of this, efficiency can be achieved by forming an efficient process in both countries.

Legal

The deep-rooted structure of a country's legal system and the plain and easy-to-understand language of the legislation will undoubtedly increase its applicability. In this context, it can be said that this issue has been solved to a large extent in the UK, but there are some difficulties in Turkey. It is thought that the simplification of the legislation and its language will not only contribute to the general structure of the legal system, but it will also pave the way for the expansion of cooperatives by facilitating the establishment processes. It could contribute positively to the process of both countries giving more place to cooperatives in the legal area and making the necessary arrangements in order to both accelerate and facilitate the establishment process in this context. However, considering the practices in international law, it can be re-evaluated within this framework and added to the legal systems of the

countries. As a result, a process with the highest level of legal reliability can be prepared for all stakeholders.

Environmental

With the facilitation of the cooperative establishment bureaucracy and the increase in the efficiency and competence of the cooperatives to be established, many activities at local scale may be able to be carried out safely and easily through cooperatives. In this context, it is thought that some factors that may adversely affect the environment could be prevented. While cooperatives provide local development, by giving the message that this development can be done without harming the nature, more beneficial works can be formed with less harm. In this way, the right to live in a more civilized environment may also be guaranteed.

4 Recommendations

Cooperativism is a concept that can be traced as far back as the dawn of civilization and emerged at different times in different parts of the world. Although its structural emergence can be attributed to regional solidarity groups such as *Eronoi*, *Hoi*, and *İmece*, its modern meaning is based on the Rochdale Equitable Pioneers Society, which was founded in England in 1844. This structure, which has a deep-rooted history, has undergone many developments and changes until today. The fact that it is a living mechanism due to its close relationship with humanity can be accepted as an indication that the concept can be further developed and moved to a contemporary point. This structure, which can be evaluated in terms of both its establishment, its application, and the fields in which it operates, can be considered from a different perspective and updated. Considering the establishment bureaucracy of health cooperatives, there are different processes in different countries. In this study, the bureaucracy of establishment of health cooperatives has been discussed comparatively within the framework of both countries to ensure its up-to-dateness.

The study indicates that there are issues that need to be reconsidered on the bureaucracy of establishment of health cooperatives in Turkey. The recommendations in Table 5 should be implemented. Firstly, the articles that directly affect the establishment of health cooperatives in the legal system, especially in the constitution, should be increased in terms of quality and quantity. In addition, the necessity of seven-person partnership required to establish a cooperative and their lack of kinship should be eliminated. While this will support entrepreneurs in establishing health cooperatives, it will also contribute to their development in terms of quantity and quality. Finally, in the legal context, global and advanced examples in this field can be revealed by articulating the legal practices related to the establishment process in the international context with the domestic law of Turkey. Turkey has a constitutional application regarding the establishment process, and this is an

Table 5 Recommendations for Turkey

| Context | Recommendation | Reason |
|----------------------|--|--|
| Legal | Increasing the articles in the constitution that directly affect the establishment process of health cooperatives | Failure of existing laws to contribute adequately to the establishment process |
| | Removal of the condition that obligates a minimum of seven people, who must not be related to each other | Making it difficult for people to come together and form partnerships |
| | Increasing the applicability of the legal system by simplifying the language and making it more understandable | Existence of problems caused by people not understanding the necessary procedure for the establishment |
| | Transferring the establishment process of health cooperatives in the international arena with domestic law in the legal context | Not making enough use of international studies |
| Political and social | The ruling and opposition parties give more space to cooperatives and establishment processes in their work | The public's lack of extensive involvement in the cooperative establishment bureaucracy and the lack of high awareness of policy practitioners in the field of health cooperatives |
| | Providing trainings on cooperatives, especially the establishment process of cooperatives | |
| | Establishing structures within local governments to support individuals and groups that will operate in the field of health cooperatives | Difficulty in accessing sufficient material and spiritual resources |
| Economic | Establishing legal regulations regarding the establishment process in order to make cooperatives more effective in local development plans | The need to facilitate the establishment process so that the cooperatives to be included in the local development plans can find a place in the implementation phase |
| | Elimination of the required contribution margin to establish a health cooperative | To use the foundation fee for health cooperatives in education and other expenses |
| Technological | In particular moving the establishment process, which is carried out in person in Turkey, to the online systems | Prolonging the process of physically executed establishment bureaucracy |
| | Developing online audit mechanisms such as e-signature | Extra time and cost for documents that require notarization |

Source: own work

important step for cooperatives, but it is necessary to reorganize it according to the area under consideration. A stronger stance can be taken by improving the content of currently existing items and adding additional items to it. It is also possible for people to understand the legislation more easily and to gather the necessary information and documents for the establishment of cooperatives more easily and to implement the bureaucracy that exists in theory.

In the political and social context, giving more place to the cooperatives and establishment processes of the ruling and opposition parties in their work and

realizing this by associating it with the economic, administrative, and legal fields will greatly support the establishment bureaucracy. Since there is a mutual relationship between the administrative system and the individuals that will implement the rules and signed documents, both policy implementers and people who want to establish cooperatives should be educated. Parallel to this, a structure that supports and guides all cooperative initiatives, especially health cooperatives, should be established in the wing of local governments to support entrepreneurs in this matter financially and morally.

The realization of the local economic objectives targeted in the economic context through cooperative practices will be effective in terms of sustainability. There are many types of cooperatives that contribute to the local economy, but when observed in terms of quality and quantity, it is thought that especially health cooperatives are insufficient. Many suggestions can be offered to eliminate this situation, but the most important one is to facilitate the bureaucracy of the establishment. For achieving this, a remedial legislation for the establishment process is required. Another issue is the elimination of the contribution fee requested during the establishment phase. This situation will provide economic convenience, and at the same time, this amount can be effectively evaluated by using it at another stage of the cooperative establishment process.

Developing information and technology can show its effects in all areas of life, sometimes positively and sometimes negatively. The contribution of technological developments to the establishment bureaucracy of health cooperatives will have positive effects when considered in Turkey. This process of the health cooperatives that are established by the Ministry of Commerce is carried out physically. While this prolongs the process, on the other hand, the fact that some documents require notarization makes extra costs for individuals. In order to eliminate these negativities, the establishment process can be moved online, and at the same time, notary fees can be eliminated by auditing with applications such as e-signature.

The UK is the first country where cooperatives developed in a modern sense. It has become one of the exemplary countries in the world in terms of cooperatives, with the cooperative structure developing in the modern sense and developing over the years. In this context, the cooperative establishment process in the UK is easier and more comprehensible than in Turkey. Although the process is more efficient compared to Turkey, a few suggestions can be made here, and they can also help to develop cooperatives further. The first of these is that founders can be encouraged by reducing or even removing the application fee required to complete the application. It is thought that the fact that no competence certificate is required for the establishment of cooperatives may cause the established cooperatives to be established by less competent people. For this reason, online and face-to-face training can be provided to educate people who have knowledge in areas such as cooperatives and cooperative structure. In addition, security systems can be increased to ensure that the documents reflect the truth in applications made online and to reduce the risk of encountering any cyberattacks.

5 Conclusion

In the study conducted with the examples of Turkey and the UK on whether the bureaucracy of the cooperative establishment is related to the number of cooperatives in that country, it has been concluded that there is an inevitable relationship between these two concepts. One of the reasons why the health cooperatives in the UK are higher in quantity than in Turkey is the online and user-friendly system in the UK. The fact that the legislation in the UK is more understandable and therefore more applicable than in Turkey ensures that the bureaucratic process works better and that the people who will establish cooperatives are encouraged in this context.

In conclusion, the cooperative movement emerges as a structure that has increased its value and importance with each passing day. Cooperatives have a position that can be described as a building block in strengthening the economy of not only developed countries but also developing countries. It is considered that increasing the rate of cooperatives in a country both qualitatively and quantitatively will make a great contribution to its economy. In this sense, it is suggested that countries should support cooperatives and support the establishment of cooperatives. One of the most important incentives for the establishment of cooperatives is that the establishment process is short, fast, and reliable. Considering all these, it is necessary for all countries around the world to regulate their bureaucratic structures in a way that encourage cooperatives and remove the obstacles to the process.

Appendix

1. The Semi-Structured Interview Questions/Answers

The questions asked and the answers received are given below:

Q1: *Is there any relevant legislation to establish a health cooperative? If so, from where can it be reached?*

A1 for Turkey: *It can be accessed from the official website of the Ministry of Commerce of the Republic of Turkey.*

A1 for the UK: *The main legislation that cooperatives are registered under the UK is the Cooperative and Community Benefit Societies Act 2014 and the Companies Act 2006.*

Q2: *To which institution should this application be made?*

A2 for Turkey: *All applications should be made by the Ministry of Commerce of the Republic of Turkey.*

A2 for the UK: *All cooperatives have to be registered through the government's regulatory body the Financial Conduct Authority.*

Q3: *Is the process carried out in person or online?*

A3 for Turkey: *Although there are documents available online, these documents are physically brought together and sent to the Ministry of Commerce.*

A3 for the UK: *Most applications can be done online at Cooperatives UK.*

Q4: *How many days does it take for a cooperative to complete its official procedures and set up?*

A4 for Turkey: *N/A (no answer given).*

A4 for the UK: *The application process can differ in timescales. We can often get a company registered within 2–3 days, providing everything goes smoothly. A society can take longer as the FCA take a minimum of 15 working days (3 weeks) to review any application. Any delays are around questions regarding the governing document or making changes to that document. The lead-up time to submitting an application to either registrar can be a few days or a few weeks. The better prepared clients are, the quicker the process. Once submitted, companies take 24–48 h, and societies take 3–4 weeks on average.*

Q5: *How many people are required to establish a cooperative?*

A5 for Turkey: *Seven people.*

A5 for the UK: *If you are registering a society, the minimum number of founder members is three. If you are registering as a company, it is two, to be considered as a coop. A coop cannot be one person.*

Q6: *Once a cooperative is established, is there any institution auditing and/or supervising this cooperative?*

A6 for Turkey: *N/A (no answer given).*

A6 for the UK: *The FCA requires that the society submits an annual return to them within 7 months of their financial year end date to keep up to date with how the society or coop is doing. So it will want to see a copy of its accounts, what dividends it's distributing, how many members the org. has, if there are changes to the directors, etc. It is all part of the information the FCA wants to see each year. I recommend you contact the FCA to know the process fully on how they regulate coops and societies.*

References

- Adams, H. B. (1888). *History of cooperation in the US*. Hopkins Press.
- Adams, W. C. (2015). Conducting semi-structured interviews. In K. E. Newcomer, H. P. Hatry, & J. S. Wholey (Eds.), *Handbook of practical program evaluation* (4th ed., pp. 492–505). Jossey-Bass. <https://doi.org/10.1002/9781119171386.ch19>
- Bakken, H. H., & Schaars, M. A. (1937). *The economics of cooperative marketing*. MacGraw-Hill Book Company.
- Birchall, J. (2003). Rediscovering the cooperative advantage: Poverty reduction through self-help. *International Labour*. Organization.
- Blankertz, D. F. (1940). *Marketing cooperatives*. The Ronald Press Company.
- Borzaga, C., & Fazzi, L. (2014). Civil society, third sector, and healthcare: The case of social cooperatives in Italy. *Social Science & Medicine*, 123, 234–241. <https://doi.org/10.1016/j.socscimed.2014.10.001>
- Brown, L. (1997). Organizations for the 21st century? Co-operatives and “new” forms of organization. *Canadian Journal of Sociology*, 22(1), 65–93. <https://doi.org/10.2307/3341564>

- Cabaj, M. (2004). CED and social economy in Canada: A people's history. *Making Waves*, 15(1), 113–120. Available at: <https://ccednet-rcdec.ca/sites/ccednet-rcdec.ca/files/mw150113.pdf>. Accessed 1 August 2021
- Chaland, N., & Downing, R. (2003). *Profile of community economic development in Canada: Results of a survey of community economic development across Canada*. Canadian Community Economic Development Network.
- Chayanov, A. (1991). *The theory of peasant co-operatives*. Translated by D. Wedgwood Benn, London: I. B. Tauris, London.
- Cole, G. D. H. (1944). *A century of cooperation*. Published by George Allen & Unwin Ltd. For the Cooperation Union Ltd.
- Cooperatives UK. (2021). *Start a new co-op: Step by step Share*. Available at: <https://www.uk.coop/start-new-co-op/start>. Accessed 24 July 2021.
- Co-operatives UK. (2020). *Co-op economy 2020*. Available at: https://www.uk.coop/sites/default/files/2020-09/Co-op_Economy_2020_0.pdf. Accessed 3 May 2021.
- Co-operatives UK. (2021). *Co-op directory*. Available at: <https://www.uk.coop/directory>. Accessed 30 July 2021.
- Daniels, J. (1938). *Cooperation, an American way*. Covici-Friede.
- Deller, S., Hoyt, A., Hueth, B., & Sundaram-Skutel, R. (2009). *Research on the eco-nomic impact of cooperatives*. University of Wisconsin Center for Cooperatives.
- Dogarawa, A. B. (2005). The role of cooperative societies in economic development. *The Nigerian Journal of Administrative Studies*, 3(2), 1–12. <https://doi.org/10.2139/ssrn.1622149>
- Fairbairn, B. J., Bold, M., Fulton, L., Ketilson, H., & Ish, D. (1995). *Co-operatives and community development: Economics in social perspective*. Center for the Study of Co-operatives, Diefenbaker Centre, University of Saskatchewan.
- Gordon, L. S. (1918). *Cooperation for farmers*. William and Norgate.
- Gutiérrez, J. D. (2014). Smallholders' agricultural cooperatives in Colombia: Vehicles for rural development? *Revista Desarrollo y Sociedad*, 73, 219–271. <https://doi.org/10.13043/DYS.73.7>
- Harris, A., Stefanson, B., & Fulton, M. E. (1996). New generation cooperatives and cooperative theory. *Journal of Cooperatives*, 11, 15–28. <https://doi.org/10.22004/ag.econ.46188>
- Hazar, N. (1990). Kooperatifçilik tarihi [Cooperative history]. Türk Kooperatifçilik Eğitim Vakfı Yayınları.
- Hoyt, A. (1996). And then there were seven: Cooperative principles updated. *Cooperative Grocer*, 1–6. Available at: https://is.muni.cz/el/fss/podzim2019/ENS287/um/5_tyden/povinne/And_then_there_were_seven.pdfz [Accessed 6 August 2021]
- International Cooperative Alliance. (2021a). *International Cooperative Alliance*. Available at <https://www.ica.coop/en/about-us/international-cooperative-alliance> [Accessed 18 April 2021].
- International Cooperative Alliance. (2021b). *Cooperative identity, values & principles*. Available at: <https://www.ica.coop/en/cooperatives/cooperative-identity> [Accessed 28 July 2021].
- International Health Co-operative Organisation. (2019). *Cooperative contribution to healthcare..* Available at: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2019/06/190522_ihco_UNworkshop-istanbul-1.pdf [Accessed 10 August 2021].
- International Labour Organization. (2002). *Promotion of cooperatives recommendation*. Available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:R193 [Accessed 30 July 2021].
- Kallio, A., Pietil, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, 72(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- King, J. (2009). Inside a health care co-op. *CNN Newsroom*. [online] 9 August. Available at: <http://mediamatters.org/research/200909080034>. [Accessed 17 August 2021]
- Koljatic, M., & Silva, M. (2011). Alliances in SMEs and cooperatives involved in business with low-income sectors in Latin America. *Innovar*, 21(40), 127–136.

- Krugman, P. (2009). Obama's trust problem. *New York Times*. [online] 20 August. Available at: http://www.nytimes.com/2009/08/21/opinion/21krugman.html?_r=2. [Accessed 17 August 2021]
- MacKay, L. (2007). Health cooperatives in BC: The unmet potential. *BC Medical Journal*, 49(3), 139–142. Available at: <https://bcmj.org/mds-be/health-cooperatives-bc-unmet-potential> [Accessed 21 August 2021]
- Majee, W., & Hoyt, A. (2009). Building community trust through cooperatives: A case study of a worker-owned homecare cooperative. *Journal of Community Practice*, 17(4), 444–463. <https://doi.org/10.1080/10705420903299995>
- Marshall, R., & Godwin, L. (1971). *Cooperatives and rural poverty in the south*. Hopkins Press.
- Mazzarol, T., Simmons, R., & Limnios, E. M. (2014). A conceptual framework for research into co-operative enterprise. In *Research handbook on sustainable co-operative enterprise*. Edward Elgar Publishing.
- Merrett, C. D., & Walzer, N. (2004). Cooperatives and local development: Theory and applications for the 21st century. ME Sharpe.
- Monteiro, N. P., & Stewart, G. (2015). Scale, scope and survival: A comparison of cooperative and capitalist modes of production. *Review of Industrial Organization*, 47(1), 91–118. <https://doi.org/10.1007/s11151-015-9464-1>
- National Cooperative Business Association CLUSA International. (2021). *What is a co-op?* Available at: <https://ncbaclusa.coop/resources/what-is-a-co-op/>. Accessed 8 August 2021.
- Nemon, H. (2000). *Community economic development in distressed urban neigh-borhoods: A case study of the Philadelphia empowerment zone (unpublished dissertation)*. University of Pennsylvania.
- Obama, M. (2009). Obama health care speech. *The Huffington Post*. [online] 11 September. Available at: http://www.huffingtonpost.com/2009/09/09/obama-health-care-speech_n_281265.html. [Accessed 17 August 2021].
- Office for National Statistics. (2020). Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>. Accessed 4 May 2021.
- Pear, R., & Harris, G. (2009). Alternate plan as health option muddies debate. *New York Times*. [online] 18 August. Available at: http://www.nytimes.com/2009/08/18/health/policy/18plan.html?_r=1. Accessed 15 August 2021
- Picciotti, A., Bernardoni, A., Cossignani, M., & Ferrucci, L. (2014). Social cooperatives in Italy: Economic antecedents and regional distribution. *Annals of Public and Cooperative Economics*, 85(2), 213–231. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2435346 [Accessed 26 May 2021]
- Porter, P. K., & Scully, G. W. (1987). Economic efficiency in cooperatives. *The Journal of Law and Economics*, 30(2), 489–512. <https://doi.org/10.1086/467146>
- Reich, R. (2009). *The latest public option bamboo:le*. Available at: http://www.prospect.org/csnc/blogs/tapped_archive?month=06&year=2009&base_name=the_latest_public_option_bambo. Accessed 26 May 2021.
- Ring, P. S., & Van de Ven, A. H. (1992). Structuring cooperative relationships between organizations. *Strategic Management Journal*, 13(7), 483–498. <https://doi.org/10.1002/smj.4250130702>
- Roy, E. P. (1964). *Cooperatives: Today and tomorrow*. Interstate Publishers.
- Sack, K. (2009). Health co-op offers model for overhaul. *New York Times*. [online] 6 July. Available at: http://www.nytimes.com/2009/07/07/health/policy/07coop.html?_r=2. [Accessed 15 August 2021]
- Segu'i-Mas, E., Bollas, A., Helena, M., & Polo-Garrido, F. (2015). Sustainability assurance on the biggest cooperatives of the world: An analysis of their adoption and quality. *Annals of Public and Cooperative Economics*, 86(2), 363–383. <https://doi.org/10.1111/apce.12073>
- Smith, A. (2019). Differences between structured, unstructured and semi-structured interviews. *Comet*. [online] 27 December. Available at: <https://www.comet.com/resources/blog/structured-unstructured-semi-structured-interviews> [Accessed 15 July 2021]

- Stiglitz, J. E. (2009). Moving beyond market fundamentalism to a more balanced economy. *Annals of Public and Cooperative Economics*, 8(3), 345–360. <https://doi.org/10.1111/j.1467-8292.2009.00389.x>
- Strand, R., & Freeman, R. E. (2015). Scandinavian cooperative advantage: The theory and practice of stakeholder engagement in Scandinavia. *Journal of Business Ethics*, 127(1), 65–85. <https://doi.org/10.1007/s10551-013-1792-1>
- The Commonwealth Fund. (2009). *Cooperative health care: The way forward?* Available at: <https://www.commonwealthfund.org/blog/2009/cooperative-health-care-way-forward>. Accessed 30 July 2021.
- Toms, S. (2012). Producer co-operatives and economic efficiency: Evidence from the nineteenth-century cotton textile industry. *Business History*, 54(6), 855–882. <https://doi.org/10.1080/00076791.2012.706900>
- Torgerson, R. E. (2001). A critical look at new-generation cooperatives. *Rural Cooperatives USDA/Rural Development*, 15–19.
- TR Ministry of Commerce. (2019a). Sağlık hizmetleri kooperatifi kuruluş belgeleri [Health services cooperative establishment documents]. Available at: <https://ticaret.gov.tr/kooperatifcilik/kooperatiflere-yonelik-hizmetler/kooperatif-kurulus-islemleri/bakanlikca-kurulusu-yapilan-kooperatifler-ve-gerekli-belgeler/saglik-hizmetleri-kooperatifi-kurulus-belgeleri>. Accessed 3 May 2021.
- TR Ministry of Commerce. (2019b). *Türkiye’de kooperatifçilik [Cooperatives in Turkey]*. Available at: <https://ticaret.gov.tr/kooperatifcilik/bilgi-bankasi/kooperatifler-hakkinda/turkiyede-kooperatifcilik>. Accessed 3 May 2021.
- TR Ministry of Commerce. (2020). *Sağlık hizmetleri kooperatifi anasözleşmesi [Health services cooperative articles of association]*. Available at: <https://ticaret.gov.tr/data/5d41a0a913b87639ac9e0138/fed7473b77ec7cfed1719b793b7a20dc.pdf>. Accessed 24 July 2021.
- TR Ministry of Commerce. (2021). *Türkiye geneli kooperatif ve birlik raporu [Turkey-wide cooperative and union report]*. Available at: <https://ticaret.gov.tr/data/5d43d82d13b876433065528e/T%C3%9CRK%C4%B0YE%20GENEL%C4%B0%20KOOPERAT%C4%B0F%20VE%20B%C4%B0RL%C4%B0K%20RAPORU.pdf>. Accessed 30 July 2021.
- Turkish Statistical Institute. (2020). *Adrese dayalı nüfus kayıt sistemi sonuçları [Address based population registration system results]*. Available at: <https://data.tuik.gov.tr/Bulten/Index?p=Adrese-Dayali-Nufus-Kayit-Sistemi-Sonuclari-2020-37210>. Accessed 3 May 2021.
- Underwood, A. (2009). So what’s a health insurance co-op, anyway? *New York Times*. [online] 17 August. Available at: <https://prescriptions.blogs.nytimes.com/2009/08/17/so-whats-a-health-insurance-coop-anyway/>. Accessed 15 August 2021.
- United Nations. (2012). *About cooperatives*. Available at: <https://www.un.org/en/events/coopsyear/about.shtml>. Accessed 30 July 2021.
- United Nations. (2018). *Healthcare cooperatives: A reliable enterprise model for health and wellbeing*. Available at: https://www.un.org/development/desa/cooperatives/wp-content/uploads/sites/25/2019/03/190326_ihco_EGM-nairobi.pdf. Accessed 30 July 2021.
- Wilkinson, P., & Quarter, J. (1996). *Building a community-controlled economy: The Evangeline co-operative experience*. University of Toronto Press.
- World Cooperative Monitor. (2020). *Exploring the cooperative economy report 2020*. Available at <https://monitor.coop/en/media/library/research-and-reviews/world-cooperative-monitor-2020> [Accessed 3 May 2021].

Structural Analysis of the Creative and Cultural Industries of Romanian Creative Cities



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Abstract Much attention was paid to the development of the creative economy in urban areas, due to its sustainable resources, such as human intellectual capital, talent and culture. Considering the distribution disparities of the creative economy's resources, a distinctive analysis of the Romanian creative-cultural industries appears to be critical as long as the local and regional development level of each industry forecasts and prescribes the present and future creative-cultural demand and potential investments. Our study analyses seven Romanian cities, namely, Bucharest, Cluj-Napoca, Timisoara, Iasi, Brasov, Sibiu and Oradea, and presents the dominant creative and cultural industries for each city. So we analysed distinctively the 11 creative and cultural industries during 2008–2019 through 3 economic dimensions: number of operating companies, number of employees and recorded turnover. The present paper's aim is to point out the most suitable cities for the creative class depending on the industry they are engaged in and also to target potential investment directions towards specialised or, otherwise, towards the underdeveloped creative cities. The IT industry represents the leading creative industry in most cases, whereas the creative poles of Romania are represented by Bucharest, Cluj-Napoca, Timisoara and Iasi—essential economic, academic and cultural centres.

Keywords Creative industries · Cultural industries · Creative economy · Creative cities

1 Introduction

The creative economy brings significant both economic and social benefits, so it could be the answer to Romania's economic problems; hence, this paper's aim is to raise the interest of public administration and potential investors for the creative and cultural industries of Romania. The analysis of the present paper doesn't imply the

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whole Romanian creative economy; it focuses only on the most important economic, cultural and academic cities of the country: Bucharest, Cluj-Napoca, Timisoara, Iasi, Brasov, Sibiu and Oradea. This paper completes the list of works analysing the Romanian creative economy (Pintilii et al., 2017; Işfănescu-Ivan, 2018), by distinguishing itself with an original which consists in comparative analysis of the 11 creative and cultural industries of Romania and a map of the most favourable cities for each industry.

Our findings prove the attractiveness and the concentration of the creative economy in already financial and cultural powerful cities (Bucharest, Cluj-Napoca, Timisoara and Iasi), these being favourable in general for any creative and cultural industry. Although there are some differentiations, the leading creative industry in most of the analysed cities is the IT industry, Oradea and Sibiu being the only exceptions; this aspect has to be highlighted due to the high added value this industry could generate in the cities, where a latent demand awaits to be fulfilled.

The steps taken in the direction of this paper's aim consist in a brief literature review regarding the creative economy and its advantages of developing within the creative cities. Section 3 of this paper focuses on Romania, presenting the collected data regarding the number of companies, employees and recorded turnover during the period of 2008–2019 for each creative and cultural industry as recognised by the Romanian framework, highlighting the fact that these data refer only to the private companies operating in the creative economy. The 11 creative and cultural industries are analysed through the lens of the mentioned economic dimensions of seven Romanian creative cities—highly important economic, cultural and academic centres. We used the observation method when presenting the collected data by considering each industry and making comparisons between the seven creative cities selected for our study. The analyses result in mapping the most suitable cities for each creative and cultural industry so the interested creative class would know where to search for job and settle for a greater career. But this map could present a high interest also for potential investors and for the local public administration when planning for future investment directions. These comparisons are helpful in reflecting the most suitable cities for each creative and cultural industry to flourish and also the creative specialisation of each city.

2 The Creative Economy: Literature Review

The creative economy has gained popularity in the European Union, being admitted “the considerable economic weight of the Cultural and Creative Sectors (number of businesses, added value, employment) as well as the significant spill over effects that they generate for other industrial sectors” (European Commission, 2019:10); the creative industries provided in 2018 jobs for 3.8% of the total employment, and the cultural enterprises generated 192 billion EUR of added value in 2016 (Mazilu et al., 2020:78).

The great advantages of the creative economy's development were highlighted by several academics, one of those advantages being the economic resilience as Mazilu et al. noticed that greater creative industries are associated with greater regional resistance (2020:89)—this feature presents a great interest and importance nowadays due to the COVID-19 pandemic; others found out that the agglomeration of creative occupations improves the regional employment and entrepreneurship (Tiruneh et al., 2021); in a study regarding Denmark, Lorenzen and Andersen (2012) had shown that the members of the creative class play a significant role in propelling economic growth and they tend to congregate in major cities enjoying bourgeoisie-bohemian lifestyles and also manifesting tolerance to foreigners.

The urban spaces are preferable for the creative activities as the European Creative Industries Summit of 2015 exposed the creative economy's association with large or dominant cities or regions within countries tending to concentrate in this kind of areas due to their status as financial capitals, their power or their social and cultural historical legacies (Boccella & Salerno, 2016).

The creative city represents the habitat of the creative class, those cities called creative being designed for tolerance, openness, cultural diversity and a great potential for regional, national and worldwide development and competitiveness (Pejić et al., 2019). As the creative economy operates through the creative and cultural industries, a higher concern is given to culture, an important determinant of economic and social development, as Titan et al. stated (Haršanji et al., 2020:211), "it not only creates wealth but it also contributes to social inclusion, better education, self-confidence and the pride of belonging to a historic community." Also, other "symbols" of the creative city are the opportunity to validate their identity as creative persons (Sava & Bădulescu, 2019), whereas the higher education presence contributes to the local and regional development besides the tradable knowledge and research scientists, by generating and attracting talented individuals to the local economy (Tiruneh et al., 2021).

3 The Creative Industries in Romania

In the following, we will outline a more detailed image of the Romanian creative industries, analysing them separately for each selected city. We consider this step very important as Michael Porter (Martin et al., 2015) highlighted that national performance relies on the smaller regions of the country and also that these regional performances differ by industry composition.

Our work focuses on large and important economic, cultural and academic centres from Romania: Bucharest, Cluj-Napoca, Timisoara, Iasi, Brasov, Sibiu and Oradea. Bucharest is the capital city of Romania and, along with Cluj-Napoca, enjoys the recognition as the most important creative poles of Romania (Pintilii et al., 2017; Sava & Bădulescu, 2019). Moreover, Sibiu was elected in 2007 as European Capital of Culture, and concerning 2021, Timisoara is one of the candidate cities for this title, besides Novi Sad (Serbia) and Elefsina (Greece). Due to

COVID-19 pandemic, 2020s European Capitals of Culture (Rijeka and Galway) will maintain their titles until April 2021, whereas Novi Sad is postponed to become European Capital of Culture from 2021 to 2022, and Timisoara (Romania) and Elefsina (Greece) will hold the title from 2021 to 2023 (European Commission, 2021).

The selected cities also benefit from cultural mixture due to their local populations of different ethnicities proving in this manner tolerance and cultural and social diversity, characteristics of a creative city.

As Table 1 presents, the creative economy enjoyed a steady growth in Romania considering the number of operating enterprises. Even if the trend was generally favourable, the share of the analysed local creative economies fluctuated in terms of employees and recorded turnover. However, considering these shares, we notice that these seven cities have been employing and generating more than half of the Romanian creative economy's jobs and wealth during 2008–2019.

4 Cultural and Creative Industries in the Romanian Creative Cities

The analysis of each cultural and creative industry's performances was conducted in terms of number of companies, number of employees and recorded turnover in the selected Romanian creative cities. According to the National Institute for Cultural Research and Training (Croitoru et al., 2016), the creative economy of Romania includes 11 industries, such as archives and libraries, cultural heritage, arts and crafts, performing arts, visual arts, books and press, architecture, advertising, audio-visual, IT (information technology) and R&D (research and development).

4.1 Archives and Libraries

The poor dimensions of the industry of archives and libraries, one of the least developed cultural and creative industries, could be attributed to the type of activities included in this industry, their characteristics being less commercial and rather of public interest than of the private businesses. Over time, the number of companies operating in the selected creative cities has evolved favourably growing by 867% from 2008. The size and the evolution of the number of companies could be closely related to the cities' sizes, the highest numbers and the most significant increases as well, being recorded in the larger cities.

Considering the number of employees (Table 2), Bucharest, as the capital of Romania, obviously records the highest values (on average 360 employees). In this hierarchy, Brasov, Timisoara and Cluj-Napoca follow with similar values (on average, 39, 35 and 30 employees), whereas Iasi, Oradea and Sibiu employ

Table 1 Share of the local creative economies in the total creative economy of Romania 2008–2019 (%)

| Year/indicators | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| No. of enterprises | 51.38 | 51.82 | 51.37 | 52.06 | 51.83 | 52.00 | 52.21 | 52.23 | 51.77 | 49.71 | 46.89 | 45.81 |
| No. of employees | 44.35 | 46.28 | 46.91 | 46.27 | 46.94 | 47.40 | 47.27 | 49.02 | 49.31 | 49.68 | 51.36 | 52.18 |
| Turnover | 63.32 | 63.10 | 61.32 | 60.52 | 60.59 | 60.94 | 60.68 | 61.38 | 62.37 | 60.71 | 63.69 | 64.77 |

Source: author's elaboration based on information from Borg Design (2021)

Table 2 Dimensions of the archives and libraries industry (2008–2019)

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 17 | 22 | 24 | 30 | 35 | 49 | 64 | 91 | 117 | 144 | 154 | 159 |
| Cluj-Napoca | 1 | 2 | 1 | 3 | 4 | 5 | 6 | 8 | 11 | 13 | 18 | 23 |
| Timisoara | 2 | 4 | 5 | 7 | 8 | 10 | 11 | 14 | 17 | 27 | 25 | 31 |
| Sibiu | 1 | 2 | 2 | 5 | 5 | 5 | 3 | 7 | 5 | 6 | 10 | 12 |
| Brasov | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 7 | 13 | 14 | 13 | 13 |
| Iasi | 1 | 1 | 2 | 3 | 9 | 9 | 12 | 15 | 18 | 17 | 19 | 17 |
| Oradea | 2 | 2 | 2 | 1 | 3 | 4 | 7 | 6 | 6 | 4 | 8 | 6 |
| Total | 27 | 36 | 40 | 53 | 68 | 87 | 108 | 148 | 187 | 225 | 247 | 261 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 65 | 76 | 129 | 197 | 228 | 281 | 381 | 548 | 612 | 607 | 584 | 614 |
| Cluj-Napoca | 1 | 5 | 10 | 15 | 20 | 22 | 28 | 32 | 45 | 42 | 60 | 80 |
| Timisoara | 1 | 3 | 8 | 18 | 8 | 13 | 19 | 37 | 49 | 162 | 48 | 50 |
| Sibiu | 3 | 7 | 1 | 5 | 5 | 5 | 3 | 5 | 8 | 13 | 13 | 10 |
| Brasov | 8 | 11 | 15 | 15 | 23 | 34 | 39 | 21 | 70 | 73 | 86 | 73 |
| Iasi | 0 | 1 | 3 | 4 | 6 | 7 | 11 | 18 | 29 | 23 | 14 | 25 |
| Oradea | 10 | 10 | 8 | 6 | 6 | 5 | 22 | 12 | 13 | 10 | 12 | 11 |
| Total | 88 | 113 | 174 | 260 | 296 | 367 | 503 | 673 | 826 | 930 | 817 | 863 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 5 | 8 | 8 | 14 | 20 | 24 | 35 | 44 | 52 | 61 | 66 | 84 |
| Cluj-Napoca | 0.19 | 0.21 | 0.43 | 0.98 | 1 | 2 | 2 | 4 | 4 | 5 | 6 | 10 |
| Timisoara | 0.05 | 0.14 | 0.5 | 0.7 | 0.69 | 0.85 | 1 | 9 | 4 | 4.5 | 5 | 5 |
| Sibiu | 0.06 | 0.48 | 0.05 | 0.43 | 0.37 | 0.33 | 0.41 | 0.36 | 0.39 | 0.49 | 0.56 | 1 |

| | | | | | | | | | | | | |
|--------------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|--------------|------------|
| Brasov | 0.26 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 6 | 7 | 8 | 8 |
| Iasi | 0.04 | 0.05 | 0.12 | 0.23 | 0.68 | 1 | 0.99 | 1 | 1 | 1 | 1.5 | 2 |
| Oradea | 0.25 | 0.32 | 0.14 | 0.08 | 0.48 | 0.28 | 0.99 | 0.74 | 0.67 | 0.78 | 0.91 | 1 |
| Total | 5 | 9 | 10 | 16 | 23 | 30 | 41 | 59 | 67 | 78.5 | 87.97 | 111 |

Source: author's elaboration based on information from Borg Design (2021)

much lesser (on average 12, 10 and 7 employees). Additionally, this dimension of the archives and libraries industry confirms the positive growing trend during the period of analysis and also that the largest cities developed more rapidly and more efficiently than the smaller ones. Bucharest records the highest values of turnover, a fact to be expected as most of the enterprises and employees operate and work in Bucharest, but its values (on average 35 million lei) cannot be compared to those recorded by other six cities (on average three million lei). However, there were positive and negative fluctuations as well, in the values produced by the industry of archives and libraries, but the general trend was an ascending one.

Comparing the seven creative cities, the greatest exploitation of archives and libraries belongs to Bucharest, but Timisoara, Brasov and Cluj-Napoca represent, as well, fertile economic environments. Nevertheless, we cannot say the same about Oradea and Sibiu, these two recording a low impact on the development of the analysed industry.

4.2 Cultural Heritage

The industry of cultural heritage is also of mainly public interest, so its performances in the private sector are not outstanding. In terms of the companies' number (Table 3), the most of them are reported in Bucharest (on average 18 companies), whereas Cluj-Napoca, Iasi and Brasov record an average of three companies during the 12 years' analysis. Oradea, Sibiu and Timisoara totally lack this industry, and another unfavourable aspect of the cultural heritage industry is the general constant decrease in the number of operating companies.

The industry of cultural heritage is not prone to be efficiently exploited in the private sector; the most important economic activities of this industry are conducted by public institutions and organisations due to the necessity of large financial resources for owning, exhibiting and preserving the elements of cultural heritage. Another aspect determinant for public exploitation is the ownership of these cultural monuments, buildings and so on: these are public property or lent by owners to public institutions to preserve and exploit them. The large costs regarding all the mentioned aspects make the cultural heritage industry not too attractive for private initiatives. However, in Romania, Bucharest exploits most of the private activities of cultural heritage, and also Cluj-Napoca and Iasi enjoy a little visibility in this industry.

4.3 Arts and Crafts

In the Romanian creative economy as a whole, arts and crafts are the most developed cultural and creative industry, but when we analyse it as a local creative industry, it loses its supremacy for the IT industry, excepting Sibiu and Oradea.

As we can notice in Table 4, the number of companies enjoyed a favourable evolution in each analysed city, most of them doubling their initial values. Bucharest

Table 3 Dimensions of the cultural heritage industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 18 | 15 | 16 | 16 | 17 | 19 | 19 | 19 | 20 | 19 | 18 | 17 |
| Cluj-Napoca | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| Timisoara | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sibiu | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Brasov | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Iasi | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 2 |
| Oradea | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 27 | 24 | 25 | 24 | 25 | 27 | 27 | 26 | 27 | 26 | 25 | 23 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 193 | 139 | 54 | 43 | 37 | 48 | 51 | 53 | 50 | 46 | 51 | 22 |
| Cluj-Napoca | 29 | 27 | 27 | 26 | 25 | 24 | 27 | 24 | 24 | 25 | 20 | 7 |
| Timisoara | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sibiu | 4 | 4 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Brasov | 7 | 7 | 7 | 7 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 0 |
| Iasi | 2 | 8 | 4 | 6 | 8 | 1 | 16 | 17 | 6 | 3 | 4 | 5 |
| Oradea | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 235 | 185 | 101 | 82 | 70 | 76 | 95 | 95 | 81 | 75 | 75 | 34 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 40 | 12 | 5 | 3 | 4 | 3 | 4 | 4 | 2 | 2 | 5 | 3 |
| Cluj-Napoca | 3 | 2 | 2 | 2 | 3 | 2 | 0.69 | 1 | 1 | 2 | 1.7 | 0.9 |
| Timisoara | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sibiu | 0.11 | 0.73 | 0.16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(continued)

Table 3 (continued)

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|-------------|
| Brasov | 0.30 | 0.2 | 0.34 | 0.41 | 0.34 | 0.13 | 0.034 | 1.12 | 0.07 | 0.04 | 0.12 | 0.25 |
| Iasi | 1 | 0.65 | 0.78 | 1 | 0.99 | 0.82 | 2 | 2 | 2 | 1 | 0.85 | 0.98 |
| Oradea | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 44 | 14 | 7 | 6 | 7 | 5 | 6 | 7 | 5 | 5 | 7.55 | 5.13 |

Source: author's elaboration based on information from Borg Design (2021)

Table 4 Dimensions of the arts and crafts industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 593 | 628 | 618 | 679 | 721 | 769 | 821 | 918 | 1015 | 1144 | 1201 | 1219 |
| Cluj-Napoca | 199 | 204 | 208 | 219 | 225 | 245 | 270 | 290 | 310 | 366 | 388 | 406 |
| Timisoara | 124 | 122 | 121 | 126 | 130 | 140 | 147 | 163 | 169 | 184 | 190 | 205 |
| Sibiu | 95 | 93 | 92 | 96 | 100 | 105 | 105 | 111 | 122 | 132 | 149 | 168 |
| Brasov | 120 | 125 | 132 | 139 | 147 | 151 | 157 | 167 | 177 | 203 | 220 | 242 |
| Iasi | 69 | 76 | 77 | 92 | 96 | 98 | 100 | 112 | 130 | 151 | 156 | 181 |
| Oradea | 156 | 158 | 160 | 168 | 177 | 199 | 210 | 226 | 242 | 256 | 245 | 259 |
| Total | 1356 | 1406 | 1408 | 1519 | 1596 | 1707 | 1810 | 1987 | 2165 | 2436 | 2549 | 2680 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 15594 | 13406 | 12945 | 13596 | 13395 | 14138 | 14336 | 14527 | 10474 | 10304 | 9757 | 8578 |
| Cluj-Napoca | 4593 | 3875 | 3971 | 3982 | 3699 | 3658 | 3640 | 4007 | 4073 | 4034 | 4071 | 3788 |
| Timisoara | 3905 | 3193 | 3209 | 3302 | 3408 | 3449 | 2855 | 2829 | 2839 | 2952 | 2858 | 2899 |
| Sibiu | 2143 | 2004 | 2023 | 2624 | 2768 | 2775 | 2576 | 2584 | 2726 | 2672 | 2466 | 2907 |
| Brasov | 2314 | 2013 | 2169 | 2346 | 2461 | 2559 | 2519 | 2448 | 2427 | 2439 | 2794 | 2631 |
| Iasi | 1803 | 1393 | 1418 | 1383 | 1316 | 1469 | 1526 | 1616 | 1733 | 1627 | 1534 | 1592 |
| Oradea | 4485 | 4214 | 4357 | 4435 | 4796 | 5174 | 5469 | 5411 | 5574 | 5211 | 4984 | 4717 |
| Total | 34837 | 30098 | 30092 | 31668 | 31843 | 33222 | 32921 | 33422 | 29846 | 29239 | 28464 | 27112 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 1816 | 1769 | 1865 | 2205 | 2393 | 2843 | 2944 | 2615 | 1788 | 1905 | 2041 | 2118 |
| Cluj-Napoca | 393 | 351 | 386 | 423 | 451 | 490 | 521 | 582 | 656 | 723 | 749 | 799 |
| Timisoara | 367 | 349 | 310 | 372 | 403 | 453 | 370 | 422 | 722 | 723 | 747 | 860 |
| Sibiu | 244 | 212 | 244 | 291 | 310 | 324 | 326 | 284 | 281 | 300 | 303 | 383 |

(continued)

Table 4 (continued)

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Brasov | 173 | 183 | 366 | 316 | 409 | 471 | 475 | 535 | 635 | 756 | 962 | 1096 |
| Iasi | 157 | 136 | 142 | 161 | 171 | 203 | 231 | 238 | 262 | 288 | 297 | 322 |
| Oradea | 314 | 300 | 327 | 427 | 516 | 582 | 690 | 710 | 810 | 811 | 874 | 845 |
| Total | 3464 | 3300 | 3640 | 4195 | 4653 | 5366 | 5557 | 5386 | 5154 | 5506 | 5973 | 6423 |

Source: author's elaboration based on information from Borg Design (2021)

is the location of most of these companies (on average 861 companies), and the next most favourable locations are represented by the cities of Cluj-Napoca and Oradea (on average 278, 205 companies). In most of the cases, Bucharest and Cluj-Napoca report the highest values, these two representing the creative poles of Romania. Considering Oradea, this city stands out in this industry, ahead of other cities (Sava, 2020), the creative industry of arts and crafts being the most developed one. On the other hand, the fewest companies of arts and crafts operate in Iasi and Sibiu, even if also these two cities recorded constant increases during the time. Concerning the number of employees, each selected city encountered various fluctuations during the time, all the cities recording decreases due to the crisis of 2009.

Generally, the arts and crafts industry recorded increasing values of the turnover, Bucharest performances being negatively affected by the year of 2016. Obviously, the highest values of turnover belong to Bucharest (on average 2192 million lei), the second most efficient city in this industry being Oradea (on average 601 million lei); meanwhile, the lowest figures are recorded in Sibiu and Iasi with values fewer than 300 million lei.

The great development of any cultural and creative industry in Bucharest is due to the capital status of this city, and so most of our interest is driven to the cities following in the hierarchy. Concerning the industry of arts and crafts, Oradea stands out surprisingly with high values of the recorded turnover, large numbers of employees and companies, but so does Cluj-Napoca. In terms of companies, Cluj-Napoca exceeded Oradea's values, and this aspect determines a greater performance for Oradea by employing and recording higher values with fewer companies than Cluj-Napoca.

4.4 Performing Arts

The number of companies operating in the performing arts industry (Table 5) has been growing steadily during the time, reaching an increase of 342%. In Bucharest, we find an average number of 1419 companies, its leading values being much higher than those of the other 6 cities; Cluj-Napoca and Timisoara record values worth to mention (on average, 228 and 154 companies, respectively), whereas the fewest are located in Oradea and Sibiu (on average, 63 and 65 companies, respectively). These results could be underpinned by relating them to the facts that Bucharest, Cluj-Napoca and Timisoara are nationally recognised cultural and university centres, whereas Oradea and Sibiu have been enrolling a much lower number of students (Sava & Meşter, 2019).

Generally, the number of persons working in this industry benefitted from a favourable trend, experiencing a growth of 122%. Without doubt, Bucharest enjoys a vast labour market concerning the performing arts, the private entities employing on average 2347 persons. Timisoara and Cluj-Napoca are also cities of interest for the performing arts workers, whereas the least are found in Iasi and Oradea.

Table 5 Dimensions of the performing arts industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 645 | 700 | 738 | 873 | 1006 | 1134 | 1270 | 1536 | 1886 | 2224 | 2425 | 2589 |
| Cluj-Napoca | 97 | 103 | 108 | 130 | 140 | 159 | 189 | 232 | 288 | 360 | 431 | 497 |
| Timisoara | 65 | 72 | 76 | 88 | 105 | 122 | 143 | 175 | 203 | 238 | 270 | 296 |
| Sibiu | 22 | 20 | 24 | 30 | 41 | 50 | 55 | 61 | 83 | 108 | 127 | 156 |
| Brasov | 57 | 64 | 67 | 77 | 93 | 108 | 119 | 146 | 175 | 212 | 235 | 276 |
| Iasi | 32 | 39 | 38 | 49 | 50 | 52 | 57 | 79 | 114 | 155 | 175 | 223 |
| Oradea | 25 | 25 | 28 | 36 | 38 | 43 | 49 | 71 | 86 | 104 | 119 | 129 |
| Total | 943 | 1023 | 1079 | 1283 | 1473 | 1668 | 1882 | 2300 | 2835 | 3401 | 3782 | 4166 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 1751 | 1865 | 1849 | 2004 | 1973 | 2113 | 2032 | 2527 | 3074 | 2917 | 2999 | 3058 |
| Cluj-Napoca | 196 | 176 | 207 | 250 | 241 | 225 | 288 | 350 | 357 | 330 | 439 | 470 |
| Timisoara | 208 | 228 | 305 | 340 | 373 | 395 | 425 | 586 | 647 | 568 | 472 | 607 |
| Sibiu | 35 | 17 | 25 | 39 | 55 | 66 | 105 | 166 | 539 | 555 | 617 | 597 |
| Brasov | 117 | 129 | 128 | 143 | 194 | 213 | 237 | 251 | 277 | 284 | 303 | 313 |
| Iasi | 126 | 116 | 93 | 120 | 102 | 136 | 120 | 181 | 246 | 219 | 211 | 255 |
| Oradea | 39 | 37 | 42 | 53 | 64 | 74 | 96 | 143 | 217 | 228 | 168 | 183 |
| Total | 2472 | 2568 | 2649 | 2949 | 3002 | 3222 | 3303 | 4204 | 5357 | 5101 | 5209 | 5483 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 256 | 247 | 230 | 267 | 310 | 287 | 313 | 420 | 543 | 656 | 924 | 901 |
| Cluj-Napoca | 15 | 10 | 10 | 11 | 12 | 12 | 17 | 32 | 86 | 134 | 188 | 250 |
| Timisoara | 50 | 15 | 23 | 23 | 30 | 32 | 38 | 54 | 66 | 60 | 59 | 80 |
| Sibiu | 3 | 2 | 3 | 4 | 6 | 7 | 12 | 15 | 85 | 122 | 144 | 168 |

| | | | | | | | | | | | | |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|
| Brasov | 12 | 9 | 11 | 17 | 22 | 24 | 25 | 3 | 40 | 45 | 51 | 61 |
| Iasi | 7 | 7 | 5 | 8 | 9 | 8 | 9 | 19 | 25 | 30 | 35 | 39 |
| Oradea | 4 | 4 | 3 | 4 | 5 | 5 | 7 | 11 | 15 | 17 | 17 | 21 |
| Total | 347 | 294 | 285 | 334 | 394 | 375 | 421 | 554 | 860 | 1064 | 1418 | 1520 |

Source: author's elaboration based on information from Borg Design (2021)

The values of the recorded turnover confirm the large interest for performing arts in only two of the most employing cities: Bucharest and Cluj-Napoca (on average 446 and 65 million lei). Correlating these values with the number of employees, we can notice a high efficiency of this industry in Cluj-Napoca. However, the general evolution of the recorded turnover was a positive one, slightly affected by the 2009s crisis; anyway in the following years, the industry had recovered and developed continuously, almost doubling its initial values.

The performing arts industry has been evolving positively encountering slight oscillations until 2015. The most suitable cities for developing activities specific to this industry are Bucharest, Cluj-Napoca, Timisoara and, surprisingly, Sibiu. The latter one records high performances in terms of work productivity, considering the high values of recorded turnover and the low number of employees.

4.5 *Visual Arts*

Another developing creative industry is the industry of visual arts; in the 12 years of analysis, the number of companies operating in this industry (Table 6) increased by +228%, most of them being located in Bucharest (on average 1298 companies) and Cluj-Napoca. Timisoara, Brasov and Iasi reported similar values, whereas the fewest are located in Sibiu with only an average of 53 companies during 2008–2019. The general trend was upwards and the number of companies increased rapidly.

However, with regard to the employees' number, the situation is changing: the general trend was also upwards but mostly constantly, the number of persons working in this creative industry experiencing a slight growth of +2.11%. Bucharest is the most employing city in this industry as well, but comparing to the other creative and cultural industries, the visual arts lost during the years 2008–2019 a large number of jobs. This fact is valid only for the capital city, the other six cities facing consistent increases of the employees in this industry even if during the time, each of them encountered also negative fluctuations.

It is noticeable that the recorded turnover also faced fluctuations during 2008–2019, but there was a general trend of growth. Overall, the visual arts industry has enjoyed prosperity year by year, reporting a steady growth with minor negative fluctuations in the capital and Sibiu, and of course, those fluctuations were caused by 2009s economic crisis, affecting each selected city.

The development of the visual arts industry was unusual due to the high increase in the number of companies, and this growth cannot be correlated to job creation. The number of employees grew slightly, so we could conclude that the numerous companies were in competition over the human resources, and also this competition, in some cities, could have determined the consistent growths of the recorded turnover. However, this industry performs great in Bucharest, Cluj-Napoca, Iasi and Timisoara.

Table 6 Dimensions of the visual arts industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 699 | 689 | 698 | 812 | 911 | 1018 | 1153 | 1362 | 1655 | 1994 | 2207 | 2377 |
| Cluj-Napoca | 159 | 151 | 159 | 177 | 207 | 233 | 262 | 293 | 338 | 419 | 473 | 553 |
| Timisoara | 100 | 100 | 103 | 116 | 127 | 136 | 163 | 189 | 234 | 264 | 277 | 325 |
| Sibiu | 33 | 37 | 37 | 34 | 37 | 36 | 45 | 50 | 56 | 75 | 82 | 108 |
| Brasov | 97 | 108 | 113 | 122 | 132 | 142 | 149 | 169 | 193 | 236 | 265 | 300 |
| Iasi | 85 | 86 | 87 | 102 | 109 | 124 | 138 | 163 | 190 | 238 | 260 | 284 |
| Oradea | 99 | 94 | 93 | 108 | 115 | 124 | 139 | 146 | 165 | 187 | 198 | 224 |
| Total | 1272 | 1265 | 1290 | 1471 | 1638 | 1813 | 2049 | 2372 | 2831 | 3413 | 3762 | 4171 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 5379 | 5132 | 4752 | 4740 | 4763 | 4563 | 4262 | 4439 | 4448 | 4718 | 4886 | 4075 |
| Cluj-Napoca | 440 | 438 | 468 | 428 | 522 | 610 | 639 | 617 | 639 | 695 | 771 | 817 |
| Timisoara | 272 | 243 | 270 | 325 | 379 | 341 | 365 | 381 | 498 | 502 | 524 | 526 |
| Sibiu | 126 | 115 | 185 | 213 | 126 | 154 | 153 | 213 | 188 | 142 | 148 | 169 |
| Brasov | 277 | 272 | 271 | 290 | 299 | 301 | 301 | 316 | 355 | 416 | 399 | 494 |
| Iasi | 192 | 157 | 180 | 222 | 233 | 251 | 273 | 313 | 317 | 392 | 459 | 476 |
| Oradea | 276 | 270 | 276 | 312 | 341 | 351 | 412 | 423 | 449 | 439 | 486 | 552 |
| Total | 6962 | 6627 | 6402 | 6530 | 6663 | 6571 | 6405 | 6702 | 6894 | 7304 | 7673 | 7109 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 1873 | 1579 | 1358 | 1348 | 1399 | 1362 | 1284 | 1400 | 1570 | 1711 | 2125 | 2200 |
| Cluj-Napoca | 52 | 46 | 53 | 60 | 70 | 82 | 97 | 115 | 131 | 157 | 149 | 188 |
| Timisoara | 32 | 37 | 26 | 32 | 46 | 45 | 57 | 61 | 75 | 87 | 96 | 111 |
| Sibiu | 18 | 15 | 22 | 19 | 17 | 15 | 16 | 24 | 22 | 25 | 30 | 29 |

(continued)

Table 6 (continued)

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Brasov | 33 | 31 | 31 | 31 | 38 | 37 | 46 | 53 | 64 | 79 | 85 | 97 |
| Iasi | 30 | 20 | 24 | 36 | 38 | 45 | 58 | 60 | 69 | 88 | 113 | 125 |
| Oradea | 42 | 36 | 34 | 40 | 44 | 48 | 62 | 72 | 81 | 92 | 100 | 125 |
| Total | 2080 | 1764 | 1548 | 1566 | 1652 | 1634 | 1620 | 1785 | 2012 | 2239 | 2698 | 2875 |

Source: author's elaboration based on information from Borg Design (2021)

4.6 Books and Press

The books and press industry has been reporting a general positive evolution during 2008–2019, and concerning strictly the number of companies (Table 7), the industry enjoyed an extraordinary favourable trend without reductions. Each selected city multiplied its initial values, and most of these companies are located in Bucharest and Cluj-Napoca. Other cities, except Sibiu, report similar values, slightly over 100 companies on average during 2008–2019, whereas Sibiu fell below this value. Moreover, Sibiu and the capital had been the only cities experiencing negative fluctuations during the analysed period, the other cities benefitting from constant increases in the number of companies.

Regarding the persons employed in this industry, the same cities stood out as the most employing: Bucharest, Cluj-Napoca and Timisoara—employing both an average of 436 employees. Thus, in this particular case, we notice a direct connection between the number of companies and the number of employees; confirmed also by Sibiu, this city reported the fewest companies and reports the fewest employees as well. All the selected cities enjoyed a favourable evolution during 2008–2019 reporting consistent growths in the number of employees, but the most spectacular one is concerning Sibiu, the number of persons employed in the books and press industry increasing by 889%. These performances are even more remarkable due to the technological evolution, the emergence of smartphones, tablets and Kindle devices on the Romanian market; also, the Internet made it easier to access online newspapers and magazines, all these causing the replacement of a consistent share of physical products with digital ones.

During 2008–2019, the books and press industry recorded a constant increasing turnover facing little negative fluctuations due mostly the 2009s economic crisis. The highest values belong to Bucharest, Cluj-Napoca and Iasi following but with much smaller values.

The most advantageous cities for this industry are Bucharest, Cluj-Napoca and Iasi, the first two being favourable for any of the analysed creative and cultural industries. On the other hand, considering the figures presented above, we could conclude that Sibiu doesn't represent an ideal location for economic growth or, on the contrary, there is plenty room for this industry to thrive.

4.7 Architecture

Table 8 provides information proving the architecture industry enjoyed much interest from the entrepreneurial environment of Bucharest, Cluj-Napoca and Timisoara, whereas the fewest companies were operating in Sibiu and Oradea. During the analysis period, this industry advanced continuously as in number of companies, facing minor adversities in 2010 only in Bucharest, the other six cities not being affected.

Table 7 Dimensions of the books and press industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 971 | 1061 | 1055 | 1165 | 1235 | 1321 | 1390 | 1456 | 1516 | 1599 | 1592 | 1583 |
| Cluj-Napoca | 188 | 202 | 212 | 230 | 245 | 263 | 275 | 284 | 284 | 325 | 343 | 346 |
| Timisoara | 88 | 92 | 95 | 100 | 103 | 106 | 118 | 121 | 120 | 131 | 136 | 145 |
| Sibiu | 54 | 57 | 58 | 64 | 67 | 66 | 67 | 66 | 65 | 65 | 67 | 76 |
| Brasov | 85 | 89 | 88 | 96 | 103 | 107 | 110 | 113 | 122 | 131 | 137 | 146 |
| Iasi | 88 | 93 | 98 | 105 | 109 | 116 | 116 | 126 | 128 | 135 | 142 | 149 |
| Oradea | 67 | 75 | 82 | 93 | 96 | 100 | 102 | 105 | 107 | 119 | 127 | 131 |
| Total | 1541 | 1669 | 1688 | 1853 | 1958 | 2079 | 2178 | 2271 | 2342 | 2505 | 2544 | 2576 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 10283 | 10277 | 9308 | 9646 | 9712 | 9425 | 9686 | 9830 | 10337 | 10384 | 9939 | 9788 |
| Cluj-Napoca | 1184 | 1110 | 1127 | 1167 | 1144 | 1185 | 1141 | 1087 | 1157 | 1287 | 1248 | 1179 |
| Timisoara | 671 | 628 | 592 | 586 | 607 | 669 | 661 | 689 | 563 | 533 | 502 | 487 |
| Sibiu | 333 | 318 | 316 | 340 | 314 | 312 | 299 | 305 | 310 | 257 | 291 | 340 |
| Brasov | 810 | 632 | 559 | 643 | 658 | 617 | 610 | 517 | 506 | 484 | 518 | 514 |
| Iasi | 1035 | 836 | 902 | 911 | 867 | 915 | 884 | 995 | 850 | 825 | 794 | 820 |
| Oradea | 264 | 262 | 254 | 286 | 294 | 352 | 309 | 333 | 425 | 520 | 356 | 542 |
| Total | 14580 | 14063 | 13058 | 13579 | 13596 | 13475 | 13590 | 13756 | 14148 | 14290 | 13648 | 13670 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 2036 | 2024 | 2067 | 2282 | 2313 | 2289 | 2646 | 2774 | 3005 | 3093 | 3562 | 3869 |
| Cluj-Napoca | 122 | 131 | 137 | 152 | 163 | 179 | 224 | 238 | 258 | 290 | 302 | 318 |
| Timisoara | 64 | 58 | 56 | 54 | 56 | 59 | 67 | 62 | 60 | 60 | 65 | 68 |
| Sibiu | 30 | 28 | 28 | 31 | 30 | 37 | 32 | 35 | 34 | 33 | 38 | 41 |

| | | | | | | | | | | | | |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Brasov | 93 | 91 | 89 | 98 | 100 | 98 | 107 | 104 | 104 | 109 | 120 | 142 |
| Iasi | 129 | 94 | 118 | 126 | 130 | 132 | 140 | 160 | 146 | 147 | 166 | 186 |
| Oradea | 20 | 18 | 19 | 21 | 22 | 30 | 28 | 34 | 38 | 58 | 70 | 75 |
| Total | 2494 | 2444 | 2514 | 2764 | 2814 | 2824 | 3244 | 3407 | 3645 | 3790 | 4323 | 4699 |

Source: author's elaboration based on information from Borg Design (2021)

Table 8 Dimensions of the architecture industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 895 | 951 | 922 | 992 | 1036 | 1082 | 1153 | 1207 | 1337 | 1486 | 1567 | 1608 |
| Cluj-Napoca | 165 | 181 | 182 | 191 | 195 | 198 | 217 | 239 | 262 | 299 | 313 | 334 |
| Timisoara | 130 | 139 | 142 | 150 | 150 | 159 | 161 | 166 | 180 | 195 | 213 | 215 |
| Sibiu | 53 | 58 | 59 | 56 | 61 | 64 | 66 | 67 | 75 | 85 | 83 | 89 |
| Brasov | 96 | 98 | 97 | 102 | 104 | 110 | 113 | 118 | 127 | 147 | 151 | 152 |
| Iasi | 86 | 93 | 93 | 95 | 98 | 105 | 105 | 109 | 124 | 131 | 151 | 160 |
| Oradea | 70 | 77 | 78 | 82 | 85 | 87 | 88 | 94 | 102 | 114 | 115 | 122 |
| Total | 1495 | 1597 | 1573 | 1668 | 1729 | 1805 | 1903 | 2000 | 2207 | 2457 | 2593 | 2680 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 3141 | 2974 | 2719 | 2686 | 2574 | 2516 | 2494 | 2570 | 2725 | 2943 | 3443 | 3658 |
| Cluj-Napoca | 518 | 565 | 473 | 461 | 484 | 471 | 419 | 454 | 535 | 605 | 613 | 590 |
| Timisoara | 362 | 359 | 351 | 351 | 318 | 306 | 286 | 304 | 312 | 360 | 396 | 397 |
| Sibiu | 213 | 197 | 207 | 222 | 246 | 117 | 113 | 109 | 117 | 130 | 131 | 127 |
| Brasov | 288 | 260 | 197 | 203 | 204 | 199 | 188 | 175 | 187 | 199 | 210 | 217 |
| Iasi | 215 | 181 | 169 | 171 | 193 | 195 | 189 | 198 | 233 | 288 | 297 | 299 |
| Oradea | 253 | 256 | 257 | 246 | 238 | 214 | 167 | 167 | 171 | 192 | 214 | 229 |
| Total | 4990 | 4792 | 4373 | 4340 | 4257 | 4018 | 3856 | 3977 | 4280 | 4717 | 5304 | 5517 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 607 | 438 | 319 | 343 | 355 | 334 | 340 | 387 | 479 | 539 | 786 | 910 |
| Cluj-Napoca | 63 | 49 | 29 | 41 | 62 | 36 | 34 | 53 | 68 | 74 | 91 | 102 |
| Timisoara | 39 | 33 | 25 | 25 | 23 | 22 | 24 | 30 | 40 | 48 | 66 | 64 |
| Sibiu | 29 | 26 | 32 | 41 | 46 | 15 | 18 | 31 | 32 | 37 | 35 | 40 |

| | | | | | | | | | | | | |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|
| Brasov | 46 | 24 | 12 | 18 | 18 | 20 | 19 | 18 | 21 | 25 | 32 | 36 |
| Iasi | 18 | 16 | 10 | 11 | 20 | 16 | 19 | 20 | 27 | 38 | 59 | 73 |
| Oradea | 20 | 17 | 14 | 13 | 12 | 11 | 13 | 14 | 17 | 19 | 24 | 29 |
| Total | 822 | 603 | 441 | 492 | 536 | 454 | 467 | 553 | 684 | 780 | 1093 | 1254 |

Source: author's elaboration based on information from Borg Design (2021)

As expected, the most employing cities are Bucharest, Cluj-Napoca and Timisoara. The evolution of the employees' number faced a serious decline, the negative evolution debuting right in the economic crisis and continuing until 2015. After this period, a constant positive evolution started, picturing a higher demand of architectural services.

On the other hand, Bucharest concentrates on any type of creative and cultural activity, and so it reports the highest average values of recorded turnover. The performance reached by Sibiu is more outstanding as Sibiu locates the fewest companies and employees the fewest persons but manages to record higher turnovers than Brasov and Oradea—in the last year of the analysis, the values recorded in Iasi exceeded those recorded in Sibiu. Overall, the earnings' evolution continuously fluctuated, primarily due to the difficulties caused by the economic crisis of 2009.

Architecture, as a creative industry, is best placed and explored in Bucharest, Cluj-Napoca and Timisoara; during the 12 years of analysis, the general trend of this industry was an ascending one, but also it had faced several negative fluctuations, a reason to consider this industry along with books and press, another risky creative industry with a high degree of insecurity.

4.8 Advertising

The highest concentration of companies operating in the advertising industry (Table 9) belongs to Bucharest and Cluj-Napoca, whereas the fewest are located in Sibiu. Contrasting with the evolution of the other creative and cultural industries, this industry's number of companies has been evolving constantly during the years 2008–2019 without being affected by the economic crisis of 2009.

In Table 9, we see that Bucharest employs the largest number of persons working in advertising, and Cluj-Napoca follows next with an average of 1322 employees. Timisoara and Brasov report similar values—slightly over 500 employees—whereas Oradea, Iasi and Sibiu employ averagely between 100 and 200 persons per year, Sibiu reporting the lowest values (on average 106 employees). Unprecedentedly, the number of companies enjoyed a constant favourable evolution; in terms of number of employees, the situation is a lot more dynamic: generally, the trend was positive, but serious oscillations were present in the number of employees of each selected city.

Comparing Bucharest to other six cities is meaningless due to its status of capital city, and so, reporting the highest values of earnings in advertising represents an expected fact. Cluj-Napoca stands out as an important creative and cultural economic centre, and it reports much higher values of turnover than other five cities (on average 148 million lei). The most insignificant negative fluctuations were faced by Iasi—one of the cities with the fewest companies, employees and lowest recorded turnover in this industry—and this fact determines us to consider that the most prosperous cities are also the most likely to decline, while the less developed cities,

Table 9 Dimensions of the advertising industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 1379 | 1514 | 1560 | 1846 | 2082 | 2303 | 2523 | 2788 | 3143 | 3372 | 3510 | 3638 |
| Cluj-Napoca | 178 | 194 | 198 | 214 | 228 | 260 | 290 | 313 | 338 | 375 | 408 | 421 |
| Timisoara | 81 | 88 | 90 | 97 | 106 | 125 | 144 | 161 | 181 | 197 | 201 | 210 |
| Sibiu | 31 | 34 | 38 | 43 | 50 | 50 | 54 | 56 | 62 | 72 | 74 | 85 |
| Brasov | 109 | 122 | 123 | 138 | 144 | 164 | 171 | 184 | 194 | 209 | 226 | 248 |
| Iasi | 59 | 65 | 59 | 71 | 80 | 87 | 101 | 122 | 144 | 156 | 174 | 186 |
| Oradea | 65 | 74 | 77 | 85 | 93 | 98 | 100 | 106 | 117 | 125 | 128 | 135 |
| Total | 1902 | 2091 | 2145 | 2494 | 2783 | 3087 | 3383 | 3730 | 4179 | 4506 | 4721 | 4923 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 6825 | 7156 | 12756 | 8620 | 9372 | 9848 | 9797 | 10716 | 11392 | 12437 | 13206 | 12888 |
| Cluj-Napoca | 1161 | 1251 | 1426 | 2166 | 1165 | 1174 | 1265 | 1458 | 1310 | 1177 | 1155 | 1150 |
| Timisoara | 254 | 508 | 621 | 653 | 648 | 623 | 655 | 656 | 702 | 679 | 464 | 449 |
| Sibiu | 53 | 66 | 68 | 78 | 76 | 98 | 105 | 125 | 124 | 154 | 175 | 153 |
| Brasov | 420 | 426 | 478 | 595 | 539 | 536 | 397 | 554 | 751 | 809 | 479 | 505 |
| Iasi | 111 | 100 | 116 | 124 | 144 | 135 | 167 | 199 | 248 | 269 | 264 | 296 |
| Oradea | 157 | 139 | 157 | 173 | 180 | 170 | 171 | 203 | 231 | 230 | 227 | 243 |
| Total | 8981 | 9646 | 15622 | 12409 | 12124 | 12584 | 12557 | 13911 | 14758 | 15755 | 15970 | 15684 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 4407 | 3806 | 3709 | 4084 | 4180 | 3525 | 3441 | 4232 | 5524 | 5734 | 7320 | 7473 |
| Cluj-Napoca | 125 | 102 | 101 | 114 | 116 | 122 | 137 | 155 | 169 | 184 | 215 | 233 |
| Timisoara | 21 | 34 | 29 | 46 | 49 | 52 | 73 | 107 | 106 | 99 | 87 | 87 |
| Sibiu | 7 | 6 | 8 | 8 | 11 | 12 | 15 | 20 | 24 | 27 | 33 | 41 |

(continued)

Table 9 (continued)

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Brasov | 65 | 55 | 48 | 60 | 64 | 66 | 71 | 80 | 100 | 105 | 106 | 108 |
| Iasi | 12 | 11 | 10 | 14 | 19 | 17 | 22 | 34 | 49 | 48 | 55 | 111 |
| Oradea | 30 | 18 | 14 | 21 | 21 | 19 | 21 | 24 | 34 | 40 | 58 | 68 |
| Total | 4667 | 4032 | 3919 | 4347 | 4460 | 3813 | 3780 | 4652 | 6006 | 6237 | 7874 | 8121 |

Source: author's elaboration based on information from Borg Design (2021)

even if the progress is at a slower pace, benefit from stability. The information presented suggests developed advertising industries in Bucharest, Cluj-Napoca, Timisoara and Brasov.

4.9 *Audiovisual*

The industry of audiovisual experienced an extraordinary favourable positive evolution of the number of companies (Table 10) during the years 2008–2019 without any negative oscillations; the highest concentration of companies operating in this industry is found in Bucharest and, secondly, in Cluj-Napoca. Analysing in absolute values the greatest progress belongs to Bucharest, but if we consider the performance as a percentage increase, Sibiu reported the largest one, an increase of 153%.

Considering the persons employed in audiovisual, this industry was hardly affected by the economic crisis of 2009, and each selected city encountered negative fluctuations in the number of employees. The recovery took longer than in other creative and cultural industries, although the general trend was positive. The most numerous persons employed in audiovisual work in Bucharest and in Iasi. The situations in Iasi is intriguing due to the lower values reported in the number of companies, suggesting high concentration of employees working in big companies. The least attractive cities for the persons working in this field were Brasov and Sibiu. The employment in the audiovisual industry faced serious declines due to the economic crisis of 2009 because the recovery took more years and the period of constant growth started only the last years on the analysis, so this industry needed a longer period to recover.

Comparing Bucharest to other selected cities, the capital records enormous values of the turnover, and the next two most performant cities are Cluj-Napoca and Iasi. The crisis impacted negatively also the recorded turnover, but the recovery period was much shorter, and correlating the turnover's values with those reported in the number of employees, we notice a higher level of efficiency in the years following the 2009s economic crisis.

The greatest exploitation of this industry is experienced in Bucharest, Cluj-Napoca and Iasi. Concerning the latter, the economic performances are even more important as the city concentrates a higher number of professionals in few companies, generating substantial revenues.

4.10 *IT (Information Technology)*

The IT industry is the most developed creative industry and also the engine of the Romanian creative economy. The supremacy of this industry is present also on the local level, excepting Sibiu and Oradea, the leading creative industry in these two cities being represented by arts and crafts. As we observe in Table 11, in Bucharest

Table 10 Dimensions of the audiovisual industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 1008 | 1070 | 1094 | 1211 | 1326 | 1475 | 1625 | 1824 | 2049 | 2275 | 2440 | 2527 |
| Cluj-Napoca | 111 | 118 | 124 | 134 | 143 | 148 | 162 | 175 | 195 | 224 | 244 | 261 |
| Timisoara | 66 | 68 | 64 | 73 | 83 | 93 | 98 | 106 | 114 | 130 | 136 | 143 |
| Sibiu | 24 | 24 | 26 | 28 | 28 | 31 | 33 | 36 | 47 | 51 | 57 | 66 |
| Brasov | 61 | 65 | 68 | 71 | 78 | 75 | 80 | 86 | 92 | 99 | 117 | 123 |
| Iasi | 43 | 45 | 43 | 52 | 55 | 55 | 56 | 63 | 71 | 85 | 96 | 109 |
| Oradea | 54 | 52 | 53 | 59 | 57 | 61 | 59 | 64 | 70 | 81 | 81 | 85 |
| Total | 1367 | 1442 | 1472 | 1628 | 1770 | 1938 | 2113 | 2354 | 2638 | 2945 | 3171 | 3314 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 7047 | 7606 | 7057 | 7036 | 6491 | 7328 | 7739 | 8056 | 8263 | 8480 | 10270 | 10193 |
| Cluj-Napoca | 387 | 349 | 363 | 416 | 456 | 327 | 341 | 358 | 408 | 570 | 611 | 649 |
| Timisoara | 318 | 292 | 252 | 245 | 124 | 137 | 263 | 788 | 755 | 707 | 633 | 703 |
| Sibiu | 91 | 84 | 93 | 97 | 98 | 130 | 129 | 118 | 148 | 167 | 202 | 900 |
| Brasov | 181 | 169 | 168 | 181 | 172 | 175 | 164 | 285 | 313 | 302 | 316 | 342 |
| Iasi | 338 | 481 | 474 | 560 | 599 | 736 | 1077 | 1308 | 1557 | 1253 | 1497 | 1537 |
| Oradea | 170 | 158 | 136 | 438 | 402 | 423 | 413 | 404 | 402 | 431 | 347 | 353 |
| Total | 8532 | 9139 | 8543 | 8973 | 8342 | 9256 | 10126 | 11317 | 11846 | 11910 | 13876 | 14677 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 2127 | 2520 | 2347 | 2465 | 2450 | 2855 | 3129 | 3189 | 3507 | 3924 | 4629 | 4811 |
| Cluj-Napoca | 124 | 66 | 93 | 94 | 111 | 108 | 121 | 152 | 184 | 251 | 422 | 488 |
| Timisoara | 20 | 18 | 17 | 18 | 11 | 12 | 32 | 87 | 85 | 86 | 85 | 117 |
| Sibiu | 11 | 9 | 11 | 12 | 14 | 17 | 20 | 19 | 19 | 24 | 28 | 62 |

| | | | | | | | | | | | | |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Brasov | 13 | 13 | 13 | 13 | 21 | 26 | 30 | 52 | 54 | 66 | 68 | 72 |
| Iasi | 116 | 86 | 92 | 80 | 85 | 105 | 118 | 150 | 189 | 166 | 214 | 228 |
| Oradea | 11 | 15 | 12 | 54 | 57 | 58 | 62 | 63 | 67 | 76 | 75 | 68 |
| Total | 2422 | 2727 | 2585 | 2736 | 2749 | 3181 | 3512 | 3712 | 4105 | 4593 | 5521 | 5846 |

Source: author's elaboration based on information from Borg Design (2021)

Table 11 Dimensions of the IT industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 1907 | 2094 | 2132 | 2473 | 2763 | 3091 | 3415 | 4019 | 4664 | 5516 | 5909 | 6466 |
| Cluj-Napoca | 430 | 452 | 468 | 550 | 625 | 712 | 844 | 978 | 1187 | 1422 | 1566 | 1781 |
| Timisoara | 225 | 241 | 258 | 283 | 311 | 345 | 391 | 430 | 501 | 573 | 635 | 693 |
| Sibiu | 99 | 102 | 117 | 131 | 150 | 156 | 170 | 187 | 210 | 239 | 241 | 280 |
| Brasov | 212 | 230 | 255 | 263 | 282 | 310 | 339 | 366 | 407 | 470 | 518 | 562 |
| Iasi | 173 | 200 | 199 | 248 | 274 | 319 | 373 | 441 | 538 | 606 | 686 | 733 |
| Oradea | 116 | 121 | 131 | 153 | 172 | 189 | 206 | 236 | 272 | 317 | 363 | 415 |
| Total | 3162 | 3440 | 3560 | 4101 | 4577 | 5122 | 5738 | 6657 | 7779 | 9143 | 9918 | 10930 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 17029 | 20747 | 19386 | 23430 | 26938 | 29557 | 32676 | 40226 | 46032 | 50678 | 56108 | 55991 |
| Cluj-Napoca | 2644 | 2905 | 3567 | 4975 | 6637 | 8037 | 9594 | 11600 | 13969 | 15801 | 18242 | 20373 |
| Timisoara | 3835 | 1695 | 1974 | 2235 | 2415 | 3146 | 3031 | 3363 | 3951 | 3914 | 5436 | 5563 |
| Sibiu | 555 | 592 | 709 | 829 | 914 | 1005 | 1102 | 1245 | 1357 | 1515 | 1589 | 1742 |
| Brasov | 1743 | 1671 | 1501 | 2079 | 1954 | 2234 | 2622 | 2959 | 2980 | 3462 | 3434 | 3335 |
| Iasi | 990 | 1047 | 1168 | 1432 | 1765 | 2126 | 2502 | 2900 | 3597 | 4848 | 5916 | 7185 |
| Oradea | 333 | 289 | 362 | 504 | 640 | 679 | 866 | 1112 | 1219 | 1320 | 1361 | 1484 |
| Total | 27129 | 28946 | 28667 | 35484 | 41263 | 46784 | 52393 | 63405 | 73105 | 81538 | 92086 | 95673 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 3510 | 4006 | 4372 | 5179 | 5920 | 6520 | 8000 | 10392 | 11546 | 12773 | 15439 | 17308 |
| Cluj-Napoca | 287 | 364 | 451 | 582 | 839 | 1103 | 1408 | 1878 | 2474 | 3074 | 3970 | 4942 |
| Timisoara | 495 | 170 | 200 | 269 | 348 | 425 | 502 | 578 | 708 | 790 | 1133 | 1368 |
| Sibiu | 43 | 58 | 85 | 110 | 159 | 167 | 199 | 198 | 225 | 276 | 324 | 410 |

| | | | | | | | | | | | | |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Brasov | 180 | 196 | 161 | 265 | 299 | 309 | 385 | 470 | 530 | 633 | 722 | 735 |
| Iasi | 96 | 106 | 115 | 146 | 196 | 245 | 309 | 418 | 535 | 778 | 1051 | 1390 |
| Oradea | 34 | 27 | 35 | 59 | 66 | 85 | 101 | 125 | 137 | 175 | 215 | 250 |
| Total | 4645 | 4927 | 5419 | 6610 | 7827 | 8854 | 10904 | 14059 | 16155 | 18499 | 22854 | 26403 |

Source: author's elaboration based on information from Borg Design (2021)

are located most of the companies operating in IT, and Cluj-Napoca is following. The fewest companies are operating in Oradea and Sibiu, the latter being generally the worst performing creative city due to its size. Each city recorded constantly exceptional increases.

The most suitable cities for finding specialised workers in IT are Bucharest and Cluj-Napoca. Timisoara, Brasov and Iasi are also high employers with an average of 2000–3500 persons working in IT. The fewest persons employed in this sector belong to Oradea and Sibiu (on average 847 and 1096 employees, respectively). However, these two cities increased their jobs in IT more than three times during 2008–2019, the positive trend benefiting all the selected cities. The emergence of the 2009s economic crisis affected only three cities, more exactly Timisoara, Brasov and Oradea, whereas the other analysed cities have continued to grow constantly in number of jobs, proving the resilience of this creative industry. We have to keep in mind that this industry is a high-profile employer due to the large workforce demand and also due to the high remuneration of this workforce. So along with job creation, the industry of IT raises the standards of living in those areas where it develops.

The turnover recorded in the selected cities generally evolved positively, minor negative effects being visible in Timisoara, Brasov and Oradea due to the turbulences of 2009s crisis. However, the recovery took just a few years, and each analysed city benefited of extraordinary increases. Bucharest and Cluj-Napoca, the creative poles of Romania, maintain their leading position also in the case of IT. Considering the IT industry, Sibiu and Oradea represent the least exploited creative cities, and so this disadvantageous condition could also represent an opportunity because the development of this industry does not depend on location or does not require specific natural resources, the success of this sector being framed by two key factors: highly skilled human resources and high-tech infrastructure.

4.11 R&D (Research and Development)

The last creative industry, the R&D, is one of the least developed creative industries of Romania. Most of the companies operating in this sector (Table 12) are located in Bucharest (on average 309 companies), all other selected cities reported less 100 companies on average, and even so, Cluj-Napoca and Iasi follow Bucharest. Generally, the trend was positive but with significant fluctuations during 2008–2019. Besides being the most popular location for R&D companies, Bucharest is also the fastest developing city in this industry.

Considering the number of persons working in R&D, the most important employers are Bucharest, Timisoara and Cluj-Napoca, and on the contrary, the fewest persons working in R&D are found in Oradea and Sibiu, both reporting an average of less than 10 employees and a continuous negative evolution. Comparing the number of companies and the number of employees in these two cities, we could conclude that many of the R&D employees work for more employers, and this fact proves a high necessity of skilled human resource.

Table 12 Dimensions of the R&D industry 2008–2019

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <i>Number of companies</i> | | | | | | | | | | | | |
| Bucharest | 207 | 232 | 226 | 251 | 266 | 295 | 309 | 341 | 383 | 397 | 393 | 405 |
| Cluj-Napoca | 31 | 31 | 35 | 36 | 42 | 43 | 47 | 52 | 58 | 78 | 80 | 88 |
| Timisoara | 19 | 20 | 20 | 21 | 20 | 21 | 23 | 23 | 26 | 29 | 29 | 35 |
| Sibiu | 4 | 0 | 0 | 0 | 1 | 2 | 4 | 5 | 6 | 6 | 7 | 6 |
| Brasov | 15 | 13 | 12 | 12 | 12 | 16 | 16 | 19 | 25 | 28 | 28 | 30 |
| Iasi | 20 | 22 | 23 | 22 | 28 | 34 | 37 | 37 | 40 | 44 | 43 | 43 |
| Oradea | 2 | 5 | 3 | 3 | 3 | 5 | 5 | 9 | 11 | 11 | 11 | 13 |
| Total | 298 | 323 | 319 | 345 | 372 | 416 | 441 | 486 | 549 | 593 | 591 | 620 |
| <i>Number of employees</i> | | | | | | | | | | | | |
| Bucharest | 5024 | 5271 | 5101 | 4910 | 4768 | 4604 | 4259 | 4463 | 4384 | 4150 | 5236 | 5445 |
| Cluj-Napoca | 226 | 233 | 213 | 237 | 369 | 206 | 232 | 180 | 177 | 253 | 496 | 507 |
| Timisoara | 319 | 354 | 344 | 341 | 354 | 346 | 359 | 358 | 352 | 349 | 334 | 329 |
| Sibiu | 40 | 0 | 0 | 0 | 1 | 2 | 2 | 5 | 6 | 8 | 7 | 5 |
| Brasov | 80 | 67 | 57 | 56 | 68 | 48 | 42 | 70 | 64 | 70 | 148 | 132 |
| Iasi | 184 | 163 | 154 | 139 | 143 | 198 | 193 | 187 | 180 | 173 | 144 | 175 |
| Oradea | 17 | 14 | 18 | 1 | 1 | 8 | 4 | 7 | 9 | 8 | 6 | 11 |
| Total | 5890 | 6102 | 5887 | 5684 | 5704 | 5412 | 5091 | 5270 | 5172 | 5011 | 6371 | 6604 |
| <i>Recorded turnover (million lei)</i> | | | | | | | | | | | | |
| Bucharest | 633 | 512 | 568 | 514 | 590 | 644 | 665 | 740 | 673 | 761 | 1028 | 1045 |
| Cluj-Napoca | 18 | 17 | 16 | 18 | 21 | 12 | 14 | 12 | 10 | 22 | 65 | 73 |
| Timisoara | 53 | 53 | 54 | 59 | 50 | 48 | 51 | 55 | 50 | 56 | 50 | 58 |
| Sibiu | 3 | 0 | 0 | 0 | 0.083 | 0.22 | 0.32 | 0.53 | 0.58 | 0.8 | 0.54 | 0.27 |
| Brasov | 7 | 6 | 4 | 5 | 8 | 7 | 7 | 11 | 10 | 17 | 21 | 24 |

(continued)

Table 12 (continued)

| Year/city | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|
| Iasi | 27 | 18 | 14 | 17 | 25 | 24 | 19 | 21 | 24 | 20 | 23 | 28 |
| Oradea | 0.15 | 0.13 | 0.22 | 0.28 | 0.28 | 0.55 | 0.75 | 0.69 | 1.6 | 2.8 | 2.2 | 3.6 |
| Total | 741 | 606 | 656 | 613 | 694 | 735 | 756 | 839 | 769 | 880 | 1190 | 1232 |

Source: author's elaboration based on information from Borg Design (2021)

The R&D industry presents numerous oscillations in its dimensions, and the same is valid for the values of the recorded turnover. However, this industry reports a general ascending evolution, and it is dominated by Bucharest with an average turnover of 698 million lei. Other cities included in the analysis report fewer than 100 million lei on average, even if in the hierarchy. The performance of Iasi stands out as there are less employees than in Cluj-Napoca, proving in this way the high efficiency of the employed human resource. On the other hand, Oradea earns more even if this city employs less than in 2008, proving the benefits of highly efficient employees. Excepting Sibiu, the general trend of the recorded turnover was favourable with minor negative oscillations, and each selected city reported important increases in their revenues. These increases could be based on the high specialisations of employees but also on the technological developments which in their turn determine the automatisisation of the human labour.

As mentioned above, the R&D industry is one of the least developed creative industries of Romania, along with archives and libraries and the cultural heritage. All the three industries are highly exploited by public institutions limiting the interest of the private investors. However, the development of the R&D industry could be enhanced only by providing two key factors—the same as for the IT industry—highly skilled human resources and specific infrastructure. This creative industry reported important increases in all the three dimensions facing several negative fluctuations but still with an upward trend. The greatest performances in this industry belong to the large cities, such as Bucharest, Timisoara, Iasi and Cluj-Napoca. On the other hand, Oradea and Sibiu host an underdeveloped R&D industry, mostly due to their lack of skilled human resources.

4.12 Mapping the Creative and Cultural Industries in Romanian Creative Cities

A synthesis of our findings is presented in Table 13, in which each industry marks the city where it enjoys a great development. Bucharest, as the capital city of Romania, presents favourable auspices for all the creative and cultural industries of Romania; the same is valid for Cluj-Napoca, one of the Romanian creative poles. Considering Timisoara, this city exploits at a higher degree the following industries, archives and libraries, performing arts, visual arts, architecture, IT and R&D, proving an important interest for arts and culture. Sibiu's economic performance was highlighted only by the industry of performing arts, whereas Brasov stands out for the activity in archive and libraries industry. On the other hand, Iasi proves high specialisation in cultural heritage, visual arts, books and press, audiovisual, IT and R&D. Lastly, Oradea stands out as a city dominated by the arts and craft industry, the high values of this industry being determined by the large share of the included activities. However, another important aspect to notice from this table is that those

Table 13 Creative and cultural specialisation of the selected creative cities

| City/industry | Bucharest | Cluj-Napoca | Timisoara | Sibiu | Brasov | Iasi | Oradea |
|------------------------|-----------|-------------|-----------|-------|--------|------|--------|
| Archives and libraries | x | x | x | | x | | |
| Cultural heritage | x | x | | | | x | |
| Arts and crafts | x | x | | | | | x |
| Performing arts | x | x | x | x | | | |
| Visual arts | x | x | x | | | x | |
| Books and press | x | x | | | | x | |
| Architecture | x | x | x | | | | |
| Advertising | x | x | | | | | |
| Audiovisual | x | x | | | | x | |
| IT | x | x | x | | | x | |
| R&D | x | x | x | | | x | |

Source: own representation

cities which mark the specialisation in IT also mark a high development of the R&D industry.

5 Conclusions

Given the importance of the sustainable economic development provided by the creative economy and the characteristics of the creative and cultural industries, these being exploiting unlimited resources, such as human mind, talent and culture, we should pay a greater attention to Romania's creative economy. The motivation also relies in seeking new ways to adapt and overcome the economic losses generated by the current COVID-19 pandemic. Besides the medical crisis, the havocs generated are also related to economic and social aspects, so the focus on the creative economy is essential as the creative industries are seen as fuel for the economic growth and also for the social and cultural development (Bestvina Bukvić et al., 2018).

This research is an attempt to put light on the Romanian perspective regarding the creative industries in certain important cities. Its finding could be beneficial also for the policymakers and Romanian regulators but also for private companies interested in investing in Romania or for creative professional, Romanian or foreigner, considering to start or to develop their careers in Romanian. Our study highlights the extraordinary potential and specialisation of those already economically developed cities as Bucharest and Cluj-Napoca and also the possibilities of those cities awaiting for creative investments or initiatives. This study enriches the creative economy's literature presenting an analysis between several important Romanian cities with crucial resources (those related to the creative cities) exploitable in the creative industries; actually, the study could be perceived as a comparative advantage analysis of the selected cities considering the Romanian creative labour market.

Considering the local and regional level of economic development and specialisation, we directed our study towards seven representative creative cities, analysing each creative and cultural industry's performance in terms of number of companies, employees and generated turnover. Our findings prove again that Bucharest and Cluj-Napoca are the most important creative poles of Romania, being followed by Timisoara and Iasi. These cities exploit several creative and cultural industries at higher degrees (Bucharest and Cluj-Napoca outperforming in all the 11 creative and cultural industries), whereas Oradea and Sibiu are the most underdeveloped creative cities, in our analysis. These two also stand out as the industry of IT is not the most developed creative one on the local level, as it is in the case of the other five analysed cities. There is a great potential to develop the industries of IT and R&D, as we noticed that the R&D industry records the most impressive performances in those cities where IT outperforms.

References

- Bestvina Bukvić, I., Šain, M., & Haršanji, M. (2018). Project financing of cultural and creative industries in Croatia. Analysis of the creative Europe Programme (2014–2020) results. *Interdisciplinary Management Research XIV*, Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Croatia.
- Boccella, N., & Salerno, I. (2016). Creative economy, cultural industries and local development. *Procedia: Social and Behavioral Sciences*, 223, 291–296.
- Borg Design. (2021). *Listă firme [Companies' list]*. [online] Available at: <https://membri.listafirme.ro/statisticieconomice.asp#selectie>. Accessed 19 February 2021.
- Croitoru, C., Cojanu, V., Mucică, D., & Becuț, A. (2016). *White paper for unlocking the economic potential of the cultural and creative sectors in Romania*. [online] Available at: <https://www.culturadata.ro/wp-content/uploads/2017/01/Cartea-Alba-EN-FR-WEB.pdf> [Accessed 9 February 2021].
- European Commission. (2019). *Impulse paper on the role of cultural and creative sectors in innovating European industry*. [online] Available at: <https://op.europa.eu/en/publication-detail/-/publication/cd264783-3977-11e9-8d04-01aa75ed71a1>. Accessed 28 December 2020.
- European Commission. (2021). *Creative Europe*. [online] Available at: https://ec.europa.eu/programmes/creative-europe/actions/capitals-culture_en. Accessed 16 February 2021.
- Haršanji, M., Bestvina-Bukvić, I., & Šain, M. (2020). Budget funding and economic importance of cultural and creative sectors in Croatia. The 9th international scientific “Symposium Region, Entrepreneurship, Development”, Osijek, Croatia.
- Ișfănescu-Ivan, R. (2018). Creative industries and innovation in Romania: The case study of Timișoara City. *Lucrările Seminarului Geografic Dimitrie Cantemir*, 46(2).
- Lorenzen, M., & Andersen, K. V. (2012). Different creative cities: Exploring Danish data to adapt the creative class argument to small welfare economies. *Creative Industries Journal*, 4(2), 123–136. https://doi.org/10.1386/cij.4.2.123_1
- Martin, R., Florida, R., Pogue, M. & Mellander, C. (2015). Creativity, clusters and the competitive advantage of cities. *Competitiveness Review*, 25(5), 482–496. <https://doi.org/10.1108/CR-07-2015-0069>
- Mazilu, S., Incaltarau, C., & Kourtit, K. (2020). The Creative economy through the lens of urban resilience. An analysis of Romanian Cities. *Transylvanian Review of Administrative Sciences*, 59, 77–103. <https://doi.org/10.24193/tras.59E.5>

- Pejić, S., Szpilko, D., & Szydło, J. (2019). *Development potential of creative cities in the twenty-first century. The 5th international scientific conference corporations as multidimensional actors/entities: proceedings*. University of Novi Sad.
- Pintilii, R. D., Peptenatu, D., Ciobotaru, A. M., Toma, S. G., Grigore, A. M., Drăghici, C. C., Dobrea, R. C., Simion, A. G., Andronache, I., Teodorescu, C., & Diaconu, C. D. (2017). Creative economies in Romania—spatial projections and trends. *Bulletin of Geography. Socio-economic Series*, 37(37), 95–108. <https://doi.org/10.1515/bog-2017-0027>
- Sava, D. C. (2020). *Economia creativă—motor de creștere și dezvoltare economică a României [The creative economy—engine for Romania’s economic growth and development]*. Presa Universitară Clujeană.
- Sava, D.C., & Bădulescu, A. (2019). How creative are Romanian cities?. *Proceedings of the 13th international management conference “Management Strategies for High Performance”* (pp. 65–76) 31st October–1st November, 2019, Bucharest, Romania.
- Sava, D.C., & Meșter, I. (2019). The catalysts of the creative economy in Romania: An empirical analysis. *Proceedings of the 13th international management Conference “Management Strategies for High Performance”* (pp. 50–64), 31st October–1st November, 2019, Bucharest, Romania.
- Tiruneh, E. A., Sacchetti, S., & Tortia, E. C. (2021). The effect on economic development of creative class versus human capital: panel evidence from German regions. *European Planning Studies*, 29(1), 75–93. <https://doi.org/10.1080/09654313.2020.1821611>