

The Death of Business as Usual: The Impact of VUCA on the Sustainability of SMEs



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Abstract The necessity for businesses to have to deal with and manage change is far from new or novel. However, a convergence of forces due to the ever-increasing interconnectedness of digitisation, globalisation, environmental crisis, demographic shifts, individualisation and technology have created an interconnected and dynamic set of forces that have become increasingly less predictable and difficult to prepare for. This study examines the available literature regarding Volatile, Uncertain, Chaotic and Ambiguous (VUCA) conditions from a number of differing perspectives including technology, leadership, innovation and learning specific to the small and medium sized enterprises (SMEs) to identify areas of convergence and provide an evidence-based set of principles upon which to base future research into the sustainability of SMEs. Specifically, the paper provides useful perspectives and insights for the development of practical tools and methods to help the business leaders of SMEs to increase their sustainability in a context best defined by reference to VUCA.

Keywords SME · Sustainability · VUCA · Business · Risk · Management

1 Introduction

The necessity for businesses to have to deal with and manage change is far from new or novel, however, a convergence of forces due to the ever-increasing interconnectedness of what Elkington et al. [1] describe as the six ‘Mega Trends’: digitization,

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globalisation, environmental crisis, demographic shifts, individualisation and technology have created an interconnected and dynamic set of forces that have become increasingly less predictable and difficult to prepare for.

Since 2000 the cadence and significance of crises that businesses have to plan for has been relentless; starting with the dot com bubble crash in 2000–2002, pandemics including SARS (2003) H1N1, (2009) Ebola (2015) [2] and the global Covid-19 pandemic in 2020, a global financial crash in 2007–2008, a global recession in 2009 and multiple financial and economic crises in many countries across the globe from Venezuela (2012) to China (2015). The impact of these forces has thrown light upon the fact that traditionally used methods of strategic and tactical planning now create vulnerabilities [3] rather than strengths.

In recent years these conditions have been commonly referred to as VUCA, an acronym developed by Warren Bennis and Burt Nanus in 1985 and adopted by the US military at the end of the cold war in the 1990's to describe the factors that a modern military force needs to plan for. VUCA stands for Volatile, Uncertain, Chaotic and Ambiguous. Since its origination in the military, the term VUCA has gained traction within the business community in an attempt to describe the full scope of the current complex, interconnected and dynamic strategic global business environment.

At the time of writing, a keyword search identified 9,530,000 results for VUCA, a significant increase from 386,000 in 2009 [4]. Almost all of these results are from the entrepreneurial sector indicating an ever-increasing interest in understanding how best to mitigate and ameliorate these VUCA forces which are seemingly enduring [5], can never be completely comprehended [6] and have no real unequivocal answers [7]. As these VUCA forces are inescapable [8] and occur both inside and outside the business [9], then their avoidance is impossible and a new set of tools, perspectives and processes need to be identified to enable business leaders to make decisions with incomplete information [10] to facilitate the ongoing sustainability of their enterprise.

Due to these unavoidable forces, a lack of available data to make decisions and traditional strategies no longer being practicable, 'business as usual', is no longer a feasible strategy [9]. It is becoming ever clearer that traditional strategic tools are of ever-diminishing use in negotiating VUCA conditions. What is not clear, is what will replace them [11].

This study examines the available literature regarding VUCA conditions from several differing perspectives including technology, leadership, innovation and learning. As existing research specific to small and medium sized enterprises (SMEs) is limited [12], this method was chosen to identify areas of convergence to provide an evidence-based set of principles upon which to base future research. Therefore, a literature review has been conducted to clarify a practical definition of VUCA and the forces the acronym describes and their potential impact on the sustainability of SMEs to identify areas of convergence upon which to base future research, in order to inform both the development of more effective tools for SMEs and generate a step change in the way Enterprise tuition and support is designed, configured, and delivered to SMEs.

2 Research Approach

To ensure an objective approach to the identification of common and useful perspectives and understandings this study conducted a cross-disciplinary literature review.

Due to an emerging and fragmented body of research on the effect of VUCA conditions upon SMEs, this study attempts to draw together available understanding, tools and perspectives from existing and reputable evidence-based research.

2.1 Question Formulation

The initial stage of the research was to identify the scope of the study as well as to facilitate clarity by defining the research question which would be applicable across the breadth of the research data. The research question is defined as:

How to identify useful perspectives and insights that could be used as the basis for future research into the development of practical tools and methods to help the business leaders of SMEs increase their sustainability within a future that is ever more defined by VUCA characteristics.

2.2 Location of Studies

The literature review was conducted using large and freely available databases including, Emerald, Web of Science, Science Direct, Scopus, Wiley Direct, plus other sources that are regularly used by other researchers. This broad spectrum of databases enabled the authors to find papers that had the maximum possible relevancy to the SME sector.

For the purposes of this study, the definition of an SME used by both the UK government and the European Union is “*An SME is any organisation that has fewer than 250 employees, and a turnover of less than €50 million or a balance sheet total less than €43 million*” [13, 14].

SMEs can also be identified by their comparative increased vulnerability to VUCA conditions due to higher competition levels [15], their more flexible and changeable business models [16], their limited resources and flatter management structures [11] within a more closely connected business ecosystem [3].

The search terms used for initial consideration were VUCA, VUCA Futures, Leadership, Innovation, Technology, Psychology, and Management. By compiling these terms into search strings and using Boolean search operator terms were able to identify papers that had maximum relevance to SMEs in terms of VUCA conditions, business size and critical operations. The search resulted in an initial identification of 331 relevant papers. Any which were non-scientific or did not adhere to the inclusion criteria cited in Table 1 were removed.

Table 1 Inclusion criteria

Criteria	Rationale
Selection of papers published 1999–2022	The date of 1999 was chosen, due to the advent of web 2.0 in that year and the emergence of papers featuring VUCA [3]
Originally published in the English Language	To minimise the potential of misinterpretation of research data due to translation
Published in journals that were peer-reviewed	Consideration of Journals that are reviewed by peers containing studies of higher research value than those of not peer-reviewed
Many different types of articles were considered as source material (literature review, original research, narrative reviews etc.)	The purpose of the study is to identify, evaluate and synthesise as many relevant understandings and perspectives as possible
Studies with the highest relevance to SME size business	There is a paucity of SME specific research, so studies with the closest relevance were chosen
Citations	Studies were chosen that had the highest number of citations within the SME relevance criteria

Papers with an overly corporate focus, too tight a focus on a single specific industrial sector, or with little cross application potential to SMEs specifically were also excluded narrowing down the results to 85 papers at this stage. At this point both the introduction and conclusion of each of these papers were read to establish relevance. Following this review, 64 studies were excluded, and 21 studies were subjected to a screening of the full document and inclusion into the study.

The purpose of this study is to examine and synthesise potential new knowledge and derive insights about the topic of managing an SME during VUCA conditions that is not possible by reading a single paper.

The analysis was conducted by summarising key themes and perspectives contained within the studies and then capturing them within a spreadsheet. The resultant data presented a tabulation of the key challenges for SMEs in leading an SME in VUCA conditions, and also a similar tabulation of potential tools and perspectives available to those leaders.

Due to the varying nature of the research material reviewed, the authors chose an integrative approach to synthesizing the results. The study uncovered 11 core elements that appear to be critical factors in leading an SME in VUCA conditions. 5 of those elements were concerned with the description and scope of VUCA itself, 2 regarded the potential impacts of VUCA and 3 regarded how best to ameliorate or mitigate VUCA conditions as a leader.

3 Insights

To be able to comprehensively answer the research question, we must explore the literature for a clear definition of VUCA itself and a working definition of what ‘Sustainability’ is for SMEs. By understanding the specific challenges to SME ‘Sustainability’ presented by VUCA we can explore the literature for commonalities in perspective and understanding for dealing with VUCA and concepts for further research. Appendix 1 presents the detailed analysis of the literature and where the insights were drawn.

3.1 *Definition of Sustainability of SMEs*

Within the papers studied, there was a wide variety of definitions of the factors that combine to generate ‘sustainability’ for a business, from simple robust financial performance [15] to the consistent output of innovations and innovative activity [11]. With the advent of Uber CEO Travis Kalanik being forced to resign, in 2017 for allegations of discriminatory activity and a series of privacy scandals, we can conclude that mere financial performance can no longer be the sole arbiter of success or failure for a company of any size.

What became apparent from the broad research scope of the included papers was that Sustainability has more dimensions than merely the economic performance of the company, it needs to produce ‘value’ for customers, staff and leaders, including social value [4]. In addition, for an SME to be truly sustainable, it needs to be *sustainable by design*, through robust and repeatable processes, rather than effective and consistent crisis management [17].

Sustainability for business can now be best represented as having more than a single domain and a sustainable business needs to have repeatable processes that create a business model that generates value in terms of its: environment, economy and society [10, 11].

3.2 *Definition of VUCA*

Since the term was adopted by the US military, in the early 1990’ it has been rapidly adopted by the business community to describe the profound shift in the predictability of the forces at play in the strategic planning process of businesses of all sizes. [3].

Due to the wide-ranging scope of the study papers, the researchers expected to discover slight variance in approaches and definitions of VUCA, as the term is commonly used and applied in a great deal of leadership literature. It became clearly apparent that there is more than a little variance in how the term VUCA is understood and interpreted. Only 6 of the 21 studies noted that the while the acronym VUCA

is clearly defined, the forces at work creating the volatility, uncertainty, chaos and ambiguity are not and that VUCA in practical terms is ‘vague’ [3, 4, 18].

In addition, only 5 of the studies highlighted the fact that the values of VUCA overlap in practical terms [5, 7] and [9] of the papers in our study completely overlooked the potential for dealing with Volatility, Uncertainty, Chaos and Ambiguity separately. While almost all of the studies 19/21 presented VUCA as a range of forces that had an impact on the externally facing parts of the business a slightly smaller number 17/21 represented VUCA as having a significant impact on the business internally.

This lack of a full understanding of the term could be one reason why VUCA is used by some companies as an excuse to avoid the process of using experimentation to create growth [8].

The expression of VUCA conditions is, according to our research, easy to misunderstand. VUCA represents a fundamental shift in kind of challenge for the leader, not merely a shift in degree [10]. Almost all of the researchers’ 20/21 expressed VUCA conditions as a significant threat to a business while only around half, 12/21 expressed VUCA as a generator of opportunities.

In the studies where VUCA is expressed as a threat, the authors primarily described the priority for the process of leading a business as the generation of operations to ‘create stability’ and predictability—managing for risk, rather than managing for profound uncertainty [10]. This linear process of cause-and-effect management is simply no longer useful in VUCA conditions [6, 19].

The research showed unanimous agreement that VUCA conditions are dynamic and significant, that could be ‘*particularly threatening*’ [9], ‘*like a jungle*’ [20] that ‘*need to be grappled with*’ [21], that can ‘*generate a paralysing dread in certain businesses*’ [18]. However, there is significant evidence that when a more flexible, anticipatory perspective is applied by business leaders then opportunities can potentially be generated from the chaos and uncertainty. Each of the dynamic challenges present in VUCA conditions can be used to generate business advantage [22–25].

While noting the vagueness within the VUCA term and the potential overlap in the areas of effect of Volatility, Uncertainty, Chaos and Ambiguity, we find ourselves in agreement with the authors of the most detailed research into VUCA [3], that it is impossible to identify any specific causality for the terms independently and are satisfied that it will be effective to accept the VUCA terms, for the purposes of this paper, as a single set of concepts.

3.3 Current Methods of Mitigating VUCA

The research revealed that 21/21 of the studies suggested that the considerations necessary in dealing with VUCA should have a significant impact on strategic planning and management perspective [7] in order to properly allocate resources [18]. However, recent examples of truly challenging conditions have exposed a lot of businesses for their lack of agility, forward planning and inherent fragility in terms of IT

systems [17], lack of forward-looking leadership [6] and a visible lack of available strategic resources [9]. Many leaders are still formulating plans using linear management methods [19] based on a set of current state analyses [20] and merely paying lip service to responsiveness and agility [26].

Lacking any practicable methods for effective strategizing, business leaders are turning more often to ever more sophisticated business prediction methods like trend extrapolation and ‘Delphi’ modelling, although even specialists in the field of Futures Literacy are unconvinced by their efficacy [27].

There is significant evidence in the research that shows that SMEs are particularly dependent on the ‘...creativity and innovativeness’ of their employees in order to deal with business uncertainty [15].

Clearly, by our accepted definition of sustainability, few, if any of these methods are worthwhile, effective, nor in any sense viable in the longer term due to the ever-increasing and inscrutable number of often interconnected variables to be considered.

3.4 Potential Solutions to VUCA for SMEs

On the evidence contained within our research 17/21 studies suggested that new skills were necessary to help business leaders mitigate VUCA and 12/21 studies recommended new tools, whether process driven or technologically based. 14 of the studies suggested that in addition to new tools and skills a new set of guiding principles need to be adopted by business leaders to make their businesses more sustainable. However, VUCA demands a radical change in the fundamentals in the principles of management and the way knowledge is viewed [7].

Knowledge needs now to be viewed in terms of what can be done with the amount already possessed rather than waiting until the maximum amount of knowledge can be obtained, before acting.

Strategic Principles

The suggestions within the studies for guiding principles could broadly be separated into two groups, increased responsiveness and improved longer-term visioning and more diversified sources of information.

Increased Responsiveness

As VUCA conditions are less predictable using traditional management means, many studies suggested that increasing ‘Organisational Agility’ is a workable approach for most businesses, due to its simplicity as most SME business owners don’t have time to engage with complex strategic processes and frameworks [6].

The studies implied that responsiveness could again be divided into two separate functions, (A) responding effectively to outside stimuli and (B) acting quickly and definitively on desired action, termed ‘Seizing Power’, the capacity to obtain [10].

Speed of Response

One of the more debilitating perceived challenges of leading during VUCA conditions is that it lengthens decision times which can often remove first mover advantage [15]. However, the evidence suggests that many businesses fundamentally misunderstand what agility means and many were caught and exposed for their lack of responsiveness during the COVID-19 pandemic [17]. Just saying you are agile, doesn't make it so.

Organisational agility needs to be designed into businesses in terms of creating systems that integrate currently disparate functions, enabling faster iterations [8] facilitating more rapid data processing to make quicker decisions [9, 12].

Leaders need to set up organisational structures [11] and technological capacity to reduce response time following the perception of external data [17] to improve the quality of business-wide decision-making. [9], rather than a centralised decision-making body.

'Seizing Power'

Maintaining focus on the capacity for response can have significant resource implications, particularly for SMEs [9] which can act as a barrier for engagement with those kinds of processes. SMEs also need to maintain both operational and social resources (connection with their market) to enable them to take 'small bets'—low risk actions to evaluate new market opportunities [10].

Organisational agility is a reciprocal quality that lives both inside the business—Responsiveness, and outside the business – Seizing Power, which is their ability to successfully manage and capitalise on relationships with their customers and other partners [15].

Improved Visioning

Many of the studies mentioned the notion of increased responsiveness as an effective strategy in dealing with VUCA, however some studies suggested that SMEs needed to take a longer-term view and include methods of anticipation [8, 15] rather than only rapid adaptation.

While it was acknowledged that rapid adaptation, responsiveness and flexibility can reduce apparent business fragility in the short term [16] a longer term, more strategic approach works to increase sustainability.

Business leaders need to transition fully from managing change using a reactive approach [10] and more priority needs to be given to activities which nurture higher order activities that are transferrable to any strategic environment. For instance, working to define consistent values inside the organisation, like those that guide a chef, rather than attempting to rapidly execute the recipe of a cook [19].

Improved visioning needs to be configured around a set of embedded flexible iterative systems that help generate an '...opportunity-focused attitude in the face of change' [11], rather than merely responding to change. Anticipating where the business needs to be at the appropriate time [6] can provide significantly more value to the business. Most importantly, the whole business needs to regard these processes

as an essential guide to forward looking strategy, rather than a ‘...soon to be forgotten exercise in creative thinking ...’ [20].

This visioning can be enabled by making the business more sensitive to ‘weak signals’ from the broader marketplace [10], which might be the only ones available before a seismic shift in the market occurs. To this end a business can create competitive advantage in the following ways (a) fostering a deeper symmetrical connection with its audience, listening as well as talking [28] (b) deliberately increasing the diversity of employees within the business.

A deep customer focus [9] can alert a leader to more meaningful fluctuations in the marketplace on a micro level than paying attention the more general macro fluctuations in the market which may have a less pronounced effect on their specific business.

By increasing diversity, in terms of culture, age and education levels a leader can increase whole team performance [12]. Leaders should invest in a culture that empowers people to feed information back into the business [11] as front-line employees can often provide customer specific information that can be especially helpful in sensing future VUCA impact. The creating of a multi-level diversity is becoming ever more critical in assuring that the managerial decisions made by the company are based on a significantly richer data set [10].

For any business, attempting to work out what’s going on is now a ‘Team Sport’ [9]. It is claimed that operational agility can more effectively be understood when looking at it through the dimension of Human Resources. Literally the people within the business that create the agility advantage [12, 29].

3.5 *New Tools*

In addition to the adoption of new fundamental perspectives, 12 out of 21 studies asserted that SMEs would need to radically increase the rate at which they can manage data.

Due to the volume and intensity of the information needing to be processed, Business Leaders will need radically different tools and methodologies to acquire, process and evaluate information in terms of useability and meaning [8].

VUCA conditions requires the facilitation of ‘Divergent Attention’ being able to sustain looking in more than one direction at once [10], making sense of that information in terms of strategic value to the business [9] and then effective dissemination of new knowledge to everyone within the business [10].

A deep commitment to increasing the effectiveness and maturity of IT capability has a positive effect on organizational agility [15] although these solutions must span every section of business activity with a level of configurability that is not possible with an ‘out of the box solution [16]. Within the near future, SMEs should be looking to embed advanced technologies such as AI integrations to reduce the cognitive load for humans during the decision-making process [21].

The systematic capture and effective processing of ever-increasing market data, should precipitate a switch away from current deductive to an ever more inductive analytical process [19], Advanced AI technologies will help facilitate the ‘small bets’ strategy by helping leaders identify patterns of which strategies are currently working and iterate improvements rather than continue to mediate a top down ‘best guess’ approach.

3.6 Skill Areas

Over the past two decades the pace and incidence of VUCA has shown that VUCA plays no favourites and can have a surprisingly equalising effect. Businesses of all sizes, maturities and sectors were subject to the same forces [16] and they survived or failed due to their own resourcefulness and ingenuity.

The evidence of some businesses surviving based on factors other than their previous success or market position suggests that it is possible to transmute the threats of VUCA into the seeds of opportunity [26] by generating context specific strategic innovations, built on new skills and multi-stakeholder understandings and approaches [8, 21].

These skills and approaches will need to enable leaders to facilitate ever more diverse teams and conditions [11] throughout all levels, functions and systems of the business [9].

By removing the implications of whether VUCA is a threat or opportunity, it could be then argued that VUCA is merely a set of conditions that have to be negotiated, in the same way that businesses have been negotiating prevailing conditions since commerce began and that the reason SMEs are struggling to deal with it is simply a lack of relevant skills [11], or that existing skills need to be recontextualised. For instance, until 1999 the skill of pattern recognition was useful employed in a retroactive manner [4], however, that skill is of significantly more use to SMEs when used proactively, in exploring the unknown to identify the ‘weak signals’ necessary to connect the dimly visible dots in complex chaos [6].

The entrepreneur is not the catalyst of change, but the identifier of opportunity presented by change [4]. Part of that opportunity provided by change is to manage the smooth removal of outdated processes from the business, as fewer moving parts result in increased agility [9].

Contained within 17 of the 21 studies, are recommendations for key skills that would enable the development of broader scoped and more sensitive perceptions that would enable increased rates of learning and exploration [6, 10].

If, as the definition of VUCA by [3], suggests, everything is interlinked and continually changing due to the collision of interconnected systems [4], the studies

suggest, leaders need to embody a Growth Mindset [9], an ongoing, open and collaborative leadership style [26] and the following skillsets: Metacognition and Contextual Intelligence.

Metacognition

As illustrated by the research, current leadership methods based on a linear—extrapolate forward from the current business position—are no longer fit for purpose.

Leaders now need to change from the guardians of established wisdom towards being the challenger of the known to enable the development of the most useful anticipatory and adaptive strategic responses for the business [4]. Leaders must now actively be open to being influenced by new data and perspectives which turn into new knowledge resulting in more ‘sophisticated situational understanding’ [6]. This ‘entrepreneurial self-efficacy’ [11] needs to be founded on iterative rapid learning cycles [26], learning agility [21], and configurability within all the dimensions of business activity [7].

Not only do leaders have to develop processes of this Higher order thinking they need to embed processes within the SME to create and nurture independent thinkers [21] and democratise the ownership of the learning process [7].

Contextual Intelligence

Due to the pressures placed on a business by the ‘situationally indicative’ VUCA conditions [5] leaders have to enact decisions knowing that there are no empirically ‘correct’ answers and that all actions and the responses to those actions are entirely contextual [19].

There is a serious paucity of specific research on the impact of contextual factors and the resultant implications on entrepreneurial teams [12].

As leadership takes place within a defined and dynamic ecosystem. Developing a robust understanding that the leader and context reciprocally impact each other can facilitate an entirely new leadership model appropriate for VUCA conditions [4].

3.7 New Leadership Model

The current leadership model presented in most SMEs is incompatible with VUCA, in that leaders are rewarded for the quality of their performance today, when the sustainability of the business depends on their ability to perform consistently in the future [6]. Because reward is given for present performance and exploration can be difficult and unclear - leaders find it easier to prioritise exploitation over exploration as clinging to the status quo is comfortable [9].

As the term VUCA has come from the military, some studies have been tempted to suggest that a more ‘authority’ driven command and control is desirable [21], although some assert that a more facilitative role is more effective [29]. The ever increasing pace of the processing of information to generate opportunity and value

will require a specific and new form of leadership to keep the organisation agile, directed effectively and profitable [10] and may be more effectively built upon the values of servant leadership [8] rooted in authenticity [6], empathy [19] and understanding the value of widely differing viewpoints [26].

Internally, teams need to be prepared for the challenges of having a leader with few certain answers and that changes response often due to the revelation of new information. Rather than as a weakness, this flexibility needs to be seen as a strength [29].

This new leadership model will embrace paradox, see the value in transitioning from business-as-usual practices [17] and embody the defining principles of company values [9, 19].

4 Synthesis and Discussion

The primary aim of this paper was to conduct a literature review to identify useful perspectives and insights that could be used as the basis for future research into the development of practical tools and methods to help the business leaders of SMEs increase their sustainability within a future that is ever more defined by VUCA characteristics. Over the course of this study, 21 of the 331 related papers were fully analysed to achieve this aim.

During this analysis, we have identified trends and perspectives, that relate to our research question, both directly and indirectly, that contribute to an explanation for the dearth of clear practical guidance for SMEs, an avenue for SMEs to explore potential solutions for dealing with VUCA conditions themselves and suggests potential trajectories for future research projects.

We have discovered that even though, on average, SMEs contribute over 90% of all businesses to the UK/EU economy [30] very little credible research has been conducted into their specific situation. During the period that our research spans 2000–2023 almost innumerable papers have been written and published about larger businesses and business in general, whereas, during the same period, comparatively, only a tiny fraction of all published credible research work, is specific to the exact conditions and pressures contributing to the sustainability of SMEs.

We have also discovered that the concept of VUCA is inconsistently understood by academic writers, but the impact of VUCA is felt in a consistent manner in the marketplace. This inconsistency of understanding clearly contributes to a lack of practicable guidance emerging from the published research other than in the most general terms—'respond faster' for example. However, as has become apparent from our research, though there are few clear common practical suggestions for SMEs with which to mitigate VUCA conditions, there are some useable convergent concepts that run through the research like a vein of gold through a dark coal face.

What has emerged within these 'areas of convergence' apparent in our research sample are four potential dimensions that SMEs could focus upon to utilise their inherent agility to generate their own mitigations and ameliorations as they continue

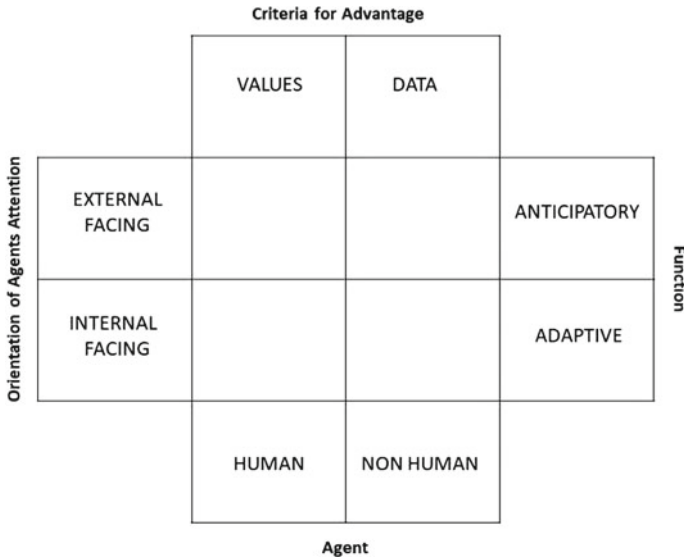


Fig. 1 The four dimensions SMEs can use to mitigate VUCA conditions and increase sustainability

to trade and grow. Within the papers studied what became clear is that to generate increased sustainability SMEs first need to understand the following forces within their own business context. Who is acting? In which direction is their attention? In which function? What can be used to best generate a competitive advantage for the business?

For the purpose of the illustration (Fig. 1), we have called those four dimensions Agent, Orientation of Agents Attention, Function and Criteria of Advantage.

Sustainability in business is an infinite game, with the goal being simply to stay in the game [31]. What the authors have discovered is that sustainability in an ever more VUCA future has Human (skills) and non-Human (systems) factors that both need to be improved for sustainability to be increased [11].

In order for a business to be sustainable they need a strategy (where to go) and tactics (how to get there) [20]. The research has shown that most of the evidence-based studies have positioned VUCA primarily as a threat based on the difficulties inherent in strategizing within a ‘disrupted and arguably unforecastable environment’ [8]. However, as evidenced by the wide variety of responses to the COVID-19 pandemic by SMEs, any situation, no matter how disruptive, has within it the seeds of both ruin and opportunity. Because of their superior agility, short communication channels and rapid iteration cycles, SMEs potentially contain the potential for a more effective response to uncertain future conditions.

Many of the studies, advocated for what could be clearly evidenced, which was an improvement in the internalities of the SME business, the tactics of increased responsiveness, a ‘small bets’ approach of testing the marketplace, an improved

Leadership model and adjusting the mindset to be more curious and communicative [6].

While this improvement of the skills and systems on the tactical side of sustainability will no doubt have the same positive effect as shown in the data of the studies. Also, the embedding of robust new technical support systems can help buffer businesses from the initial impact of unforeseen factors thereby reducing the fragility of businesses [16].

There is still a paucity of knowledge, research or evidence visible in the studies about how to practically develop the forward-looking strategic capacity of SMEs.

One thing that this research has shown beyond any reasonable doubt is that VUCA conditions represent the inextricable interconnectedness of almost all business conditions [11] and that it is imperative these conditions are actively navigated in some way.

More insight is needed into how the tactical processes intersect and can be improved by the higher order functions of sensing change, sensemaking ‘weak signals’ and transforming organisations, moving away from the desire to be precise and towards a process of being usefully, roughly right [10].

As suggested in the studies, to avoid short-termism, businesses need to be creating strategy with the future ‘firmly in mind’ [19]. Following the development of a forward-facing strategy based on sensitive anticipation, the need for a business wide goal, which is commonly held and regularly communicated goal is critical.

Companies must create a new preferable version of the future in order to survive [9, 19]. Despite the escalation of VUCA conditions strategy is still formulated by making choices, choosing what to do and equally importantly what not to do [19].

This future facing strategy needs to be based on the leadership ambidexterity [15] of interpreting the external while collecting data and evaluating short-term activity by making ‘small bets’ using available data and explicit company values to increase sustainability by creating social and economic value for both the business and the customer [7].

To enable the business to become ever more ‘anti-fragile’, business has to become more about ‘Future-making’ than ‘future predicting’ [19] as attempts at predicting, no matter how sophisticated, are largely futile [27]. The transition from adaptation to anticipation can only happen through the willing and structured exploration of the unknown [6].

In summation, we can collate all of the above observations into the following practical tools and methods we would recommend, to increase SME sustainability within the context of an ever more VUCA future (see Fig. 2).

Diversity

As identified in many studies, increasing the variety and scope of data acquired by the SME, can have a radical effect on the it’s sustainability. In that respect, increasing the diversity within an SME can be seen as a real competitive advantage.

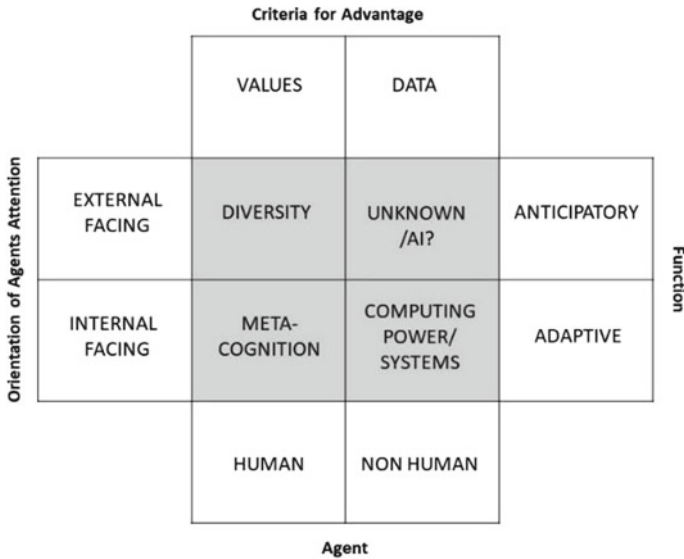


Fig. 2 Four tools and perspectives to increase SME sustainability

Metacognition

One challenge businesses of all sizes face is learning from what they know. SMEs have the specific advantage of being able to collect better quality information due to their close proximity to their customer base. However, because of an inherent lack of capacity to apportion time and resources to process, learn from and iterate improvements based on that information, much of it is wasted. SMEs could greatly increase their sustainability by embedding a few simple techniques for embedding learning and increasing metacognition.

Computing Power

The amount of data even the smallest of businesses generates is large and increasing at an ever-accelerating rate. SMEs can create significant benefits by embracing a digital transformation process, automating data capture and processing and then removing as much data processing from humans as possible, enabling them to focus on problem-solving and value creation.

Unknown/AI

The nexus of External Facing, Anticipatory, Non-Human, Data drivers is an area that can currently only be hypothesised. As many of the studies suggest, prediction and foresight are inaccurate to the point of being useless, however, the emerging field of Artificial Intelligence (AI) may provide a route into more effective ‘small bets’ testing. By using AI to rapidly process variations of data sets SMEs could effectively ‘scenario test’ short term plans at almost zero cost, thereby reducing risk.

4.1 Implications for Future Research

The defining characteristics of SMEs differ in a large degree from corporate multi-national businesses [31] and could offer a novel and exciting context in which to investigate the mechanisms of strategic anticipation [12]. The manoeuvrability of SMEs, their tighter process coupling, flatter structure and shorter communication chains offer SMEs a real opportunity to innovate and exploit more quickly [15]. This agility, coupled with a reduced dependence on resource constraints could provide a useful experimental case to test alternative methods to disrupt the passivity of current ‘Business as Usual’ practices [9].

Many studies in the research suggested tactical improvements, however, only one of the studies in this review suggested a potential method to improve strategic anticipation and ‘Future-making’ [20].

It is in this area that the authors recommend for further research to be conducted with SMEs in terms of finding more defined and useful toolset for SMEs to augment their adaptive capacity by a more effective way of developing and executing their anticipatory capacity functions.

4.2 Significance in the SME Business Education Sector

The identification of emergent perspectives can offer insights for the improvement of SME and entrepreneur business education. Much of education for SME businesses is adapted from research conducted within the corporate sector and smaller businesses and entrepreneurs tend to behave differently in the wild [32].

The results contained within this study could be used to develop SME specific tools and perspectives to help leaders interpret and adapt appropriately to VUCA conditions in contrast to the existing ineffective training and guidance based on redundant perspectives and methods.

The core business practices, mindset and tools that the leader of an SME needs to remain current and effective in a rapidly iterating VUCA business environment, are ever more transient and business specific. Since the advent of the internet, learning has become an ever more demand led sector as information is now free and ubiquitous.

This study, combined with the suggested supplementary research will facilitate the emergence of understandings which could be used devise training to help business owners find, parse and analyse the freely available information and recognise patterns proactively, while learning from their own experiences [33].

Appendix: Matrix of Research Terms and Analysis

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