Social Business Process Management (SBPM)

Critical Success Factors (CSF)

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Abstract. Social BPM allows for businesses to adapt and be flexible to ever changing demands. This flexibility is created by the participation and collaboration between users. These interactions are achieved through the successful implementation of Social BPM. This paper will propose critical success factors (CSF) which lead to a successful Social BPM implementation such that these benefits are realised. This is a progress paper which is part of a broader method which will validate against the literature, expert opinions and case studies in order to produce a definitive set of CSFs for Social BPM.

Keywords: Social BPM · Critical Success Factors · BPM · Social software

1 Introduction

Businesses produce goods and services using business process management (BPM). BPM is a management discipline which improves organisational performance through the structuring of business processes [22]. These business processes are becoming ever more complex and needing to adapt to highly dynamic environments. However, BPM is rigid as it involves "processes right from the outset of their initiation until the end" [14]. This creates a set of pre-defined steps which are aligned to structured business processes. This rigidity is at odds with the frequent customisation of goods and services and does not support the case for when "exceptions become the rule" [7].

With this in mind, Social Business Process Management was formed. Social BPM is defined by Brambilla as the fusing of "business process management practices with social networking applications, with the aim of enhancing the enterprise performance by means of a controlled participation of external stakeholders to process design and enactment" [1]. This is in contrast to traditional BPM which provides a "platform for the management, measurement and improvement of business processes" [12]. The latter faces limitations such as "lack of information fusion, model reality divide, information pass-on threshold and lost innovation, strict access-controls, lack of context" [12].

Social BPM on the other hand, has been designed to address these limitations such as the 'reality-model divide' to ensure that those designing the process and those executing the process are in synchronization. This is particularly important for scenarios where flexibility is required as "substantial contribution to these processes comes

from human knowledge, while knowledge related to the processes is perishable and quickly outdated" [22]. Another benefit of using Social BPM is that businesses do not lose innovation as executors of the processes can engage in a feedback loop to achieve continuous improvement. This contrasts with BPM whereby a process executor may never have communication with the process designer therefore any improvements are limited to tacit knowledge by the process executor and not shared for the collective benefit.

By adopting Social BPM, organisations can significantly improve their processes to be more collaborative and increase participation of stakeholders, however there is a lack of clarity and consensus as to what exactly is required for the successful implementation of Social BPM.

To fill this gap in the literature, we will be proposing CSFs for Social BPM to maximise the chances of successful implementation. This will allow for a greater breath of implementation experience within different sectors and highlight challenges in the real world which may not feature in the literature at present.

The proposed CSFs will be developed using three methods, which will be as follows;

1. *Literature method*
2. *Academic method*
3. *Practitioner method*

Firstly, the literature method will be the focus of this working paper, secondly the academic method will consist of surveying experts and finally the practitioner method, will examine case studies of Social BPM implementation. To ensure that the CSFs are comprehensive, three methods have been selected and will allow for the exploration of the intersection, in order to produce a multi-faceted set of CSFs for Social BPM.

This paper will achieve its aim by conducting a literature review in Sect. 2, produce a preliminary set of CSFs for Social BPM in Sect. 3, ensure the validity of them in Sect. 4 and finally conclude with the CSFs that have been discovered for Social BPM and further work to be conducted.

2   Literature Review

To begin the literature review, we will look at BPM CSFs. BPM CSFs have been selected above other types of CSFs as they tie closely with Social BPM. Social BPM allows for "software that supports the interaction of human beings and production of artifacts by combining the input from independent contributors without predetermining the way to do this" [17]. Both BPM and Social BPM focus heavily on business improvement however BPM focuses on experts designing these improvement processes [18] whereas Social BPM embeds a collaborative and egalitarian approach to business improvement.

This review of BPM CSFs will also provide us with a solid understanding of how BPM has been successfully implemented [2]. This is important as it will provide us with a list of CSFs which have been demonstrated to work within businesses, [10] these can then be used as a benchmark for CSFs for Social BPM.

Research into Business Process Management began in the late 1980s and was triggered by the seminal work published by Davenport & Short and Hammer & Champy [11]. Much of the work that has been carried out within the literature can be synthesized into six categories. These are *people, culture, information technology, methods, governance and strategic alignment.* These six categories are based on the principles of BPM. Each CSF listed below is needed to ensure the success of BPM [16]:

Governance: BPM governance ensures that roles and responsibilities are clearly defined based on the BPM level being implemented whether that is from portfolio all the way to operational level. In addition, the process of decision making, and reward process is focused upon.

Methods: BPM methods are the tools and techniques that support the BPM implementation across the lifecycle such as process modelling or process improvement techniques.

Information Technology: The system which allows for BPM to work i.e. process aware information systems (PAIS) These are integral to BPM as the software is needs to be process aware to understand the processes that require execution.

People: People are individuals and groups of users who improve and apply their process and process management expertise, so they can better business performance. This is the knowledge base of the business and as such is the human capital.

Culture: BPM culture means that there is a shared belief in a process driven organisation and for continual improvement. This is by far, the hardest CSF to change however to not have the right culture prior to implementation could lead to failure. Therefore, preparing the organisation for BPM and making sure that the environment is conducive has a clear impact on the successful BPM implementation.

Strategic Alignment: The need for BPM to be linked to strategy within the organisation. The synchronization of strategic priorities to the action of improving of business processes to improve business performance.

To understand the CSFs for BPM further, Fig. 1 shows the high-level categories and the link with the capability areas underneath each category. Take for example the category of People, this BPM CSF includes five sub categories which include sub categories such as the expertise of the stakeholders against the specific requirements of a process. This is incredibility important as the lack of expertise or a subject matter expert could mean the failure of implementation. This category also discusses process collaboration and communication, for example how groups work together and how process knowledge is "discovered, explored and disseminated" [16]. This shares commonality with Social BPM and Social BPM is designed to very much facilitate for this.

Within this section, we reviewed the history of BPM and identified six CSFs; strategic alignment, governance, methods, information technology, people and culture from the literature. These six show the complex nature of a successful implementation of BPM. We will use the CSFs found in this section as the baseline for our proposed Social CSFs in the next section.

Strategic Alignment	Governance	Methods	Information Technology	People	Culture	Factors
Process Improvement Planning	Process Management Decision Making	Process Design & Modelling	Process Design & Modelling	Process Skills & Expertise	Responsiveness to Process Change	
Strategy & Process Capability Linkage	Process Roles and Responsibilities	Process Implementation & Execution	Process Implementation & Execution	Process Management Knowledge	Process Values & Beliefs	Capability Areas
Enterprise Process Architecture	Process Metrics & Performance Linkage	Process Monitoring & Control	Process Monitoring & Control	Process Education	Process Attitudes & Behaviors	
Process Measures	Process Related Standards	Process Improvement & Innovation	Process Improvement & Innovation	Process Collaboration	Leadership Attention to Process	
Process Customers & Stakeholders	Process Management Compliance	Process Program & Project Management	Process Program & Project Management	Process Management Leaders	Process Management Social Networks	

Fig. 1. The six core elements of BPM [16]

3 Proposed CSFs for Social BPM

Having established six CSFs within BPM in Sect. 2, we will now determine if there is homogeneity between CSFs of BPM and CSFs of Social BPM within this section.

To do this we will first conduct a professional search, the following databases will be used: Emerald, JSTOR, ProQuest, Wiley Online Library, ScienceDirect and Web of Science. The methodology of the search will use an advanced search, utilizing operators to help improve the accuracy of the search results. The construction of the search query will be as follows:

'Critical Success Factors' AND 'Social BPM'
Upon conducting the search, 1 relevant paper was found from the search query 'Social BPM' AND 'Critical Success Factors'. This meant that a broadening of search queries was conducted. Figure 2 displays the process flow and the two ways in which the search was broadened.

The first way in which the search was broadened was by searching for 'Social BPM' and searching across the six databases whether there was literature which identified factors which are required for Social BPM without explicitly identifying them as CSFs. This proved useful as the literature identifies specific areas of concern when implementing Social BPM however these were often in isolation and very few of the journals looked at Social BPM in as broad prospective as the framework set out by Brocke and Rosemann [16]. The second search query was replacing 'Social BPM' with 'BPM' to identify the body of work that has already been researched. This proved vast and helped to compare against the research conducted in the first two queries. It became quite apparent that there is much overlap between the CSFs for Social BPM and BPM.
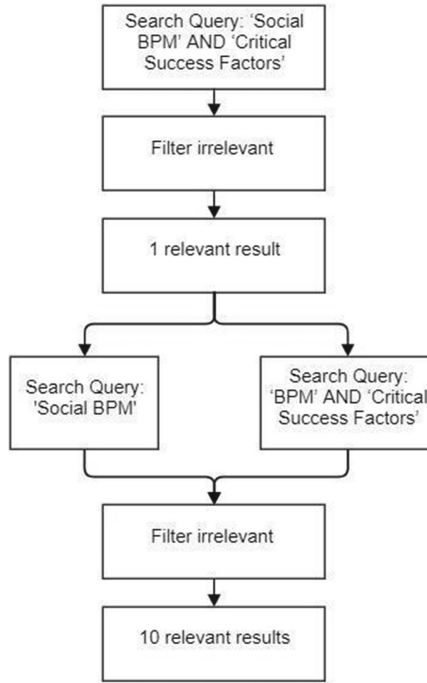
Fig. 2. Search strategy

The table below shows ten papers which feature Social CSFs such as the importance of a collaborative environment, the need for a reward mechanism or the requirement of the technology which underpins Social BPM (Fig. 3).

Proposed Social BPM CSFs						
Literature	People	Information technology	Methods	Governance	Culture	Strategic Alignment
P1 [22]	x	x	x		x	x
P2 [6]	x	x			x	
P3 [15]	x				x	
P4 [7]	x	x			x	x
P5 [8]	x	x			x	
P6 [3]		x	x			
P7 [13]	x			x	x	x
P8 [9]	x		x	x		
P9 [20]	x	x	x	x	x	x
P10 [21]	x	x	x	x		x

Fig. 3. Social BPM CSFs mentioned by paper i.e. People as a CSF mentioned in ten papers

People – The dominant factor within the critical success factors outlined by Brocke and Rosemann is people [16]. People within a BPM context are important as they reflect the human capital of an organisation. Within traditional BPM, subject matter experts are trusted to create processes and communication of the design is controlled by a limited few. To this effect the CSF of people is even greater within Social BPM given that "trust and reputation play crucial roles in social software. Changes are not initiated or authorized by hierarchic structures, but granted to (nearly) everybody, based on the assumption that nobody wants to damage their own reputation" [7]. This requires a different approach in which people are not tasked with creating processes but rather motivated to contribute to them.

Culture – Culture within the literature has been highlighted frequently and the importance of embracing changes within the organisation. This is because without it, it is likely that BPM or Social BPM initiatives will fail. Culture is one of the most difficult facets of an organisation to change and is deeply rooted. Therefore, the idea that implementing an open, transparent and egalitarian system within an organisation that is not aligned to these values is likely to fail. Vukšić and Vugec appreciate the importance of culture within their case study and identify that clan organizational is a "very good base for successful social BPM implementation and usage" [22]. Within their case study participants were already using enterprise 2.0 tools to create process content and context therefore the commitment to collaboration and knowledge sharing was already present prior to the implementation of Social BPM. This is important as Social BPM should not be seen as a drastic leap but rather an extension of what is already in place. Culture as a CSF is relevant to Social BPM just as it has been to BPM however the criticality of it in context to the others is difficult to evaluate given that there are very few successful Social BPM case studies within the literature.

Information Technology – The transformation of BPMS to support Social BPM is critical in the implementation of Social BPM. The need for systems to be able to facilitate for customisation "when unknown solutions to problems must be found or when the precise ordering of activities cannot be established beforehand" [7] is needed. One particular implementation that is suggested within the literature is that of wiki-enabled workflows [7]. Rather than having a highly modelled workflow which is unfit for rapid changes, it would be advantageous to expose to a community a wiki-based framework which would be adaptive and "workflow changes will be reached and exceptions can be detected and repaired in a collaborative manner" [7]. This need for BPMS to go further demonstrates that the system still underpins the ability for Social BPM to succeed.

Methods – One of the more comprehensive works of methods which could be used would be Gokaldas and Rangiha whereby they employ a three-level framework to improve the engagement of users of Social BPM. [8] The first level is organisational whereby the onus is on the managers to drive the engagement, the second level is that of social software whereby attention to usability is particularly important and finally the tasks should provide a value add. This framework supports the nature of web 2.0 whereby users are empowered to make contributions and methods need to change to facilitate for this. Another suggestion is to use honour points for rewards. In most

processes, "users carry out their activities because they are instructed to do so by their superiors. In most social software, on the other hand, participation is voluntary" [8] therefore a form of gamification could be used as a method to support the usage of Social BPM. This CSF is valid for Social BPM however the nature of the method has differed from its BPM roots.

Governance – The way in which governance is conducted has changed with the advent of Social BPM. With BPM the structure of decision-making was much more controlled as it was understood who would make the decision however this might have come at the cost of the speed of the decision-making process and the ability to respond. With Social BPM, decisions can be made quickly however this is put down to the wisdom of the crowd. This poses a problem as the wisdom of the crowd might not be sufficient for the outcome required or the contextual information provided within a social software may only provide a one-dimensional outlook. Erol suggests "building difficult checking processes cannot be the answer as effects of speed, feedback, authenticity and direct-ness are ignored and hence one motivation of active usage is destroyed. New kinds of risk management and governance rules are needed with different levels of inference and strictness" [7]. The issue of governance as a CSF is debatable as it could be argued that Social BPM is self-governing and the participants of the platform ultimately decide.

Strategic Alignment – To bring about competitive advantage it is important to have BPM/Social BPM aligned to the strategic goals of an organisation. This CSF is applicable to Social BPM and ensures that process improvement initiatives are going to meet strategically prioritised goals. Strategic alignment for Social BPM is difficult for two reasons. Firstly, Social BPM for users who are encountering it for the first time, will have a steep learning curve. This learning curve needs to be accepted by the organisation as a time when productive will drop however if strategies are thought of in the context of business quarters and take a short-term horizon then Social BPM will fail before it has had a chance to make an impact. Secondly the strategic alignment of Social BPM is difficult to evaluate as the benefits of collaboration, transparency and distributed decision making are difficult to put into ROI terms. Erol identifies that it is difficult even to demonstrate it "adds value and is attractive to the members" [7] of it. Despite the drawbacks, the need for alignment to strategy for Social BPM is needed to ensure that social software is used to support the business and not as an end to itself.

In summary, this section has used the CSFs identified for BPM in Sect. 2 to evaluate whether they have a place within the preliminary framework for CSFs for Social BPM. It has been argued that the BPM framework is still broad enough that it covers the scope of Social BPM. This is not to say that with further methods such as feedback from experts or case studies, that new CSFs will not be found or debated. The very human elements of people and culture have come up frequently within the papers analysed as a primary concern when adopting Social BPM. Furthermore, the area which is of most discussion is around the CSF of governance and whether it is a valid CSF for Social BPM. It has been argued in this paper that it is still relevant however when employing other methods, this may become an area of further discussion. In the next section we will look at the validity of the method used and the three methods that will be used.

4 Validation

Social BPM is a recent development in the field of Business Process Management and is fragmented within the literature. We aim to address the issue of validity by triangulating the results from the three methods highlighted earlier. This is useful as it shows us the convergence of results as well as the contradictions when searching for CSFs for Social BPM [4, 19].

To ensure that all CSFs for Social BPM are captured, we will tackle the question through the methods below:

1. *Literature method*

   - Propose CSFs for Social BPM from the literature review

2. *Academic method*

   - Survey academic experts through qualitative and quantitative questions to find out their views on the CSFs for Social BPM

3. *Practitioner method*

   - Use case studies and industry reports to identify CSFs for Social BPM from practitioners

Once we have the results from each method, we will collate them and identify commonalities as well as see whether there are new CSFs in one method which are missing in another. We will then start a discussion as to why they may be missing and finally rank them by frequency across the three methods.

Within this paper, we have conducted a literature review in Sect. 2 to inform us of CSFs within BPM, we then used these CSFs in Sect. 3 whereby we introduced our proposed CSFs for Social BPM and conducted a professional search. The search for relevant literature was then evaluated against the proposed CSFs for Social BPM. We also identified from the professional search the most common CSFs across ten papers in order to understand the homogeneity of the CSFs. This allows us to see the most mentioned to the least mentioned CSF, in order to understand what the literature reflects as the most important CSF.

This section has firstly explained the purpose of using three methods and how they will be triangulated to maintain the validity of the research. Secondly it has provided the steps taken to produce valid results.

5 Conclusion

Within this paper, we have identified what Social BPM is, why it is desirable, conducted a literature review and proposed CSFs from BPM. In Sect. 3, we proposed CSFs for Social BPM and ten papers were analysed to see which CSFs were made mention of within the literature. We then used Sect. 4 to explain our validation process. This would see the results of this working paper triangulated with other methods of expert opinions from academics and case studies to establish CSFs for Social BPM.

Social BPM has many features which make it desirable for a changing world. The ability to implement it successfully is still an area of research which is in its infancy. In the absence of CSFs for Social BPM, we have taken a wider view of and used BPM as a benchmark to start to understand whether these CSFs hold true for Social BPM as they do for BPM. We have identified that some CSFs such as process collaboration, leadership's attention to process and process management social networks do hold value and can be defined as CSFs for Social BPM.

The broad category of People is the most frequently cited within the literature. The change in behaviour of people to becoming more open, transparent and collaborative is difficult to achieve overnight however the research suggests that this a determining factor for implementation of BPM and Social BPM alike. Therefore, with a change that will see not only a group of experts build business processes but rather anyone in the organisation, this would be even more of a CSF for Social BPM. The ability for users to participate doesn't mean they will and the nature of social means that a network effect is desirable. A network effect "occur when the probability that an actor will adopt a practice is an increasing function of the number or proportion of persons in the actor's social network who already have adopted that" [5]. It is therefore important that each user contributes in order to add value to the entire platform.

Although similarities have been found with the CSF of people, on the other hand, not all CSFs are as aligned to Social BPM as they are to BPM. Social BPM elicits opinions from all participants which contribute to decision making therefore it is meant to be self-governing. However, having process roles clearly defined goes against the egalitarian principle of Social BPM. In addition, it is clear that process management decision making is a critical challenge for BPM, which Social BPM aims to resolve as participants have ultimate control over what decisions are made. This could be at odds with the organisation. Therefore, some capability areas are ill fitting and some are at odds with Social BPM completely.

However, this is one method and we shall be getting the opinions of experts as well as case studies to find out which CSFs are applicable to Social BPM and possibly new ones that are not featured in the literature.

In conclusion, some CSFs that have been identified within BPM are highly suitable as Social BPM CSFs however there are many that are not. Therefore, further methods need to be employed to produce a definitive set of CSFs for Social BPM.

The CSFs identified within this paper are but one method that is drawn from the existing literature. This paper is designed to be the starting point of a three method approach to establishing what are the CSFs for Social BPM implementation. To that end, there needs to be further primary research conducted in the form of asking experts from academia their opinions through surveys and evaluating industry reports in order to learn about additional CSFs which have not been identified by the literature as well as validate those which are found within the literature. This will help practitioners of Social BPM build far more collaborative business processes that take into account the collection intelligence of the organisation.

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