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TOWARDS BENEFIT ORIENTATED BUSINESS PROCESS MODELLING: A CANONICAL ACTION RESEARCH STUDY

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Abstract

Organizations are increasingly employing business process modelling techniques in an attempt to visualise their processes and highlight the improvements that need to be made. However, despite the plethora of modelling techniques available, the main focus has typically been the graphical depiction of a process. As of yet little consideration has been given into how a process can be presented in such a way as to allow the key stakeholders to realise its true value. The aim of this paper is to establish if benefits realisation can help develop a value focused process modelling technique. Stakeholder and Sense making theory will be employed to develop practical guidelines around how the modelling should be conducted and presented. The research presents a new modelling prototype that addresses the gap in the literature concerning benefits orientated process modelling.

Keywords: Business Process Modelling (BPM), Benefits Realisation Management (BRM), Stakeholder Theory, Sense-making Theory

1 Introduction

Increased world-wide competition means companies have to review their operational and logistical procedures to improve their performance and maintain a competitive edge. Business Process Modelling (BPM) is an increasingly popular way for organizations to understand their current processes with an aim to improving them, thereby maximising their efficiency and becoming a more valuable enterprise (vom Brocke et al., 2010). Changes in business processes frequently require a complex IT support structure and as such IT implementations need to be closely aligned with BPM (LeDuc, 2014). However, despite their popularity, business process models are rarely value orientated. They present a picture of how a process is without highlighting the considerations that need to be made in order to bring out the required value or benefit of a new process (vom Brocke et al. 2010). This lack of a benefit focus may explain why many business process change initiatives fail to deliver planned benefits (Coombs, 2014).

The Benefits Realisation Management (BRM) literature suggests that most benefits from IS/IT come from changes in the way an organization does business and not from the introduction of the new technology itself (Marchand & Peppard, 2008). Such benefits can range from providing ‘problem-based solutions’ to help achieve business objectives to ‘innovation-based solutions’, which allow organizations to exploit business opportunities or create new organizational competencies to achieve a competitive advantage (Peppard et al. 2007). However, the successful implementation of organizational change can present considerable challenges for projects. For example, it may be difficult to convince stakeholders of the need for change, to agree a suitable strategy for the change process, to overcome resistance, and secure top management commitment for the proposed changes (Fernandez & Rainey, 2006). Thus, for the results of benefit-oriented BPM to be successfully

implemented, managers need to consider how stakeholders within the organisation make sense of, and engage with, the new processes that are to be implemented.

Stakeholder theory views the organization as a collection of various stakeholders who drive the business forward (vom Brocke & Recker, 2010). Typical stakeholders include customers, suppliers, employees and managers. Each stakeholder makes a highly important contribution to the success of the company. Kummamuru & Zope (2008) argue that in order to improve a business process, the key stakeholders need to be identified and involved in any business process improvement initiative and the stakeholders needs and wants from the process improvement process need to be clearly and effectively communicated and due consideration taken. Thus, to maximise the value of a business process change, it is vital to accommodate the needs and wants of key stakeholders. Stakeholder theory provides valuable insights into identifying stakeholders and planning the levels of resistance that might occur. However, there are still implementation issues that the theory does not adequately consider. For example, there is the challenge of getting the stakeholders to work together and achieve a common level of understanding regarding new business processes. This is an important issue as a visual modelling technique that cannot be understood by stakeholders will ultimately be a failure. Visualisation is a form of sense making that can serve as a communication medium, a knowledge management means and a decision support instrument (Al-Kassab et al. 2014). Thus, sense making theory can provide complementary insights to explain how to help the communication of ideas between stakeholders through visual modelling techniques.

Klein et al. (2006) describe sense making as a motivated, continuous effort to understand connections (which can be among people, places, and events) in order to anticipate their trajectories and act effectively. Sense making theory assumes that the issues and events surrounding change-oriented situations, are often ambiguous and fuzzy and that people engage in sense making processes to construe the meaning of those issues and events (Weick, 2005). If they come to the conclusion that the change is desirable then they are more inclined to act in a way to make that change possible, however if they do not see that change as desirable they are more likely to resist (Hon et al. 2014).

This study utilises the complementary perspectives of stakeholder and sense making theory to address the following research questions: 1) *How can BPM be combined with BRM to realise the value of a business process?* 2) *How should a benefit orientated BPM technique be implemented in a business environment in order to deliver business benefits?* The study was co-sponsored by an SME that had recently implemented a new Enterprise Resource Planning (ERP) system and was keen to leverage further benefits from their investment. In order to address the research questions the study adopted a Canonical Action Research (CAR) approach owing to its focus on both rigour and relevance (Davison et al. 2004) and well as providing the opportunity to implement research driven recommendations within the sponsoring SME.

This paper is structured as follows. First, the Business Process Modelling and Benefits Realisation Management literature is reviewed before explanations of Stakeholder and Sense making theory are provided. Second, the research method employed is be discussed in greater detail. Third, the initial design of the benefits orientated BPM technique is described, followed by a discussion of the initial implementation experiences. Finally, the progress of the study is reviewed so far and the initial findings discussed.

2 Literature Review

2.1 Business Process Modelling

BPM forms a part of the much larger process of business process management which has become a popular approach in information systems and business management (vom Brocke et al. 2010). One of the main tasks when improving processes is to highlight current business operations and present them in a way that can help key stakeholders make the necessary decisions for improvement (Burlton, 2001). It is in this context that business process modelling is employed. Aldin and de Cesare (2009) identified five key uses of business process models: facilitating a group to share their understanding of the process by using a common process representation; providing the advantage of reuse, where the same business process model can act as the basis for several information systems, it can be reused as the basic input for defining the requirements of each system; creating suitable information systems that support the business by providing a descriptive model for learning; supporting process improvement and re-engineering through business process analysis and simulation; and enabling decision support during process execution, and control. BPM achieves these purposes by graphically conveying activities, events or states, and control flow logic that constitute a business process in a way that helps managers making improvement or change decisions (Recker, 2007).

There are a wide variety of techniques for the representation of organisational processes and their requirements (Luo and Tung, 1999). Kettinger et al. (1997) analysed a total of 72 techniques and 102 tools. The most prominent techniques are, flow charts, petri nets, role activity diagrams, business process modelling notation and unified modelling language. However, despite the various methods of modelling, the graphical description of events and tasks does not in itself help managers make change decisions. Whilst there is a strong focus on how a model can provide a graphical representation of a process and the various elements involved, there is little focus on how a model can get the best value out of a process. What is missing in process modelling practice is a focus on business value considerations (vom Brocke et al. 2010). Indulska et al. (2009) conducted a study of three key groups within business process modelling – academics, vendors and practitioners – and they found that a lack of focus on business benefit orientation was a critical concern across all three groups. A complementary stream of literature that has considered the delivery of value from business process change is benefits realisation management.

2.2 Benefits Realisation Management

A benefit has been described as *‘an outcome of change which is perceived as positive by a stakeholder’* (Bradley, 2010). Benefits Realisation Management (BRM) is the promotion of *‘a different mind-set, based on an approach that manages value on an active basis’* (Jenner, 2009). The origins of BRM lie in concerns that benefits of IT investments were not being realised with too much focus being placed on costs as opposed to other organisational factors (Coombs, 2014). Also, it is a common mistake for project's and programme's managers to own the benefits and not involve those directly tasked with managing change within the business organisation (Glynne, 2007). For a programme or project to be successful, there must be an agreed governance model that ensures ownership and accountability until all benefits have been formally reviewed and measured (Ward & Daniel, 2012). Fundamentally, BRM is a value driven process that is enacted to ensure that the expected benefits of IT investments are realized (Ashurst et al., 2008).

Several approaches to BRM have been developed, such as the Cranfield Process Model (Ward et al. 1996), the Benefits Breakdown Hierarchy (Nogeste & Walker, 2005), and the Benefits Realization Capability Model (Ashurst et al. 2008). Despite the various approaches to benefits realisation, the actual process to follow has the same basic framework. According to Ward and Daniel (2012) there are 5 stages in the BRM process: identification, planning implementation, evaluation and review and future benefits. In addition to these stages, another aspect of BRM that is common in many of the BRM approaches is the use of benefits maps.

Benefits maps are a fundamental part of BRM (Bradley, 2010). Their visual nature aids communication, reduces ambiguity and confirms clarity of purpose. Benefits maps move from right to left and will start with an objective. The objective is what supports the vision. Each objective will create a number of benefits. The next stage would be to identify the enablers required to deliver those aims. There are essentially 3 types of benefits mapping techniques; Results Chain, Benefit Dependency Map and Benefit Dependency Network. There are two main purposes for developing a benefits map. First, to ensure that focus remains squarely on delivering benefits necessary to make the IT project a success as opposed to focusing solely on installing the new system. Second, the visual nature of the benefits map will make it easier for key stakeholders to envisage benefits and develop a plan of action of what needs to be done and in what order to realise these benefits. Thus, the value driven principles of BRM, and in particular benefits maps may present a way of extending BPM approaches to include a benefit focus. For example, combining benefits maps with a business process model to create a visualisation of a new business process and the specific planned benefits the new process will deliver.

However, the BRM literature has a number of limitations. There is little empirical evidence as to the effectiveness of BRM (Serra & Kunc, 2015) so it is difficult to judge what impact Benefits Realisation may have on Business Process Modelling. There is also an issue surrounding the practicality of benefits realisation. As it is still in its infancy there are few established methods available to define its practice (Doherty, 2014). For example, the BRM literature advocates the importance of involving and engaging stakeholders to avoid tensions among stakeholders who may feel they are not being valued, ambiguity over what the actual benefits to be realised should be, and breakdowns in communication amongst stakeholders Breese (2012). However, there is little BRM research demonstrating how such involvement should occur in practice. To address this gap we draw on stakeholder theory, discussed in the following section.

2.3 Stakeholder Theory

Shraeder and Self (2010) argue that effective application of stakeholder theory can achieve accelerated change, enhanced recovery and renewed loyalty. Accelerated change occurs because directly involving primary stakeholders may enhance the planning process associated with possible change by providing leadership with key insight regarding potential barriers that may impede the change process, as well as unknown driving forces that may accelerate the change process. Further, by directly engaging the primary stakeholders, especially the employees, there is an increased likelihood that they will be supportive of future changes. Enhanced recovery occurs because if any difficulties are encountered leadership and stakeholders have direct insight into how to resolve them. Renewed loyalty can be achieved because involving primary stakeholders may foster a collective sense of buy-in as a result of perceived ownership associated with having a hand in crafting the new vision. This, in turn,

may intensify loyalty and commitment to the organization since these stakeholders will want to see “their” vision become a reality.

In the BRM literature, Ward and Daniel (2012) use stakeholder theory to guide how stakeholders should be involved in a benefits orientated process change. They argue that managers should identify all the stakeholders whose knowledge, commitment or action is needed to make the project a success, determine the view held by each stakeholder and any dis-benefits they perceive, understand how change might affect them and their motivation to achieve or resist change, and identify the actions needed to gain their commitment and provide the necessary justifications for the change. In the majority of cases stakeholder engagement initiatives will predominantly involve workshops to bring the stakeholders together. However, such workshops may not always be the most useful mechanism for achieving engagement. For example, the workshops may not be attended by all stakeholders and the views of either senior or junior employees, or employees from particular parts of the business may not be represented. BPM may present an complementary engagement method to address this weakness. The construction of the BPM could be undertaken through separate meetings with different stakeholder groups, until a final model is produced that incorporates the views of stakeholders across the business. However, such an approach highlights the importance of the understandability of the model. How can a model be developed that will allow all readers (i.e. the stakeholders involved) to understand each other’s point of view whilst simultaneously communicating their own view? To address such challenges scholars have turned to sense making theory.

2.4 Sense making Theory

Weick (1995) describes sense making as a process that is (1) grounded in identity construction, (2) retrospective, (3) enactive of sensible environments, (4) social, (5) ongoing, (6) focused on and by extracted cues, (7) driven by plausibility rather than accuracy. Brockner and Wiesenfeld (1996) argued that when people are in sense making mode, the cues that address their informational needs are particularly influential. Therefore is it desirable to have a process that can ameliorate a person’s sense making process when engaging in change.

An effective method of eliciting cues from the environment is through visualisation (Baker et al., 2009). Visualisation can support knowledge creation and can be especially helpful to advance the individual learning and recall during group decision-making through visualization tools (Bresciani & Eppler, 2009). Visualisation also has the ability to extend the working memory which has been shown to enhance the capability of a decision maker to process information, thereby making faster decisions (Coury & Boulette, 1992). In terms of communication, by adopting display techniques and approaches, it is possible to elaborate, package and analyse data in such a way to convey messages to be interpreted by the receiver, i.e. the person creating the visual tool can use it as a means to communicate their ideas more effectively (Chen, 2010). These visual tools will not only act as communication mediums but also enable stakeholders to act as sense-givers (Strømmen-Bakhtiar & Mathisen, 2012). Sense-giving has been described as the process of attempting to influence the sense making and meaning construction of others toward a preferred redefinition of organizational reality (Gioia & Chittipeddi, 1991). Sense-giving is an interpretive process in which actors endeavour to influence each other and it is used both by organizational leaders and other stakeholders, including middle managers, directors and other employees (Maitlis & Lawrence, 2007). Sense-giving can play a significant role in effecting major change (Corley & Gioia, 2004). Sense-giving by stakeholders can also have profound consequences,

affecting strategic decision making, and stakeholders' integration into or exclusion from a range of important organizational processes (Balogun & Johnson, 2004). More broadly, stakeholder sense-giving has been shown to shape the processes and outcomes of organizational "sense making," or the process of social construction in which individuals attempt to interpret and explain sets of cues from their environments (Maitlis, 2005). Sense-giving gives individuals the chance to express their opinions, either positive or negative, on the associated subject and is a complementary part of sense making that contributes to distributed sense making (Tallon, 2014).

Although there is no explicit definition of distributed sense making, it has been referred to as a shared understanding in organizations whereby individuals who hold different pieces of information are able to collectively construct new meaning (Maitlis & Christianson, 2014). Whereas sense making focuses on the individual level, distributed sense making focuses on the group level (Tallon, 2014). At its best, distributed sense making could help convey the information, evidence, judgments, relations and perspectives that individual's process during sense making, increasing the depth and/or speed for other information seekers (Fisher et al. 2012) and allow for a consensus of opinion to be reached among stakeholders that can help achieve strategic alignment (Tallon, 2014).

To summarise, the literature review reveals a number of important gaps. First, while BPM has received considerable attention there is a lack of research that considers how BPM can incorporate a benefit focus. Second, BRM literature provides some guidance on how benefits can be included in visual mapping techniques to support business process change. However, there is a lack of empirical research that investigates whether such approaches are effective in practice. Consequently, there is a pressing need for further research to develop new benefits orientated BPM techniques and to investigate whether the application of such techniques delivers benefits from business process change. Further, stakeholder and sense making theory has the potential to provide insights into how and why the application of such BPM techniques are successful and any refinements and enhancements that may be necessary. Therefore, this study uses stakeholder and sense making theory to address the following two objectives: 1) to develop a benefit orientated BPM technique 2) to study and evaluate the implementation of the benefit orientated BPM within a business organisation.

It was envisaged that achieving these research objectives would provide an important contribution to the BPM literature by demonstrating a novel BPM technique that highlights both the structure of a redesigned process and the anticipated business benefit it would deliver. In addition, studying how the new BPM technique can be applied within an organisation will provide empirical evidence to establish the validity of the BPM technique, highlighting necessary refinements as well as providing practical guidance for business managers in its use. The following section justifies the choice of research method for the study and describes how it was implemented.

3 Research Method

An important aspect of this research study was that as well as developing a new BPM technique, the research should test its applicability and refine the technique accordingly. In so doing the research project should make significant contributions to both theory and practice. For these reasons, an action research approach provided an obvious choice of method.

3.1 Action Research

Action research is a method that uses applied research to contribute to the solution of a practical problem whilst simultaneously creating new theoretical knowledge (Azhar et al. 2009). When conducting action research the researcher will review the current situation, identify the problems and their causes, initiate an intervention to resolve the problem, evaluate the outcome of the intervention and reflect on any new knowledge generated (Baskerville, 1999). Action research differs to other approaches as the researcher is more actively involved in the process that is being studied in order to identify, propose and evaluate solutions to problems (Azhar et al. 2009). However, action research has not been without its critics. It has been criticized for producing either research with little action or action with little research (Dickens & Watkins, 1999). Whilst action research has been commended for the relevance of its results (Baskerville & Wood- Harper, 1996) there have been criticisms over its lack of methodological rigor (Cohen & Manion, 1980). Rigor can be defined as using methods and analysis techniques that are appropriate and in context with the situation faced (Davison et al. 2004). The same can be said of relevance as it is important to ascertain and understand who the study is for. It has been claimed that rigor and relevance have an inverse relationship whereby researchers either met the demands of the practice at the expense of their methods, or they preserve the methods at the expense of the practice (Senn, 1998). However, to obtain the most relevant research, considerations need to be made to both professionals and the research domain (Benbasat & Zmud, 1999). In essence, it is important to produce research that is both rigorous and relevant. Researchers have sought to address this issue by developing canonical action research.

3.2 Canonical Action Research

As with all action research, Canonical Action Research (CAR) aims to address organizational problems while at the same time contributing to scholarly knowledge. However, to ensure both rigor and relevance are maintained a set of principles have been developed (Davison et al. 2004). Each principle has an underlying set of criteria. These criteria may be used by action researchers as they plan and conduct a project. Each criterion is expressed in the form of a question of the type ‘has something been done?’ The criteria are designed to be practical and prescriptive. Table 2 summarises the CAR principles and criteria. Core to most CAR studies is the Cyclical Process Model that contains five stages: diagnosis, planning, intervention, evaluation and reflection (Davison et al. 2004).

CAR has emerged as a popular method within information systems research. However, there have been challenges identified in its use (Davison et al. 2012). A major issue is the potential tensions that may arise between the researcher and the organizational client (McKay & Marshall, 2001). In order to combat these tensions Davison et al. (2012) proposed that theory would play an important role. Specifically they gave mention to instrumental and focal theory.

Principle	Criteria
1 The Principle of the Researcher–Client Agreement (RCA);	1a Did both the researcher and the client agree that CAR was the appropriate approach for the organizational situation? 1b Was the focus of the research project specified clearly and explicitly? 1c Did the client make an explicit commitment to the project? 1d Were the roles and responsibilities of the researcher and client organization members specified explicitly? 1e Were project objectives and evaluation measures specified explicitly? 1f Were the data collection and analysis methods specified explicitly?
2 The Principle of the Cyclical Process Model (CPM);	2a Did the project follow the CPM or justify any deviation from it? 2b Did the researcher conduct an independent diagnosis of the organizational situation? 2c Were the planned actions based explicitly on the results of the diagnosis? 2d Were the planned actions implemented and evaluated? 2e Did the researcher reflect on the outcomes of the intervention? 2f Was this reflection followed by an explicit decision on whether or not to proceed through an additional process cycle? 2g Were both the exit of the researcher and the conclusion of the project due to either the project objectives being met or some other clearly articulated justification?
3 The Principle of Theory;	3a Were the project activities guided by a theory or set of theories? 3b Was the domain of investigation, and the specific problem setting, relevant and significant to the interests of the researcher’s community of peers as well as the client? 3c Was a theoretically based model used to derive the causes of the observed problem? 3d Did the planned intervention follow from this theoretically based model? 3e Was the guiding theory, or any other theory, used to evaluate the outcomes of the intervention?
4 The Principle of Change through Action; and	4a Were both the researcher and client motivated to improve the situation? 4b Were the problem and its hypothesized cause(s) specified as a result of the diagnosis? 4c Were the planned actions designed to address the hypothesized cause(s)? 4d Did the client approve the planned actions before they were implemented? 4e Was the organization situation assessed comprehensively both before and after the intervention? 4f Were the timing and nature of the actions taken clearly and completely documented?
5 The Principle of Learning through Reflection.	5a Did the researcher provide progress reports to the client and organizational members? 5b Did both the researcher and the client reflect upon the outcomes of the project? 5c Were the research activities and outcomes reported clearly and completely? 5d Were the results considered in terms of implications for further action in this situation? 5e Were the results considered in terms of implications for action to be taken in related research domains? 5f Were the results considered in terms of implications for the research community (general knowledge, informing/re-informing theory)? 5g Were the results considered in terms of the general applicability of CAR?

Table 2. Principles and Criteria in CAR, adapted from Davison et al. (2004)

Instrumental theory enables the researcher to diagnose issues and identify potential solutions to them. Solutions would be provided through focal theory. The instrumental theory would serve to operationalize the focal theory. As instrumental theories are used by both researchers and clients, they also help to ensure that theory is always relevant to practice, and practice is connected to theory (Davison et al., 2012). The theoretical underpinning of CAR fits well with this study. We identified two theories that can guide this research; stakeholder theory and sense making theory. Stakeholder theory will act as the instrumental theory, as it will involve engaging stakeholders to identify issues and resolve them. Sense making theory will act as the focal theory as it will provide the platform for solutions to be communicated. In this case it will quite literally provide something for the stakeholders to focus their attention on, the visualisation of business process issues. It was for these reasons that CAR was chosen as the research method for this study.

4 The CAR Project

4.1 The Organization

The organizational client is a SME manufacturing company that has been operating for over 20 years providing specialist equipment primarily for the marine industry. In recent times, the company has seen its trading volumes increase. This successful period of growth has led the senior management team to set a target to triple turnover in the next 5 years. This will be a challenge, not only because of the increased volume in production, but also because production times will have to be increased. Prior to the recession, customers were large organisations that were prepared to accept long lead times for production. However, post recession, the customer profile has changed with individual ship owners becoming a large customer base of the company. Their needs are different and they require delivery of new products within weeks or even days of the order being placed. In addition, the company is exploring opportunities for acquisitions and potentially expanding into new markets.

The senior management team took the view that to transform turnover levels established business processes needed to change. The production process was slow, cumbersome, disjointed and hard to monitor. The company attempted to achieve these process changes through the implementation of a new ERP system to act as a central database for all departments, standardising processes across the business to become more efficient. Unfortunately, after one and a half years of using the system these efficiency improvements had not materialised. Consequently, the head of the company's Management Information Systems (MIS) team contacted the authors and asked for their input in resolving this issue. The company and the university agreed to co-fund and instigate a CAR study with a researcher (lead author) embedded within the company to develop and trial a new BPM technique. The main project sponsor from company was the head of the MIS team.

4.2 Diagnosis

The CAR study commenced in April 2014. The researcher undertook an extensive orientation process to familiarise himself with the various departments and start to build a rapport with company employees. During the orientation, employees from different departments took the opportunity to inform the researcher of several process and technology problems that they were experiencing. Following the orientation the researcher observed that in order to get a clear understanding of the business process problems it would be necessary to study several different departments in more depth. With that in mind it was decided that data would be

collected via in-depth semi-structured interviews, observations and a companywide survey. Collecting data via a variety of different methods allowed data validation through triangulation to enhance the accuracy of the study (Creswell 2008).

To gain a deeper understanding of the business process problems, a semi-structured interview technique was used. A semi-structured technique was chosen over a structured approach because it allows the interviewer to stick to the topic at hand but gives the interviewee the opportunity to add what they feel is relevant. It was decided, in the first instance to interview the team leaders of customer services, production, quality assurance and the MIS team. Team leaders in these departments were chosen for two important reasons. First, focussing on these team leaders was considered to be a good starting point to access other employees in the departments. Second, the departments selected represented the key departments in the production processes for the business, a key area of concern for the senior management team. Each interviewee was questioned on where their departments fitted within the company, who they liaise and interact with and the issues they faced both internally and externally.

To complement and corroborate the interview data the researcher spent several weeks observing the production, quality assurance and customer services departments. This allowed him to get to know the ordinary members of staff and observe them in their day to day duties. Throughout these initial observations, the employees demonstrated the current processes and gave their opinions on the various issues the company is facing. Each team member had specific functions to perform and the researcher was able to get a good overview of them in the initial observation. Following the initial observations, the researcher fed back the information to the project sponsor. The researcher then repeated the observation process with more focus on each specific process within the various departments. This was repeated several times until the researcher was able to produce a map of the various processes and was able to compile a list of issues highlighted by employees within the company. As the researcher was based in the MIS team, he was able to observe the issues there on a more regular basis without the need to book appointments. In addition, a company wide survey was sent out to all employees focusing on the ERP system and the company intranet to obtain the views of employees on the main IT/IS issues for the company.

The diagnosis stage revealed several areas of concern. From a business process perspective, employees felt that the company was disjointed with departments working independently of each other. Some departments did not fully understand what the other departments were doing and did not have a full appreciation of their needs and wants. Also, within each department there was a feeling that the company could be running better, more efficiently and that maximum potential was not being realised.

Employees were not happy about the lack of involvement in the ERP development/implementation process and felt they should have been included more. The team members felt that they were best placed to propose a solution to issues within their department but had not been included in the business improvement review exercise. In addition, they felt that improvement initiatives by the IT team had not been successful because in a quest to fix problems they had inadvertently removed some of the previous benefits, thereby making the situation worse from the employees' perspective. This comment was countered by senior management stating that the company has previously tried to include employees in the development of the system but there had been low levels of interest. The dissatisfaction with IT implementations had led employees to develop workarounds. The employees justified using these workarounds arguing that the benefits of the workarounds

were more obvious to them compared to the ERP system. They also added that they did not consider the workarounds to be causing any problems for other departments. However, as a result of using the ERP system incorrectly, erroneous data was being produced. Employees failed to recognise that this inaccurate data was a result of them using the ERP system incorrectly, and instead blamed the ERP system for the poor data quality.

There were also concerns raised regarding process ownership. This uncertainty was illustrated with reporting problems. Employees wanted specific reports produced but were finding it difficult to produce the reports from the ERP system. Therefore, they asked the MIS team to produce the reports, but also held the MIS team responsible, not only for the generation of the report, but any queries associated with it. For example, if the report contained unexpected results, the MIS team was expected to investigate why this may be the case, not the department that requested the report. This example also illustrates the lack of confidence in the ERP system held by many departmental employees.

Reviewing these concerns in relation to the literature, a number of observations could be made. The company needed to improve the efficiency and effectiveness of production processes. However, these improvements needed to be designed so that the benefit that a process would provide was clear. Employees had highlighted the frustration of losing previous benefits. What was required was a way of understanding a process, the benefits the existing process delivers and opportunities to improve the process to deliver further benefits. This requirement confirmed the need to develop a benefit orientated process model that focuses on the needs and wants of stakeholders.

A further observation was the resentment among stakeholders from not being involved in the ERP implementation. The team members felt this was an important omission as they considered themselves to be in the best position to propose improvements to the IT systems. These feelings of resentment led to resistance to the new ERP system and development of workarounds. This observation, is in line with stakeholder theory which highlights the risks of insufficient stakeholder involvement. Stakeholder theory also indicates that it is important to ensure stakeholders appreciate why a process is being changed in a certain way with the relevant updates justified to them. This communication will reduce resistance, the feeling of resentment and the need for workarounds. However, the use of workshops was not considered to be the best way to achieve this communication of change as employees felt they did not have sufficient time to attend the workshops. The modelling of a process at an employee's work station could be more practical but the modeller would need to ensure that stakeholders were able to understand the process and communicate their issues in a constructive way.

4.3 Action Planning

To address the issues raised in the diagnosis stage a benefit orientated BPM prototype was developed. The model developed demonstrated how the process works with sections either side to highlight the benefits and dis-benefits of each section of the process. Alongside the dis-benefits could be a section highlighting the changes needed. Figure 1 shows an example of the BPM prototype. It highlights the flow of the process – which is the coloured section - with the various benefits to be kept on the right column and the dis-benefits to be improved on the left column. The far left column contains the changes to be made. The model has been made combining workflow modelling techniques with a benefits dependency map (Ward and Daniel, 2007).

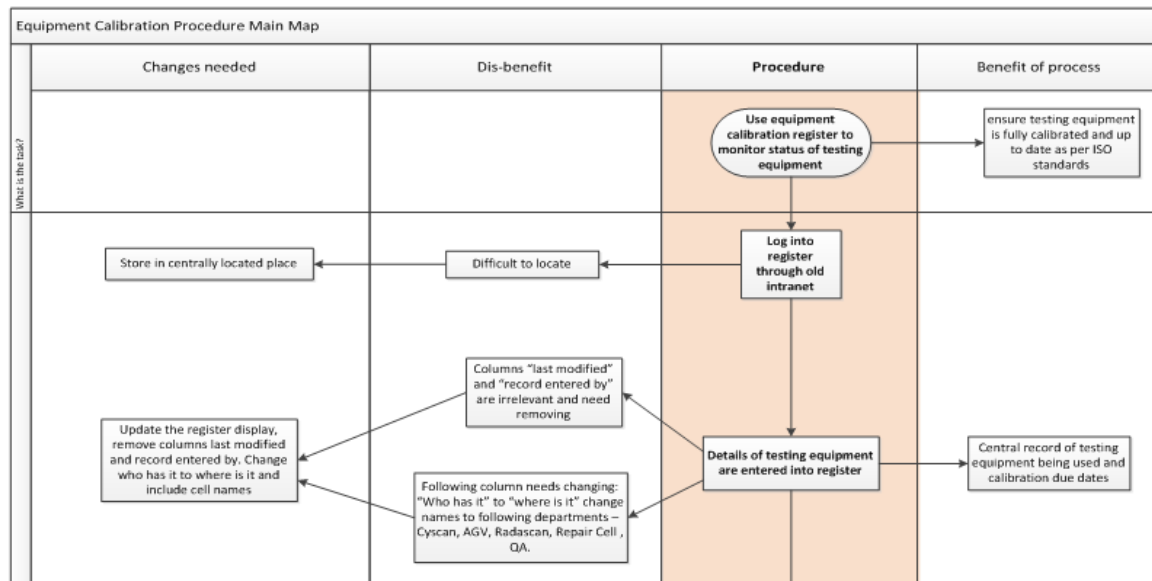


Figure 1. Benefit orientated BPM prototype.

Utilising the BPM prototype should give stakeholders the opportunity to visualise the benefits and dis-benefits of a process they are connected to. It was envisaged that providing stakeholders with a graphical visualisation of business process problems would make proposed changes and associated benefits easier to understand.

Having developed the benefit orientated BPM prototype, the next step was to identify a suitable process to use to test the prototype modelling technique. The project sponsor highlighted a specific process to study. The process was chosen because it was a process that had already been identified as requiring improvement and therefore it represented a business need for the client organisation. It was a relatively small process involving only a few employees. It was envisaged that trialling a new process modelling technique would be easier on a small process rather than a process that involves a large part of the company. Finally, although the process needed improving, it was not business critical. Therefore, it was considered a low risk process to test a prototype technique. The key stakeholders involved in the process were, the head of production (process owner), a production worker to reporter to the head of production (process doer), the head of quality assurance (process auditor) and an MIS team member (process change implementer).

4.4 Intervention

The researcher went to the process doers work station and observed the process in action. The process doer explained each step in detail and was given the opportunity to highlight their perceived benefits and dis-benefits of each stage of the process. The process doer was also given an opportunity to say how they would like to see the process improved. This was repeated with the process owner who viewed the model the researcher had created and added their own comments on benefits and dis-benefits and how they would like to see it improved. This was repeated with the process auditor and the researcher was able to produce a complete model of the process. The complete redesigned model is shown in Figure 2. It highlights the process in a simple easy to understand manner with the various benefits, dis-benefits and desired changes on either side.

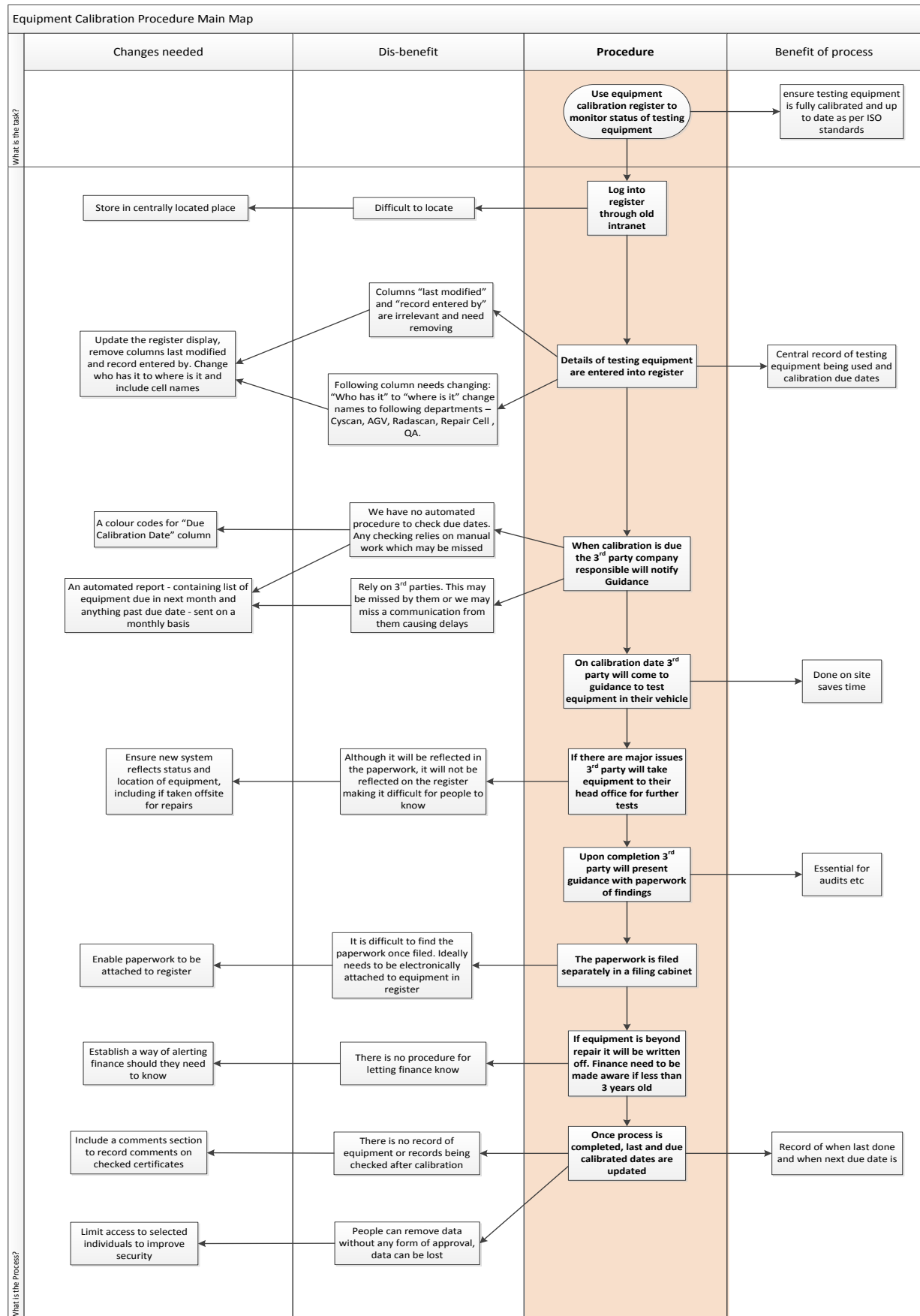


Figure 2. Re-designed business process using benefit orientated BPM prototype

The redesigned process model was presented to the MIS team member who used it to extrapolate a list of requirements and conceptualised a new process on the company's ERP system. A single meeting was held with the stakeholders to present the redesigned process and how it would be enacted on the ERP system. It was explained how the new ERP process would deliver the benefits that the stakeholders had requested and the stakeholders were provided with the opportunity to ask questions. The new ERP process was agreed by all parties and responsibilities assigned. The new business and supporting ERP process was implemented and the researcher held meetings with stakeholders to capture their opinions of the modelling process. The stakeholders reported that the redesign process had been useful and that their requirements had been met.

4.5 Evaluation and Reflection

Having reviewed the data on this first intervention, the trial of the benefit orientated BPM prototype, we are able to make a three reflective observations. First, by focusing on the benefits that the stakeholders wanted to bring to the process, in line with BRM literature recommendations, the researcher was able to gather the exact requirements for the process redesign. This was important as there were some specific requirements from the process owners that they considered very important. The re-designed business process and associated ERP system process would not have been considered to be a success had these requirements not been met. The focus on benefits also enabled stakeholders to see the improvements they would gain from implementing the re-designed process which led to positive attitudes from stakeholders. Adopting this stakeholder focused approach for the application of the benefit orientated BPM prototype enabled the stakeholders to feel that that they had contributed to the re-design exercise. The stakeholders perceived that their ideas had been considered and valued which made them more receptive to using the ERP system. This is in line with stakeholder theory as reviewed earlier.

Second, the MIS team found the visualisation of the process to be re-designed and the new process from the benefit orientated BPM prototype easy to understand and from which derive the requirements of the new ERP system process. Members of the MIS team admitted that they would not have identified all of the requirements had they not been visualised in the BPM prototype. This is in line with sense making theory. By taking guidance from this theoretical perspective, the BPM technique developed proved to be an effective communications tool for stakeholders to record their requirements without having to attend workshops.

Third, regarding the effectiveness of adopting the CAR approach to the study, the evidence so far suggests that stakeholder theory was suitable to apply as an instrumental theory as it enabled the researcher to find a solution that was relevant to the organization, satisfying all the process stakeholders' needs. Further, the evidence suggests that sense making theory was suitable to use a focal theory as it was able to communicate the various issues in an effective manner.

However, while this study has made an encouraging start it is subject to several limitations. The process that was used to trial the prototype was small and easy to manage. Further research will be required on much larger, more complex processes that involve many stakeholders in order to evaluate how effective the new modelling technique can be. In addition, the MIS team were able to meet all the requirements of the trial process owners and doers. This may not be possible in future projects and the researcher will need to incorporate

this possibility into the modelling technique as well as a way of justifying why something cannot be done. This is an important aspect of stakeholder theory. Further, the researcher was involved in every stage of the benefit orientated BPM prototype trial exercise. At present it is not clear, whether other employees would find this BPM technique easy or effective to use without considerable support from the researcher. Consequently, it is envisaged that further CAR cycles will be conducted to test the modelling technique on additional processes, involving different stakeholders and different departments.

5 Conclusion

This study is trying to establish how a benefit orientated BPM technique be implemented in a business environment in order to deliver business benefits. The principles of stakeholder theory and sense making theory have been employed guide the study. The researcher has used CAR within an organization using stakeholder theory as the instrumental theory and sense making theory as the focal theory. So far the researcher has completed one CAR cycle and has developed a prototype modelling technique that may help realise benefits from business processes. While the first CAR cycle has produced some encouraging feedback further CAR cycles are required in 2015/16 to fully address the research questions.

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