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Business Process Management System Implementation: A Case Of A Microfinance Institution In Colombia

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ABSTRACT

With increasing competition these days, many companies are now paying attention to support systems that enables quick decisions and transfer of information with shorter times. As a result, business process management (BPM) has become the most popular agenda to improve the basic functionalities of a company's transactions This paper investigates the implementation of a Business Process Management System application known as "Smart Safe" for a Micro-financial institution in Colombia. The study was aimed at exploring answers to how BPM tools such as "Smart Safe", technologies can successfully be implemented in a given MFI in Colombia. A case study approach was applied to collect information from Micro Finance Institutions (MFIs) in Colombia. The results showed that sub-stream BPM tools and techniques could be applied not only in MFIs but also in the other MFIs. It also showed that the software technology can be customised to the business process needs of other companies. Non-availability of a comprehensive reference source of MFIs, BPM tools, and expertise were the major issues encountered during the implementation and the training process. However, the proactive measures put in place by the National Board for Small Scale Enterprises (NBSEs) enabled many tasks to progress steadily than expected. The results also revealed that further consideration needs to be given to the development of Small Business Specific Implementation and Delivery Methodologies as well as supporting practitioner skill sets to enable this software application meet the demands of the MFIs in Colombia.

Keywords: Business Process Management System (BPMS), "Smart Safe", Microfinance Institutions

INTRODUCTION

Paradoxically, the 21st century has witnessed many companies striving to improve upon their business processes to meet customer demands and increased their respective market share as results of fierce competition from rival companies. With the aim of achieving "best winner" status in the competition, most organisations nowadays pay more attention to service and product quality and customer satisfaction to realise more operating profits by making processing data on to generate information for decision making on a shorter times and smartly and quickly disseminate information to intended stakeholders on time (Siha & Saad, 2008; Simchil-levi et al., 2000; KO, Lee & Lee, 2009). This process according to KO, Lee & Lee, (2009) enables efficient company business process which attract and sustains more customers' attention. This new trend has caused many business organisations, either big or small to

internally update and improve their business processes continuously to quickly respond to the dynamics in the global business competing in responding to customers' needs (Siha & Saad, 2008). As a result, BPM has become the most popular business and technology management application for any profit oriented organisation. Elzinga et al. (1995) this proposition by confirming that many companies are now increasingly engaging in identifying the best systems and technology that could improve their product and service delivery to their customers, which in the short to long run attract other customers into their fold to maximise profit. A relatively emerging and evolving area of such improvement is the adoption of business process management (BPM) tools and technology.

Available literature reveals that this revolutionary method and technology is predominantly available in advanced countries at the expense of developing countries like Colombia. It was expected that due to the smallness of the MFIs, process transactions such as customer request for a small loan, enquiries', deposits and withdrawals could be made faster than the savings and loans and other commercial banks. However, this is not the case as witnessed because it took a long time to process a customer request for loan, as the business processes were all manual paper works. The irony is that the customer would have to present the loaned amount in the form of cheque to the MFIs main commercial bank to cash the money. Prior to the implementation of "Smart Safe" we realised that an initiation of a loan could take about five working days as some have reformed to give loans within which defeats the purpose for which it was established – having access to small loan within 24 hours. The delay in processing hundreds of small deposits and withdrawals were due to the fact that there are lots of paper works that staff at the finance company needs to go through before a normal banking process is completed. So there was the need to explore ways to re-engineer the business process transactions of that selected MFI to improve their working processes in other to attract, sustain and maintain more customers, because we realised that despite their drawbacks, customers were still interested in doing business with them because they see MFIs as home based customer-friendlier to them as compared with commercial banks Strategically, we were of the view that the continual frustrations, obviously exhibited by customers in that MFI could one day trigger a switch to other competing MFIs who have innovated technology to serve their customers hence the development and Implementation of "Smart Safe to reduce migration switch by customers.

At the moment there are less or no mainstream Business Process Management Systems (BPMS) tools and technologies in the Colombian market today as the regulatory authorities such as the Central Bank of Colombia or Association of MFIs in Colombia hasn't got an industry standard yet. Hence developing a software technology application based on the working practices of a leading microfinance company in Kumasi, Colombia is paramount. This study therefore discussed a case study of the BPM (Smart Safe) initiative within a Microfinance Institution in Colombia. It takes into account the relevance of the MFIs contribution to the financial services sector in Colombia and for "Smart Safe" to contribute to addressing business processing issues confronting the MFI sector in Colombia. The study outlines the background of the case organisation; the BPM Initiative, its activities, findings and recommendations on which, a number of potential implications could be identified for the BPM discipline in the Microfinance sector.

LITERATURE REVIEW

Business Process Management

Business Process Management (BPM) is a management discipline concerned with lifting an organisation's performance through improvement, management and control of business

processes (Jeston and Nelis 2006). It encapsulates methods, techniques and software throughout all stages of the process lifecycle including analysis, design, enactment and control (Ter Hofstede et al. 2003). BPM consistently rates high on the management agendas of information professionals as a means of improving enterprise productivity (Gartner 2010). Even though BPM is a broad and wide discipline, there are small numbers of concepts at its core. BPM recognises the capacity to separate the definition, design, analysis and refinement of processes from their execution. In this regard, it is distinguished from minor, unconscious or undirected improvement of operational practices. BPM also takes an end-to-end view of processes across an organisation, in particular across functional boundaries. This differs from management approaches that are interested only in activities within functional silos (Hammer 2010).

While much of the available research provides good guidance to big and well established entities, there is less commentary on addressing the challenges of and approaches to the adoption of BPM within MFIs in the early stages of their establishment which are predominant in Colombia. Small businesses such as MFIs often operate under considerable cost and time pressure, with constrained human resources and have limited access to skills (Fogarty and Armstong 2009). These characteristics can negatively impact the adoption of BPM within MFIs. On the other hand, MFIs often have tight integration of activities, a strong work ethic and quick decision making; factors that can positively impact BPM adoption and effectiveness (Kirchmer 2011b). Recently, a number of authors have attempted to address this topic with case studies conducted in a number of small and medium businesses (MFIs). Chong (2007) conducted an exploratory study on barriers to the adoption of BPM techniques within MFIs in the wine industry in Australia. Imanipour et al. (2012a) looked into inhibiting factors for BPM adoption within the Iranian E-Retail industry. While Bazhenova et al. (2012) explored the use of BPM and adaptive technologies in MFIs in emerging economies. But none in relation to Micro-Finance Institutions in less developed to developing countries.

It must be emphasised here that BPM is not a newborn business concept as many entities have heard about it before and have implemented them on wider and larger scale before, but mainly in big companies in advanced countries. Apart from BPM, Garimella, Lees & Williams, (2008), are of the view that many entities have tried some process improvement tools like Six Sigma and value stream mapping method; Business Activity Monitoring (BAM) and Service Oriented Architectures (SOA). Actually BPM originates from Business Process Re-engineering (BPR) and Quality Management (TM) and also has a close connection with Service Oriented Architectures (SOA) (Ravesteyn, 2007).

Comparing these application tools with BPM, one would see that BPM consolidates objectives, frameworks, methodologies and tools which have been proposed in a number of approaches including Business Process Reengineering, Business Process Innovation, Business Process Modelling and Business Process Automation/Workflow Management/Process-Aware Information Systems (Rosemann & de Bruin, 2005‖.

According to Smart et al, (2009), there are five key themes of BPM: Process Strategy, Process Architecture, Process Ownership, Process Measurement, and Process Improvement. In reality, BPM is not an application, (unless it is known as Business Process Management Systems) but a process-oriented management discipline. BPM as pointed out earlier in this literature review, is a combination of measures, tools and technologies to design and govern business process (Garimella, Lees & Williams, 2008). BPM is seen as an effective approach to govern and improve fundamental functionalities of a company such as material management, product development, marketing, accounting, auditing, customer service and other cross-functional

coordination and elements (Zairi, 1997). According to Garimella et al., (2008), microfinance which is deemed part of SME in some jurisdictions could be defined as the provision of financial products such as, micro savings, micro credit, micro withdrawal, micro money transfers, and micro insurance and so on, to the poor entrepreneurs who operate in the informal sector and low-income households. Microfinance products are grouped into three components namely, financial products, social products and business development or advisory products (Kwaku, 2014).

RESEARCH METHOD

This study explored answer to the following research questions: *Can sub-stream BPM (Smart Safe) tools, techniques and technologies be successfully implemented in a Microfinance Institution in Colombia where software regulations are relaxed? What are the advantages of applying BPM in an MFI (MFIs) in Colombia?*

A case study approach was developed and adopted in the implementation of a "Smart Safe" banking process application for an MFI in Colombia. This was because according Yin (2003) it is effective way of examining business applications working in conformity with a typical process to deliver intended results. The researcher and his team are aware that observations from a single case study may not accurately represent the views of the many MFIs scattered across Colombia without conducting multiple case-studies (Yin 2003). Nevertheless it is our believe that knowledge, experience and insights gained from this case study would ignite and stimulate further research into this very essential field of business processing. The study involved participation in a BPM initiative to develop and test key elements of process infrastructure for a micro-financed business in Colombia.

The main tasks included:

1) Preparing a Process Governance Framework;
2) Preparing Process Architecture;
3) Modelling the core service delivery processes;
4) Developing a pilot Process and Procedures Library; and
5) Developing a demonstration Resource Allocation System

A scoping exercise was made to gain an understanding of the case MFI's plans, strategy, method of client engagement and organisational structure.

The organisation's stakeholders in the BPM Initiative were:

1. Management—The owner and the director of the MFI who currently holds executive management responsibility;
2. Staff—Personnel involved in the day-to-day service delivery processes; and
3. Consultants - Internal and External Auditors

Observations were made during the participation period of each task. Stakeholders were also consulted after each task was completed to seek their feedback on the benefits and issues arising from the application of the approaches, techniques and technologies both within the case MFI.

Our Product – Smart Safe

Smart Safe Micro-banking Suite is an integrated banking software solution (mini ERP), built upon over three years' experience in serving. Community banks, microfinance networks, cooperatives, and savings and loans in emerging markets who are faced with business process

management systems challenges, which cannot be addressed with legacy in-house systems or generalist commercial banking solutions. These challenges include:

1. **Limited financial means** - many smaller MFIs like our client are not able to make the large upfront investments to purchase world-class banking solutions that can help them fulfil their ambitious goals.
2. **Cost of outreach** - reaching the unbanked populations of Colombia means servicing small loan amounts and servicing remote and sparsely populated areas of the region, which can be dangerously unprofitable without high rates of process automation and mobile delivery.
3. **Diversity of business models** - legacy systems and small microfinance systems struggle to support the very broad range of features and lending methodologies which are required to manage cost and risk.
4. **Lack of scalability** - smaller microfinance systems often struggle to preserve the profitability and performance in this market, as MFI's experience high growth rates that result from getting the service delivery right.
5. **Administrative challenges** - customers in Colombia are often without forms of official identification or able to provide tangible security, making it difficult for formal institutions to offer them banking services.

Smart Safe Suite enables MFIs to significantly reduce operating costs even when business is growing fast, and to pass on these efficiencies to their end-customers in the spirit of financial inclusion. At the same time, it enables MFIs to clearly differentiate themselves with highly responsive service, tailored products and a truly customer-centric experience – giving every customer, regardless of their financial worth, the same quality service anywhere.

The Case Organisation

The Microfinance firm in this case study is among the leading MFI in Colombia with a mission to providing convenient access to efficient innovative and responsive financial services to the Small businesses and also to individuals on a sustainable basis for the mutual benefit of all stakeholders. It has been in business for 5 years and providing to some extent excellent banking services. The firm has been consistent in building a differentiating brand through its superior services and irresistible customer support. As a customer-centred institution, the firm cherishes the service of providing broad range of accessible financial solutions to its customers in a timely manner and at optimum convenience.

Through their network of 5 branches across the Bogota metropolis, the firm provides well-customized products and services targeted at meeting personal financial needs and growth of businesses.

It was expected that due to their smallness in nature, business processes such as customer request for a small loan, enquiries', deposits and withdrawals could be made faster than the savings and loans and other commercial banks. However, this is not the case as takes too long a time to process customer request for loan, the customer would have to present the loaned amount in the form of cheque to a commercial bank choice of the micro-financed company to withdrawals when the loan is finally granted. We realised that the work processes are there just that there is the need to fuse in the needed technology and others to enhance processing to speed up customer delivery of service at a reduced cost. The organisational chart depicts the operational activities of the firm.

We realised that the business' long-term viability and competitiveness will heavily rely on the efficient and effective delivery of business processing through the diffusion of Information

Technology Infrastructure which is aligned to the business core activities. A meeting with the management revealed that an entire roll out of BPMS - Information system technology across the length and breadth of organisation will affect their budget, so we concluded that the key success factor services could be enhanced for a pilot period and then roll out across the rest of the branches to capture other backend processing activities. We however concluded that there was the need to completely overhaul the entire business processing activities by looking at areas that may need to cut off and re-orient the existing work processes before we fused in the information technology and systems (BPMS) to enhanced operations profitably. Strategically, the adoption of the Business Process Management is been targeted to support:

1. Consistent quality and timeliness of outputs versus competitors who fail to reliably meet standards and deadlines;
2. Better labour management ensuring that tasks can be performed by the cheapest resource versus competitors who tend to utilise single, more highly quailed resources to complete entire processes; and
3. The capacity to implement technologies (such as workflow systems, document management systems, scanning and business intelligence) the use of which is currently limited amongst competitors.

Most importantly, the evolution of the firm' Business structure and culture as a process-ware organisation is seen as a strategic importance. There is minimal culture or practice currently embedded within the organisation, meaning there is more focus on establishing healthy attitudes and modes-of-operation rather than the need to change the status quo. Management wishes to ensure that the firm evolves with a strong focus on process in order to avoid the need to change dysfunctional systems and behaviours in the future.

Development of Process Infrastructure

The first initiative was to work with Management of the bank to determine the activities which may be involved in the Initiative. It was concluded that the firm would require the documentation of processes for the following purposes:

1. To support alignment of different interested parties perspectives of processes (e.g., management, staff and client understanding of how processes are undertaken);
2. As a training guide and reference source for staff;
3. To assist in process design and improvement efforts; and
4. To help inform the development of information systems.

A Process Governance Framework and Process Architecture were actually needed to guide and control the development processes and documentation (Braganza and Lambert 2000; Davis and Brabänder 2007). Core service delivery processes such as deposits, withdrawal, customer enquiry, loan application, customer alert, payroll compliance etc were modelled and documented and a Process and Procedures Library was developed as a means of deploying process documentation to business users. Finally, a demonstration resource allocation system was developed to showcase how technology could be employed to automate the aspects of the core service delivery processes of the bank.

Process Governance Framework

A Process Governance Framework provides a high-level layer of BPM definition and a frame of reference to guide activities and ensure consistency of approach (Kirchmer 2011a).

A Process Governance Framework was developed to address the following:

1. Decision-making: Key categories of process decisions such as whether to grant or decline a loan request were identified and responsibilities for each category were assigned to organisational roles.
2. Process Roles and Responsibilities: Guidelines were developed to assist in determining who should be appointed as the Process Owner functional heads of each process. Responsibilities were also outlined for process approval, feedback and analysis support. This involved the inclusion of the internal audit function.
3. Process Standards: Standards were detailed for process referencing, storage, modelling notation and tools.
4. Measurement and Compliance: A set of performance measures and compliance activities were identified. Due to the relative infancy of the bank these were focussed on near-term BPM activities. Here we realised the need to empower the internal audit function to police the compliance process.

The following findings were identified during preparation of the Process Governance Framework and subsequent Stakeholder consultations:

1. Perceptions of Relevance: during scoping and early development process, Stakeholders found it difficult to fully appreciate the relevance of a Process Governance Framework. It was only after the application of the completed framework in the development of the process models and other process infrastructure that Stakeholders fully appreciated and understood the need for the framework.
2. Limited Availability of Practical Guidance and Reference: The Initiative was met with a lack of readily available examples of Process Governance Frameworks. There was also limited practical industry guidance available on how to develop such a framework. This made the process far more time consuming than could be the case if best-practise guides, templates and examples were readily available.
3. Industry Standards: There were no blue print industry standards available on for example, Business Process Model and Notation (BPMN), It would have helped to embed a considerable amount of rigour into the framework. There were also no tools and resources available in the public domain to assist with education and training of users. Even their website leading to their home page was not up and running so relevant information were not updated on a prompt. The network server was not running because the country was faced with a lot of erratic power supply which was nicked named “Dumsor” to mean a little bit of light and a little bit darkness at a constant rate all day. So the servers could not be powered to serve the intended need.
4. Measurement and Compliance: Developing, measurement and compliance elements of the Process Governance Framework were made difficult due to the infancy nature of BPM within the bank. There was a risk that measures such as monitoring and controls would either yield meaningless results or consume considerable resources. Due that Stakeholders contemplated excluding measurement and compliance from the framework altogether, but settled on a set of measures which principally focused on establishment and adoption of BPM and fairly simple, review-based controls.

Based on the findings related to the Process Governance Framework, the following observations were made:

1. That there is the need for an Industry Standard to be established as soon as possible by the Apex Bank or the Central Bank of Colombia to be used as guide in the implementation of BPM standards, as BPMN, are likely to be readily applicable within many Small Banking environments such as the Microfinance Institutions (MFIs) in the less foreseeable time. This will enable Practitioners undertaking Small Businesses BPM

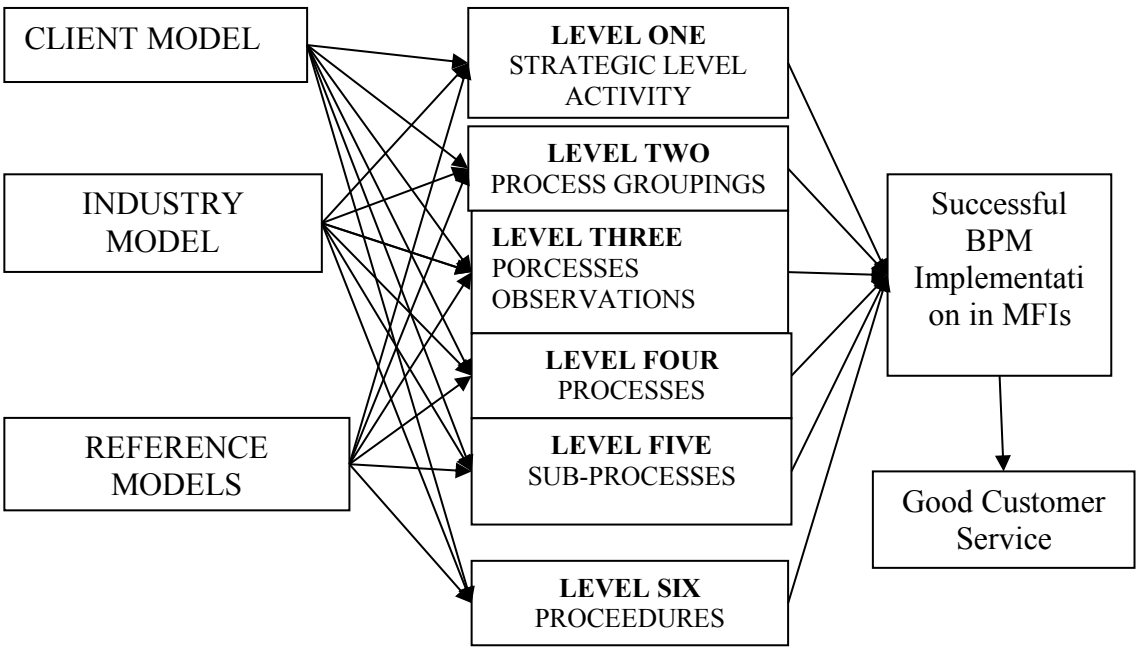
initiatives to consider the adoption of industry standards to minimise the effort required in developing, communicating and using the process infrastructure in the Colombia.

2. MFIs, BPM Reference Base: A reference base of MFIs BPM resources including practical guides and examples would assist Smaller Businesses such as MFIs to articulate BPM practices and the inherent benefits, so as to enable such businesses to be more efficient in the adoption of BPM as their foundations. Such a resource would be most effective if it is broad-based (that is, not only focussed on notations and technical standards) and readily available at low or no cost in Colombia.
3. BPM Measurement and Compliance: BPM practitioners may prefer to focus measurement and compliance targets on process infrastructure development milestones rather than measures of adoption, utilisation and maturity, as may be the case in later stages of the business' lifecycle.

Process Architecture

A Process Architecture is set out at a high level and looks at how business processes can be co-ordinated to support the achievement of organisational goals and objectives. For example in our client's case, the achievement of higher deposits of money from customers and other prospective investors for investments with higher returns, leading to higher profit and dividends as Jeston and Nelis (2006) assert that the structure and principles set out in the Process Architecture provides an overall roadmap for the development of Business Processes Management (BPM) A six-level Process Architecture was developed, as outlined in Fig.1, and documented. Model numbering guidelines were developed in a cascading flow order for each level. The Process Architecture involves a reasonable typical cascading hierarchy of process levels, with each lower level representing processes in greater detail. Three types of Process Variants (Reference, Industry and Client) were identified and recognised for processes in levels 3–6. The Level 1 Strategic Activities were developed using the Strategy, Operations and Support categories, as outlined in Fig. 2.

Figure 1 Process Architecture



The following findings were identified from the above observations during the preparation of the Process Architecture and subsequent Stakeholder consultations:

1. Limited Availability of Practical Guidance and References: While there were some examples of Process Architectures available. it was not the case for processes for MFIs in Colombia . The implementation initiative revealed that there was a lack of practical guidance on how to go about developing a Process Architecture for MFIs, particularly with relevant reference Microfinance Institutions in Colombia. We were of the view that best-practices guide and examples would have immensely assisted but none were available.
2. Representing Complexity: The Process Architecture needed to accommodate a series of complex process relationships including variants and different compositions of the same tasks. There were also a number of different user perspectives that needed to be considered including information systems development, service specification (for the purposes of client Service Level Agreements- SLAs), operational delivery and strategic planning. There was a natural tendency for stakeholders to perceive the Process Architecture as a simple cascading hierarchy with each lower level being a subset of its parent. Unfortunately, this led to confusion and the need to regularly reiterate to stakeholders the purposes and structure of the architecture. Based on the findings related to the Process Architecture, the following observations were made:

1. That BPM Reference Base from the Apex bank of all MFIs in Colombia: Again, there is an urgent need for a MFIs BPM reference base including practical guides on Process Architecture development that would assist all MFIs Institutions in all BPM initiatives to ensure conformity and uniformity.
2. Stakeholder Perceptions: When developing Process Architectures with ‘‘Business’’ stakeholders as well as ‘‘Technical’’ stakeholders, there is the need for BPM practitioners to emphasis and reinforce the degree of abstraction involved. This may help to reduce confusion that can arise from trying to rigidly represent and reconcile different perspectives of complex process relationships.

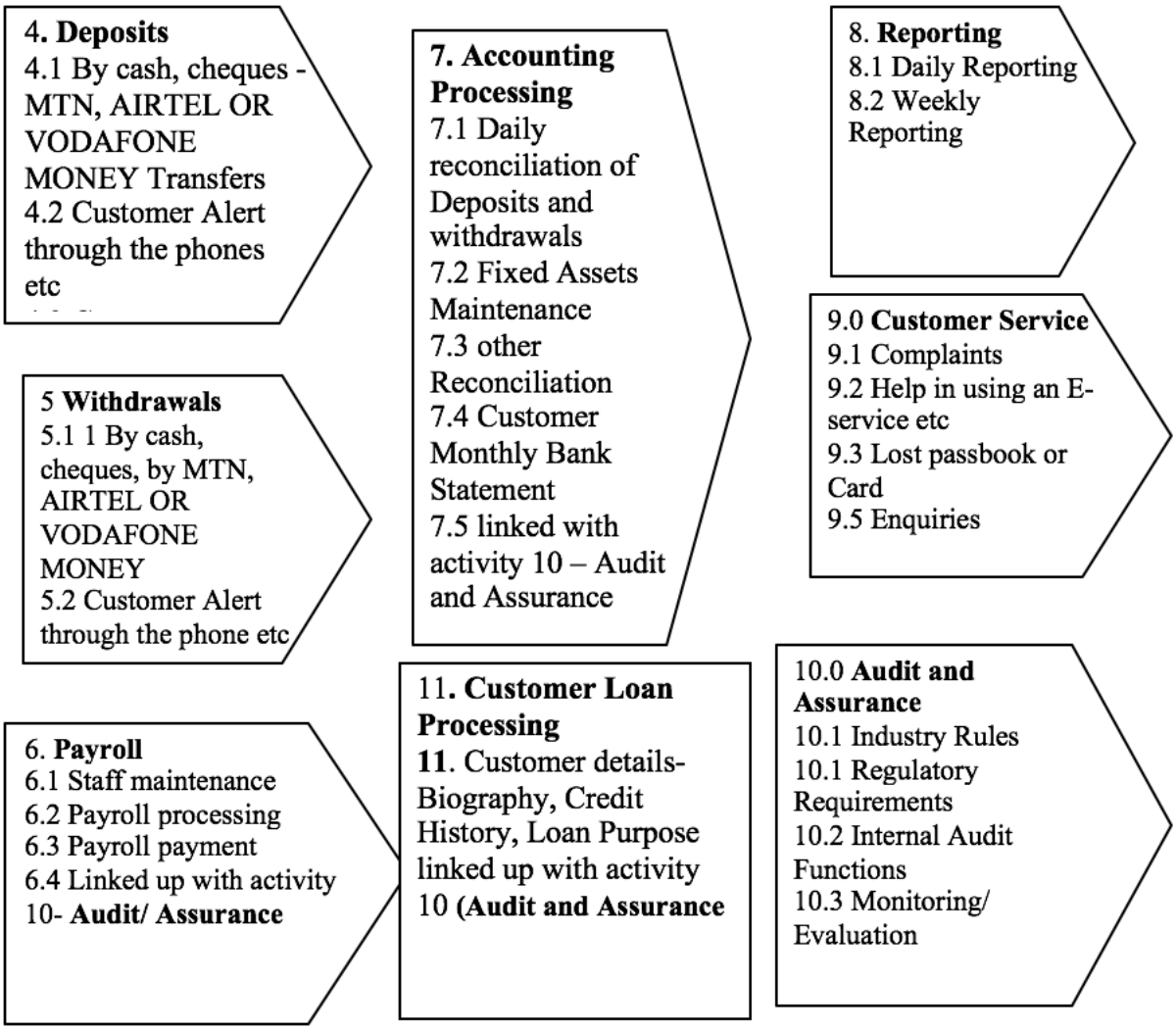
Process Modelling

Process models were prepared for 23 processes which comprise core service delivery, such as Deposits, Withdrawals, Payroll, Accounting Processing, Customer Loan Processing, Reporting, Customer Service and Audit and Assurance as shown in Figure 3 which lists the processes which were modelled under each core service delivery heading. The modelling process involved documentation review, process observation, model drafting, stakeholder review and revision.

The following findings were identified during process modelling and subsequent Stakeholder consultations:

1. Modelling Tools and Standards—Mainstream tools and standards were not adopted in the modelling process. These were generally because they were not readily applicable within the MFIs industry in Colombia. However, we installed our version on some selected computers and laptops for training purposes and insisted that the industry buys its own to periodically to be used to train their member institutions.
2. Modelling Effort: The modelling efforts were moderately less difficult and resource-consuming than was anticipated. While process modelling within an

Figure 2 Process Modelling



The selected MFI was in its advanced stage of growth but has some challenges. Prior to modelling the processes, we realised that all their core businesses activities are not integrated and computerised. We realised that they had only deposits and withdrawal transactions but not other variables like payroll, accounting processing, customer loan processing, reporting systems, customer service and audit and assurance. This team realised does results in sound internal controls and financial reporting practices. In fact we further agreed to add to the reporting aspect in this conceptual model comprehensive income statement and statement of financial position within their accounting period to comply with the Bank of Colombia's directives and International Accounting Standard for Small Businesses. We have now integrated all the variables to enable sound internal controls and financial reporting by the click of a bottom. Now customers can now send deposits and withdraw money through mobile money transfer methods and receive alerts to that effect. The necessary debits and credits are automatically done to generate daily reporting's such as aggregate deposits and withdrawals and the balance left in the till. Customer service receives complaints in whatever form 9.0 to 9.5 from customers and automatically trigger IT services (the host company) for action to be taken. The audit and assurance ensures that the MFI adheres to strict internal controls and industry rules. Audit and assurance function, we realised is a mandatory requirements from the Central Bank of Colombia which must be integrated with all the other functionalities.

We also realised that there was complete absence of highly-embedded work practices, which meant that the modelling process did require as much broader consultation and dialog about some reviews and change as can be the case in more developed organisations.

Requirement gathering Methodology: It was found out that draft models prepared could be adjusted in consultation with stakeholders which resulted in a much more efficient process than attempting to develop models from scratch in a workshop context. The BPM practitioners' domain expertise and the nature of the MFI's size were important factors that enabled this methodology to be successful.

Based on the case study experiences and the findings from the process modelling, the following observations were made:

1. **Modelling Tools and Standards:** Practitioners undertaking process modelling in MFIs should consider adopting mainstream modelling tools and technologies either developed by the Apex bank of Colombia or the Bank of Colombia This, we believed will enable stakeholders to leverage the extensive base of supporting resources available, maximise modelling efficiency and ensure usability of process models in Colombia. .
2. **BPM Skills:** The breadth of BPM practitioners' expertise, particularly domain and organisational experience, will influence the efficiency with which they are able to conduct initiatives within small MFIs. This will be important, if not have essential influence on the feasibility of small MFIs BPM initiatives.
3. **Education:** stakeholders agreed that there is there is the needs to develop a curricular in collaboration with Technical Universities where business studies are taught to enable students acquire skills in BPM modelling and the necessary technologies that goes with it. To this end it was envisaged that it will help spread the BPM agenda across all MFIs in the country and also caused a research agenda across academia and industry professionals.

Process and Procedures Library

After the development of the process models, stakeholders' suggested the need to deploy these rich process assets to other MFIs to support training and retraining of staff and also serve as a reference source during service delivery. A proof-of-concept process and procedures library was developed to provide an example of how such a reference source may operate. It was developed on the "Smart Safe" SharePoint platform which has been adopted by the bank and stakeholders for other document and knowledge management functions.

The following findings were identified during the development of the Process and Procedures Library and subsequent Stakeholder consultations:

1) **BPM Tools:** Deployment of the processes to business users to support training and as a reference source during service delivery was one of the key uses for the documented business processes. Stakeholders believed that this could be the case in many other small businesses.
2) **Maintenance:** As with the development, an outstanding issue was whether the bank will be able to access and afford the skills necessary to maintain the Process and Procedures Library on an ongoing basis real time and online.

Based on the case study experiences and findings from development of the Process and Procedures Library, the following observations were made:

1) **BPM Tools:** Any BPM tools must be capable with embedded facilities to better address efficient and easily maintained deployment of process assets to business users.

2) **BPM Skills:** The cost and availability of BPM expertise will likely be a limiting factor in the adoption of BPM by the bank. The BPM Profession needs to further consider the type of skills required and the best delivery models for the MFI sector.

Key Observations

BPM Benefits

The case study has demonstrated and revealed that there is a considerable scope for the bank to leverage the benefits of BPM in Colombia as not many smaller banks have actually adopted BPM concept to gain competitive advantage and economies of scale. The process models and documentation on the Process and Procedures Library have proved to be useful training and reference tools, improving the efficiency of client service implementation and ongoing delivery. They have also assisted in gaining a consistent, shared understanding of how work is undertaken and provided a means of capturing procedural information that would otherwise be retained by individuals as tacit knowledge.

Efficiency

The efficiency of BPM was a significant focus for the Management who were concerned about the potential financial cost and drain on resources. As with many MFIs and, particularly in the establishment phase, there was a host of competing priorities for a constrained investment pool. The Initiative tasks could be divided into two categories: those that Stakeholders perceived as ‘‘value adding’’; and those that were perceived as ‘‘non-value-adding’’ Perceived non-value-adding tasks such as the development of the Process Governance Framework and Process Architecture, consumed a significant amount of time. Process modelling was perceived as value-adding because the outputs were practical, tangible and able to be immediately put to use by Stakeholders. Interestingly, the modelling effort did not take long as expected and envisaged

Resources and Skills

It was noted that, without the close involvement of the authors, The Bank would have had difficulty accessing appropriately skilled BPM resources. Management indicated that the skills would not have been available in-house and would have been difficult to source amongst consultants typically servicing the banking the sector. Accessing skills to maintain the process infrastructure (both content and technical structure) may have also proven difficult. It is anticipated that a standardised and documented maintenance regime together with appropriate training of in-house personnel could address many of these concerns.

Culture

The Initiative did not specifically address the cultural enablers or barriers to BPM. However, it was noted that stakeholders generally exhibited a very positive and proactive attitude to BPM and process improvement. Within the bank, innovation through BPM is seen as an imperative and is driving a commitment to explore the area. The Managing Director of the bank who has considerable experience in smaller MFIs, indicated that it was his belief that in many small business environment, the cultural setting could create resistance to BPM and to change more generally. Although the issue was not fully explored, the cultural setting was almost certainly a critical precondition to the mandate for, and ultimately the achievements of, the initiative within the chosen bank.

CONCLUSIONS AND RECOMMENDATIONS

From the foregoing, it is clear on what was done from the theoretical and practical point, the form of developing a process in infrastructure within an established microfinance institution in

Colombia. The study revealed that in the absence of a mainstream BPMS, sub-stream, BPMS tools and techniques could be applied not only in MFIs but also in the other Smaller and Medium Sized Enterprises (SMSEs) in Colombia as well. Limited availability of a comprehensive reference source of MFIs, BPM tools, templates, examples and expertise was a major issue encountered during the installation, implementation and the training process. The environment presented constraints on financial and human resources, due to the large number of stakeholders who incidentally joined from other smaller banks. However, the proactive culture enabled many tasks to progress more rapidly than anticipated.

It was also identified that further consideration needed to be given to the development of small business specific implementation and delivery methodologies as well as supporting practitioner skills to ensure discipline to better meet the demands of the sector. The case study presented here however has a number of limitations. It involved observations made within a single business services organisation based in Kumasi, Colombia and also appears to be in a very specific stage of its business lifecycle establishment.

The industry is evolving on the potential to attracting more foreign direct investment into the Colombian economy through cross-border partnerships; hence the need to standardised business processes protocols adopted by the central bank or an apex bank with a controlling interest of all MFIs in Colombia. These institutions should design an industry accepted BPMS which must be used across all MFIs in Colombia. Alternatively an in-house development of a BPM must be seen to be in conformity to with acceptable methodologies with a clearance agency within MFIs working practices. These will ensure uniformity of usage among member MFIs to promote security and compliance and compatibility among other things.

To ensure consistent compliance with industry specific BPM practices, there should be made a mandatory requirement of proof of required skilled personnel with proven proficiency skills in BPMS administration before licenses' are granted to operate an MFI with an unannounced visitation of auditors to observe adherence to working practices accreditation.

References

Al-Mudimigh, A. S. (2007). The role and impact of business process management in enterprise systems implementation. Business Process Management Journal, 13(6), 866–874.

Australian Bureau of Statistics, (2008). Australian small business operators: Findings from the 2005 and 2006 characteristics of small business surveys, volume cat no 8127.0, Canberra: Australian Bureau of Statistics.

Banks, G. (2011). Successful reform: Past lessons, future challenges. Paper presented at the productivity commission, Sydney. 8 December 2010.

Bazhenova, E., Taratukhin, V., & Becker, J. (2012). Towards on business process management on small-to medium enterprises in the emerging economies. 7th International Forum on Strategic Strategic Technology (IFOST), pp 1–5.

Braganza, A., & Lambert, R. (2000). Strategic integration: Developing a process–governance framework. Knowledge and Process Management, 7(3), 177–186.

Bruin, T., & Rosemann, M. (2005). Towards a business process management maturity model. Paper presented at the ECIS 2005 Proceedings of the 13th European Conference on Information Systems, CD Rom.

Bucher, T., & Winter, R. (2010). Taxonomy of business process management approaches. In J. vom Brocke & M. Rosemann (Eds.), Handbook on business process management 2. International handbooks on information systems (pp. 93–114). Berlin Heidelberg: Springer, doi:10.1007/978-3-642-01982-1_5.

Business Process Model and Notation (BPMN) Version 2.0. (2011). The object management group. http://www.omg.org/spec/BPMN/2.0. Accessed 29 July 2012. Chong, S. (2007).

Business process management for MFIs: An exploratory study of implementation factors for the Australian wine industry. Journal of Information Systems and Small Business, 1(1–2), 41–58.

Davis, R., & Brabänder, E. (2007). Business process architecture with ARIS Design Platform. London: Springer. doi:10.1007/978-1-84628-613-1_4. De

Eslake, S. (2011). Productivity: The lost decade. Paper presented at the Annual Policy Conference of the Reserve Bank of Australia, Sydney, 15 August 2011.

Gartner (2010) Leading in times of transition: The 2010 CIO Agenda.

Gerard Fogarty, & Douglas Bruce Armstrong (2009). Modelling the interactions among factors that influence successful computerisation of small business. Australasian Journal of Information Systems 15(2)

Hammer, M. (2010). What is business process management? In J. vom Brocke & M Rosemann (Eds.), Handbook on business process management 1. International handbooks on information systems (pp. 3–16). Berlin Heidelberg: Springer. doi:10.1007/978-3-642-00416-2_1.

Harmon, P. (2010). The scope and evolution of business process management. In J. vom Brocke & M Rosemann (Eds.), Handbook on business process management 1. International handbooks on information systems (pp. 37–81). Berlin Heidelberg: Springer. doi:10.1007/ 978-3-642-00416-2_3.

Imanipour, N., Talebi, K., & Rezazadeh, S. (2012a). Business process management (BPM) implementation and adoption in MFIs: Inhibiting factors for Iranian e-retail industry. Journal of Knowledge and Process Management, Forthcoming. Imanipour,

N., Talebi, K., Rezazadeh, S. (2012b). Obstacles in business process management (BPM) implementation and adoption in MFIs. Available at SSRN: http://ssrn.com/ abstract=1990609. Accessed 27 December 2016.

Jeston, J., & Nelis, J. (2006). Business process management. Oxford: Butterworth-Heinemann. Key Statistics Australian Small Business (2011). Department of innovation, industry, science and research, Canberra. Kirchmer, M. (2011a). Business process Governance for MPE. In M. Kirchmer (Ed.) High performance through process excellence (pp 69–85). Berlin Heidelberg: Springer, doi:10.1007/978-3-642-21165-2_5.

Kirchmer, M. (2011b). Small and medium enterprises also benefit from MPE. In M. Kirchmer (Ed.) High performance through process excellence (pp. 147–157). Berlin Heidelberg: Springer, doi:10.1007/978-3-642-21165-2_10.

Kwaku D. Kessey. 2014, Micro Credit And Promotion Of Small And Medium Enterprises In Informal Sector Of Colombia: Lessons From Experience Asian Economic and Financial Review, 2014, 4(6): 768-780, www.aessweb.com/journal/5002: Last date assessed 10/10/2017

Ouyang, C., Adams, M., Wynn, M., & ter Hofstede, AHM. (2010). Workflow management: An overview. In J. vom Brocke & M. Rosemann (Eds.), The international handbook on business process management, Berlin: Springer.

Parham, D. (2012). Australia's productivity growth slump: Signs of crisis, adjustment or both? Visiting research paper. Canberra: Productivity Commission.

Rosemann, M. (2010). The service portfolio of a BPM center of excellence. In J. vom Brocke & M. Rosemann (Eds.), Handbook on business process management 2. International handbooks on information systems (pp 267–284). Berlin Heidelberg: Springer, doi:10.1007/978-3-64201982-1_13.

Rosemann, M., & vom Brocke, J. (2010). The six core elements of business process management. In J. vom Brocke & M. Rosemann (Eds.), Handbook on Business Process Management 1. International Handbooks on Information Systems (pp. 107–122). Berlin Heidelberg: Springer, doi:10.1007/978-3-642-00416-2_5.

Rummler, G. A., Ramias, A. J. (2010). A framework for defining and designing the structure of work.

J. vom Brocke, M. Rosemann (Eds.), Handbook on business process management 1. International handbooks on information systems (pp. 83–106). Berlin Heidelberg: Springer, doi: 10. 1007/978-3-642 00416terHofstede,A.,vanderAalst,W.,&Weske,M.(2003).Business process management: A survey.