Process Mapping in Practice

Henry Sempangi, David Cracknell, Madhurantika Moulick and Hermann Messan

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Acronyms used in this report

DQA	Domicile Quick Account – Tanzania Postal Bank's savings product
FINCA	Foundation for International Community Assistance
KPOSB	Kenya Post Office Savings Bank
MFI	Microfinance Institution
TPB	Tanzania Postal Bank
UMU	Uganda Microfinance Union

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Introduction

This paper summarises the experience that *MicroSave* has gained in process mapping through working with its Action Research Partners. It highlights key benefits, which can be achieved through process mapping. It presents brief case studies detailing the experience of Tanzania Postal Bank and Equity Bank in Kenya. Finally it provides tips on how to overcome common challenges faced during the process mapping exercise.

*MicroSave***'s Experience**: *MicroSave* has now worked with six of its eleven Action Research Partners and Action Research Associates to introduce process mapping and implement process improvements. Two of the remaining institutions, Teba Bank and Credit Indemnity already use process mapping extensively. In the final three institutions, process mapping has been used more selectively for new product development.

Benefits and Costs: Positive results have been experienced from all institutions that have introduced process mapping. Process mapping has had far greater strategic, management and operational impacts than suggested by simply reworking processes. Institutions have reported a significant number of "quick wins." This may reflect the prior absence of a mechanism to review processes holistically. Costs of implementing process mapping have varied considerably, from the time taken to map individual processes to much larger teams and greater institutional involvement required in mapping an institution.

Case studies: Two case studies are presented. Equity Bank reports improved risk management, standardised operations, improved training, enhancements in the banking system and customer service, but also notes the considerable challenges it has had to meet along the way. Process mapping at Tanzania Postal Bank has brought fewer definable benefits, but process mapping was also a much shorter more focused exercise than at Equity Bank.

Tips and Challenges: Using the experience of *MicroSave* in working through process mapping with its Action Research Partners, *MicroSave* has identified generic challenges at each stage of the process. It proposes strategies for managing these challenges. Many of the tips and challenges relate to ensuring that appropriate personnel are engaged at each step of the process mapping exercise, to ensure that sufficient skills and experience are reflected in the design of new processes.

As with other institutional interventions, communication is a recurrent theme in maximising the potential of process mapping – whether this relates to ensuring buy-in, process redesign, or implementation of new processes.

Institutionalising Process Mapping: Institutions that start by process mapping individual processes frequently end up mapping much of their operations. This is the greatest evidence that institutions value process mapping as a tool. In some cases the responsibility to update and maintain processes has been formally incorporated into job descriptions. One additional incentive for institutionalising process mapping is that it is a key component of international quality standards such as ISO 9001.

BRIEF INTRODUCTION TO PROCESS MAPPING[1]

Process mapping is a technique for making workflows visible. A process map is a flowchart which shows who is doing what, with whom, when and for how long. It shows how operational decisions are made and the sequence of events. Process maps are good for streamlining work activities and explain to new people, as well as internal and external customers, "what we do around here." They also can help in the effort to reduce cycle time, avoid rework, eliminate some inspections or quality control steps, and prevent errors.

Process mapping considers three states sequentially:

"**As Is**"   maps show how processes are currently being performed.
"**Should Be**"   maps show prescribed procedures, usually in accordance with the organisations policies
                        and procedures manuals.
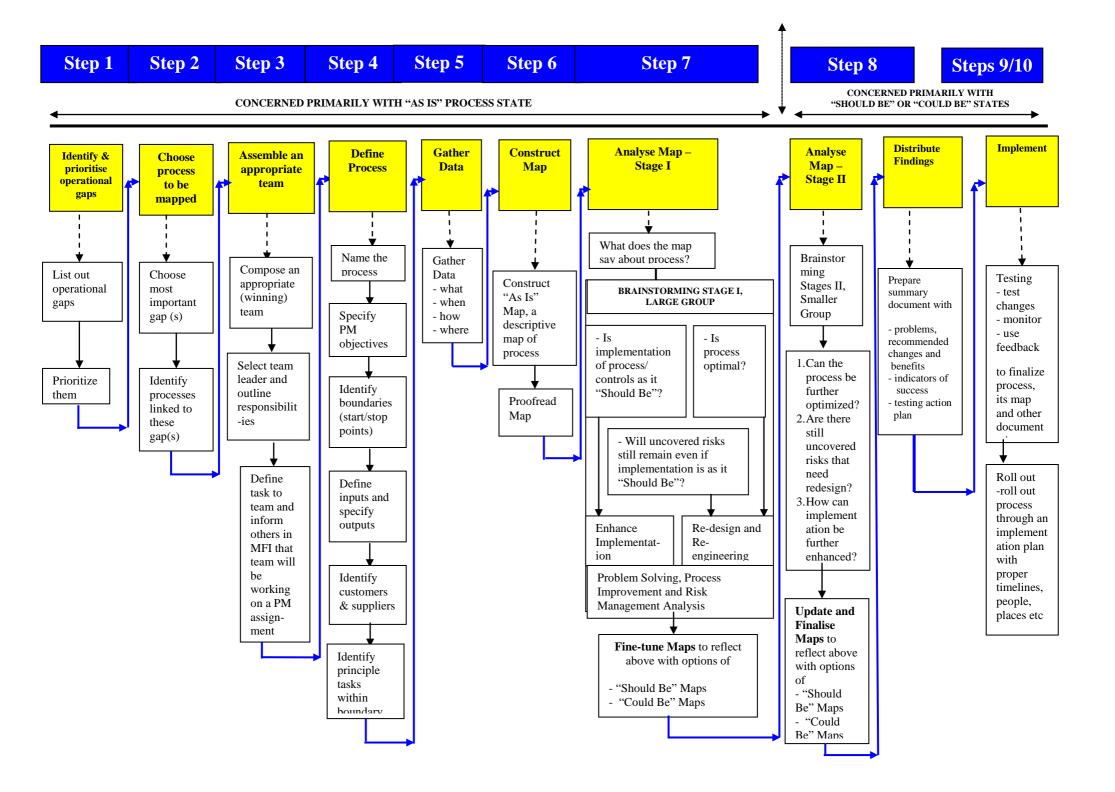"**Could Be**"   maps indicate how the procedures detailed in "As Is" and "Should Be Maps can be
                        redesigned to improve efficiency and reduce risks.

In each of the three states, *MicroSave*'s approach considers four levels of analysis. Firstly, the map itself, secondly, a brief description of the process, thirdly analysis of the risks involved in the process and lastly potential controls to mitigate those risks.

Properly used, process maps bring a strategic approach to process improvement and business management. *MicroSave's* process mapping exercises consist of ten key steps, which are outlined in the diagram overleaf.

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[1] Process mapping is described in detail in "A Toolkit for Process Mapping for MFIs" Champagne et al, (2004).

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Steps 9/10

CONCERNED PRIMARILY WITH "AS IS" PROCESS STATE

CONCERNED PRIMARILY WITH "SHOULD BE" OR "COULD BE" STATES

Identify & prioritise operational gaps

List out operational gaps

Prioritize them

Choose process to be mapped

Choose most important gap (s)

Identify processes linked to these gap(s)

Assemble an appropriate team

Compose an appropriate (winning) team

Select team leader and outline responsibilit-ies

Define task to team and inform others in MFI that team will be working on a PM assign-ment

Define Process

Name the process

Specify PM objectives

Identify boundaries (start/stop points)

Define inputs and specify outputs

Identify customers & suppliers

Identify principle tasks within boundary

Gather Data

Gather Data
- what
- when
- how
- where

Construct Map

Construct "As Is" Map, a descriptive map of process

Proofread Map

Analyse Map – Stage I

What does the map say about process?

BRAINSTORMING STAGE I, LARGE GROUP

- Is implementation of process/ controls as it "Should Be"?

- Is process optimal?

- Will uncovered risks still remain even if implementation is as it "Should Be"?

Enhance Implementat-ion

Re-design and Re-engineering

Problem Solving, Process Improvement and Risk Management Analysis

Fine-tune Maps to reflect above with options of

- "Should Be" Maps
- "Could Be" Maps

Analyse Map – Stage II

Brainstorming Stages II, Smaller Group

1. Can the process be further optimized?
2. Are there still uncovered risks that need redesign?
3. How can implementation be further enhanced?

Update and Finalise Maps to reflect above with options of
- "Should Be" Maps
- "Could Be" Maps

Distribute Findings

Prepare summary document with

- problems, recommended changes and benefits
- indicators of success
- testing action plan

Implement

Testing
- test changes
- monitor
- use feedback

to finalize process, its map and other document s

Roll out
-roll out process through an implementation plan with proper timelines, people, places etc

MicroSave's EXPERIENCE IN PROCESS MAPPING

After developing the process mapping toolkit, *MicroSave* worked with its Action Research Partners to introduce process mapping. The table below summarises the extent to which each institution has adopted the technique and how it has been used.

Table 2: Initial Application of Process Mapping by Selected *MicroSave* Action Research Partners

Institution	Processes Mapped	How Process Mapping was Used
Equity Bank	• Process mapped all processes from six departments	• Initially used process mapping to improve processes for better customer service • Transformed existing manuals into process maps, to make them more user friendly • Existing process maps are being used as a basis for risk analysis and compliance with the central bank requirements
Kenya Post Office Savings Bank	• Interest insertion in Passbook • Passbook replacement • *Bidii* product – all aspects • 31 new processes are being mapped at the time of writing this paper.	• Improve level of customer service • Improve and streamline processes • Improve the tracking of passbooks • Improve utilisation of staff • Documenting the *Bidii* product during product development
Tanzania Postal Bank	• Passbook withdrawals • Passbook deposits • Individual microcredit loans • End of day processes	• Improve the level of customer service for passbook holders • Increase speed and accuracy of end of day procedures • Improvements in micro-credit delivery mechanism
FINCA – Tanzania	• Loan approval processes • Working Capital Loan	• Defining processes for decentralised structure • Defining procedures for new products • Risk Analysis for existing and new products • Optimal utilisation of human resources
FINCA Uganda	• Individual lending • Savings • Back office processes • Front office processes • Procurement	• To increase efficiency and control costs • To improve field officer placement
Commercial Microfinance Limited – Uganda	• Ordinary savings • Duka loan • Statutory and management Reporting • Treasury management • Disaster recovery	• Improving the level of customer service • Used as a beginning for systems audit • Documentation of existing policies and procedures • To provide a base for risk analysis

THE BENEFITS OF PROCESS MAPPING

Action Research Partners have reported extremely positive results from process mapping exercise[2]. In many institutions this may reflect the prior absence of a mechanism to review processes holistically combined with the organic growth of processes over a long period of time. This suggests that major benefits can be obtained from a first round of process mapping and that subsequent benefits from process maintenance may be less. Benefits from process mapping are derived from improved, more efficient processes or processes which are better able to manage or control for risk. Such benefits operate at strategic, managerial and operational levels.

Strategic Benefits
Process mapping brings high-level broad based benefits to an institution. These benefits are explored in table 3.

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[2] To see if your institution can benefit from process mapping see the rapid self assessment test in Annex 1

Table 3: Strategic Benefits from Process Mapping

Area of Benefit	Strategic Benefit	How is this Achieved
Internal Audit / Risk Management	Improved audit function Enhanced control environment	Risks are quickly identified and adequate responses designed. Risk mitigation tactics and procedures are regularly monitored and assessed.
Human Resource Management	Improved allocation of human resources	Improved assignment of tasks between individuals; assessment of process related blockages often leads to reallocation of staff. More efficient use of staff through process improvement.
Standardisation	Consistent processes and procedures throughout the institution	Process Maps can act as reference points for day-to-day work as they are easy to refer to, read and understand.
Feedback Loop	Improved decision making	Properly drawn maps identify information flows to and from management and thereby can guide and improve decision-making.
Customer Service	Better client oriented operations and banking environment	By examining processes for bottlenecks, sources of delay, preventable errors, role ambiguity, duplications, unnecessary handovers and cycle time an institution will improve service levels.
Change Management	Informs change management	Highlights process and many non-process areas for change and provides a structure for process related changes to be tested.
Costing	More strategic use of resources	Particularly when process mapping is combined with Activity Based Costing it can enable an institution to make more strategic use of its resources.

Risk management: The systematic application of the process-mapping tool assesses potential risks and examines existing risk mitigation tactics. For Tanzania Postal Bank (TPB) process mapping was a first step in a holistic risk assessment exercise at the institution level. TPB assessed its credit program's internal control mechanisms. Detailed analysis of core loan disbursement and recovery processes helped the bank to identify risks within processes, determine risk drivers, evaluate impacts and come out with mitigation strategies.

Human resource management: The allocation of staff within a financial institution is often in response to particular operational requirements; for example, the need to perform passbook reconciliations at TPB led to gradual growth in the reconciliation department. Such organic growth in staff is not easily reversed when the immediate need is over. Where process mapping extends throughout an institution it can reassess staff requirements, redefine key roles and responsibilities and release staff for new duties.

Standardisation of practices: Unless well controlled processes are applied differently across an institution. Process maps can identify where and why this is happening. Careful analysis will allow the institution to select and apply the most appropriate procedures across the entire organisation. For example, U-Trust in Uganda recognised differences in the application of processes between its rural and urban branches, and was able to harmonise processes across branches. Key to achieving standardisation is careful communication of new procedures to staff, in Equity Bank process maps are posted on the intranet. Staff are then able to refer to the process maps if they are not sure of a particular procedure.

Feedback loop: The process-mapping exercise collects information through discussions with different actors involved in each process (clients, front office staff, middle and senior management, and external partners). It can be used to strengthen the feedback loop between customers and their concerns and senior management by examining how client based feedback mechanisms can be built into core processes.

Customer service: Process mapping can highlight additional costs borne by clients in accessing services. Client related costs can be financial or can include time spent in accessing the service, so called opportunity costs. Generally more efficient internal processes improve the quality of the institution's services and reduce opportunity costs. At times a simple reorganisation of the banking hall creates a customer friendly environment and provider easier client access to services. Process mapping

reemphasised poor customer service as a key issue for clients' dissatisfaction at KPOSB. To address this, KPOSB is implementing changes such as significant reduction of delays in passbooks related processes and recruitment of customer service officers for its branches.

Change management: Ensuring that processes are appropriate, customer friendly, efficient and manage risk covers aspects often addressed in change management programmes. Process mapping informs change management initiatives and is therefore best addressed during the early stages of a change management programme. To ensure that the impact of change management and process mapping initiatives are mutually reinforcing the senior manager on the process mapping team should be part of the change management team.

Activity Based Costing: A detailed understanding of processes, risks and efficiencies should reduce costs and/or increase profitability. Process mapping enables processes to be clearly defined and by standardising the application of processes it increases the relevance and reliability of Activity Based Costing. It also facilitates the creation of a detailed activity dictionary and can be adapted to produce many of the timings required to create cost drivers.

Management Benefits
Process mapping enables an institution to manage itself more effectively and more efficiently, through a range of management benefits. These are explored in table 4.

Table 4: Management Benefits of Process Mapping

Area of Benefit	Management Benefit	How is this achieved
Cost Control	Reduces product delivery costs	Increasing efficiency through the identification and elimination of duplications and/or unnecessary procedures while managing risk.
Banking/ Management Information Systems	MIS audit and improvement	Operations inefficiencies can be linked to MIS limits and weaknesses.
Staff performance	Increased ability to monitor and maintain performance levels	Enables staff performance to be monitored through rationalising tasks performed and by developing performance based indicators.
Staff training	User-friendly training materials	Flowcharts are easy to understand and to share across organisation.

Cost control: Process mapping enables procedure related bottlenecks and delays to be identified and removed. The clearest example of this is the introduction of new deposit taking procedures at Kenya Post Office Savings Bank (KPOSB) for their passbook based Ordinary Savings Account. Whilst no formal study has been carried out to quantify the cost saving, queues in crowded banking halls have been significantly reduced, and the delay in retrieving customers' records from the bank stores eliminated. For Commercial Microfinance (CMF) in Uganda the decision to simplify loan application procedures has not only saved CMF managers and clients' considerable time, but has reduced loan documentation costs. Cost control was a specific objective of process mapping for FINCA Uganda. FINCA has not seen an immediate reduction in costs but it has reported increased efficiency with an increase in both field officer caseload and portfolio outstanding and a consequent slow down in recruitment.

Banking and Management Information Systems: Mapping procedures highlights inefficiencies in the operation of Banking and Management Information Systems. It provides an excellent starting point for system audits. FINCA Uganda used process mapping to identify weaknesses in its current banking system and required improvements. This led to a more in-depth system audit, which will be used to finalise upgrades. CMF used process mapping to document and improve their disaster recovery procedures.

Staff performance: Process mapping can revolutionise assessment of staff performance. It enables the creation of performance standards by determining how long should a particular process take. Through encouraging consistent application of processes, process mapping makes it easier to identify staff that are performing beyond or below expectations. Thirdly, it improves attribution of performance through streamlining processes and removing excessive handovers.

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Staff training: As a visual tool, process maps can replace pages of text, and facilitate rapid learning. As such they are invaluable in training new staff or for retraining existing staff. Equity Bank is using process maps to train staff on new processes in the wake of transforming into a bank.

Operational Benefits

Beyond high-level strategic benefits and day-to-day benefits in managing a financial institution, operational benefits can accrue from process mapping. These are explored further in Table 5.

Table 5: Operational Benefits from Process Mapping

Area of Benefit	Operational Benefit	How is this achieved
Documentation	Rationalised documentation. Improved and more user-friendly manuals.	Identification and removal of unnecessary documentation. Flowcharts provide process oriented, easy to read and understandable procedure manuals.
New product development	More effective product processes	Engineering and refining processes to ease service delivery, avoid risks and overall system change.
Product and process knowledge	Improved understanding and implementation of products /processes	Through simplifying procedures and making product delivery more consistent and through using improved documentation for training and reference.
Maintaining service quality	Getting recognition and establishing quality	Following standard process, adhering to statutory requirements

Reduced documentation: Process mapping tracks documentation flows and provides an opportunity for management to assess the value of a document to the institution alongside the impact of documentation requirements on the customer. Most Action Research Partners have cited a reduction in documentation as a major benefit from process mapping. CMF has reduced its loan application documentation for small to medium sized loans, by consolidating information requirements into a single loan agreement. Account opening documentation has reduced from three forms and an account record card to one form and one record card.

Improved product and process knowledge: Streamlining, and simplifying processes, and improving training results in greater consistency in product and process knowledge. This has a range of downstream benefits that include greater consistency of service delivery and responses to customers' questions.

New product development: Process mapping enables new product procedures to be easily adapted from existing procedures or developed from scratch and changed easily before they are written into policies and procedure guides. FINCA Tanzania, have used process mapping extensively to develop and document new procedures around a range of individual lending products. U-Trust in Uganda used process mapping to develop procedures for their new open savings products.

Maintaining service quality: Service quality is enhanced through streamlining processes and reducing handovers. Furthermore, process mapping with a focus on risk analysis makes an institution strong and less open to events like frauds, defaults. It facilitates compliance with statutory or legal requirements.

MINI CASE STUDIES OF PROCESS MAPPING IN PRACTICE

The following case studies of process mapping in practice have been developed based on the experience of process mapping at Tanzania Postal Bank and Equity Bank in Kenya.

Process Mapping at Tanzania Postal Bank

Tanzania Postal Bank (TPB) was known in its market as a parastatal savings bank with full banking halls and poor customer service, but with the advantage of a wide network of branches and postal agencies. Faced with these problems TPB decided to implement process mapping on its core deposit and withdrawal processes. It identified a number of quick wins, which are presented in Table 6.

Table 6: Process Mapping Produces Quick Wins For Tanzania Postal Bank

Recommendation	Justification	Additional Action Required
WITHDRAWAL PROCESS		
1. Increase authorisation limits: - Teller Tsh. 100,000 - Supervisor TSh. 250,000 - Branch Finance Officer Tsh. 500,000 - Branch Manager Tsh.1,000,000 and above	This been tested successfully in one branch. It significantly reduces referrals of passbooks to the back office.	Increased audit supervision and customer feedback mechanisms.
2. Introduce queue management systems	This ensures customers are served on a first come first served basis.	Introduce queuing dividers/ropes where feasible.
3. Place note counting machines in busy locations	This reduces the time taken to count large quantities of notes.	Purchase note-counting machines for busy locations.
DEPOSIT PROCESS		
1. Deposit taking limits should be stepped up to be as follows: Tellers: Tsh. 500,000 Supervisor: BFO/RFO and BM/RM above Tsh. 500,000	To reduce the number of times a teller has to refer passbooks to the back office for authorization.	Increased audit supervision and customer feedback mechanisms.
END OF DAY PROCEDURES		
1. Two supervisors are involved in checking the teller's documents: - One supervisor checks the W/D slips and Journal Entry balance - The second supervisor checks the cash against the Teller Proof.	To reduce the time spent on end of day procedures and reduce staff stress and error rate and increase productivity.	Increased audit supervision and staff feedback mechanisms

Benefits of Process Mapping: Before introducing the new changes a passbook deposit would take 20 minutes and a passbook withdrawal would take up to 30 minutes, this time has been reduced to less than five minutes for both deposits and withdrawals. Policy manuals were out dated and were not being used as operational documents. TPB used the process mapping exercise to update policy manuals and the relevant process maps form part of the working documents for each staff. Branches had started adopting their own processes with the processes being followed in each branch heavily influenced by the experience of the Branch Manager. Lack of standardisation made it much more difficult to rotate staff between branches, as staff had to adopt new procedures in every new branch.

The new processes have resulted in improved productivity and increased staff motivation due to a reduction in workload. Tellers used to move out of their cubical frequently during transactions to obtain supervisor approvals. Studying transaction behaviour allowed TPB to increase teller limits and reduce teller movements. New processes combined with re-branding has enhanced Tanzania Postal Bank's corporate image. Improvements in end of day procedures have significantly reduced working hours for staff and have improved accuracy.

Challenges Experienced: Tanzania Postal Bank considered its policies and procedure manuals to be highly confidential documents. This sometimes restricted access to manuals from the actual implementers of policies leading to inconsistencies in the application of the procedures. During the data gathering process each branch presented its own procedures and the team found it difficult to prepare a definitive "As Is" process map. Determining the start and end points for each process was a challenge. The team responded by dividing the assignment into more manageable sub processes.

Lessons for the Industry: Pilot testing of new process maps helped in assessing the likely impact of the changes before rolling out. The success of the pilot test results formed the basis for rolling out new processes to other branches. However, while increased efficiency was achieved in areas that were process

mapped other procedures are still inefficient and require process mapping. Achieving the maximum benefits from process mapping requires the institutionalisation of process mapping.

The success of process mapping at TPB was due to the commitment that management showed towards the process, and their willingness to implement the changes. *MicroSave's* involvement in the process provided a valuable independent check, internal staff often lack widespread exposure to banking policies, or are hesitant to give recommendations that affect their Managers.

Process Mapping at Equity Bank

Why Process Mapping at Equity Bank: Since 1994, Equity Bank's focus shifted towards becoming an increasingly client focused microfinance institution. As a result between 2000-2004 Equity Bank experienced annual growth rates of between 50-90% in terms of client base, staff strength, deposit base and loan portfolio. This rapid expansion threatened service levels and by extension Equity Bank reputation for excellence. Furthermore, with a 350% expansion in staff levels within a three year period – Equity Bank was experiencing variable application of policies and procedures and increased fraud.

Given this background Equity Bank had multiple motivations for carrying out process mapping. Equity Bank needed to standardise processes and procedures and automate as many processes as possible to enhance control and improve efficiency. It had to perform risk analysis and introduce controls to mitigate risks associated with growth. It needed to develop and document consistent policy and procedure manuals. Through these changes Equity Bank expected to become more efficient, and increase accuracy whilst maintaining service levels in the face of continued rapid growth.

Managing Teams at Equity Bank

When Equity Bank decided to process map the entire institution, it quickly realised that this was a much more involving exercise than mapping an individual process. Establishing appropriate teams was key to the success. Teams were established with different responsibilities.

Functional Teams: End users of the process for example cashiers, or account opening clerks, who were required to create the "As Is" maps.

Working Teams: These teams composed of Branch Supervisors and Managers were established to critique the process maps developed by the various functional teams and come up with the final process maps of the procedures.

Management Process Mapping Team: Senior representatives from the major departments reviewed the "Could Be" maps and considered risks and potential process improvements.

External Consultants and Experts: External consultants with experience and expertise in banking, risk management and law reviewed the final maps to ensure appropriate compliance and risk management.

Steering Committee: Senior Management performed final review and approval.

Benefits of Process Mapping: The participatory nature of process mapping exercise (see box) at Equity Bank led to identification of many "quick wins", which included improvements in branch layout and enhanced customer service. Other benefits included:

- *Improved risk management*: Potential risks and risk drivers are identified before they can occur. Existing risks were assessed in terms of frequency of occurrence and impact, which led to the development of appropriate risk mitigation strategies and controls.
- *Standardised operations*: Standardised policies and procedures manuals were developed and standard forms introduced throughout the branch network. Process maps have been posted on to Equity Bank's intranet site to enable staff to check any procedures they are not certain about.

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- *Improved Training*: Improved training manuals and staff induction procedures were introduced, which have improved staff knowledge of Equity Bank's procedures and made it easier rotate staff within the branch network.
- *More effective Human Resource Management*: A detailed understanding of processes within the bank enabled the Human Resource function to develop a competency-based framework for key positions and to identify associated training requirements.
- *Optimisation of the computer system*: Changes to the banking software were recommended and made. Processes were automated wherever possible.
- *Enhanced customer service*: Improvements in transaction time were made in account opening, cash transactions (total cycle time) and in card issue. However, time with cashier increased due to additional controls being placed on withdrawals, see table 7 for details.

Table 7: Process Mapping Improves Cycle Times At Equity Bank

Activity	Pre-pilot	Post-pilot
Account opening	12.6 minutes	9.78 minutes
Cash transaction (time with cashier)	1.96 minutes	2.17 minutes
Cash transactions (total cycle time)	7.14 minutes	4.96 minutes
Magnetic cards – Card issue	1 month	2 weeks

Challenges Faced: As Equity Bank took up the process mapping assignment on a large scale it faced many challenges. There was uncertainty on the objective of the process mapping exercise - risk reduction verses the documentation focus of a previously aborted ISO 9001 certification process. Staff commitment grew gradually through the involvement of different departments. Available documentation such as existing manuals, job descriptions and branch organisation charts provided only background material for the process mapping team. This meant that process maps needed to be generated through a careful process of consultation and observations.

A separate team was introducing upgrades in the banking system during the process mapping exercise. This led to a series of iterative improvements for both teams. Setting system-based controls to mitigate risk was found to be particularly challenging. A balance had to be struck between making a procedure risk free whilst retaining efficiency.

Lessons Learned: Equity Bank's process mapping team was headed by a Senior Manager to ensure that appropriate decisions were made and to ensure commitment from Branch management, while including those involved with the process deepened coverage of risk and increased operational staff commitment.

Process mapping is likely to lead to recommendations which require considerable investment, in time and costs, in staff training, staff restructuring, recruitment, system updates etc. To realise full benefits from process mapping an institution must be prepared to commit significant resources.

STEP BY STEP - CHALLENGES AND TIPS IN PROCESS MAPPING
MicroSave's experience with its Action Research Partners has enabled *MicroSave* to identify key challenges at each step of the process mapping exercise, and to provide appropriate recommendations. These challenges and tips are summarised in Annex 2.

Step 1: Identifying and Prioritising Operational Gaps
Institutions used several sources to identify and prioritise operational gaps. Firstly, consideration of ongoing issues, many institutions had recurring problems that required concrete action; for example, long queues in TPB or extensive loan documentation at CMF. Secondly, an internal survey or report often raised critical issues; for example, decreasing profits, high incidence of fraud, and errors in client balances or records. Thirdly, institutions used unstructured sources such as feedback from clients and staff through suggestion boxes can identify chronic issues. Fourthly, operational gaps are often identified from initiatives undertaken to address a particular overarching issue, such as improving customer service.

Step 2: Choose Processes to be Mapped
Once gaps have been identified and prioritised careful consideration must be given to which processes to map. This can be particularly difficult where multiple processes are linked to an issue. For example, a

range of issues can cause poor customer service. Such situations may require mapping a number of processes together – this can only be determined by considering the extent of the problem. In other cases there are common processes that need to be mapped. Common processes can be linked to multiple products; for example, a common account opening process for all the different savings products, or a common loan disbursement process for different loan products. U-Trust wanted to map liquidity management, but found that this was an element within many other processes. As a first step U-Trust had to determine the key processes to map which had the greatest influence on liquidity management.

Step 3: Select People for Process Mapping Exercise
The composition of the process mapping team had a direct bearing on the quality of the work produced. Except in one institution, which fielded a very large team, approximately four people worked in a core team to produce maps – with the more extensive process mapping exercises taking place over a longer period of time. Team members were generally from head offices and were not implementers of the process being mapped. For example, for withdrawal or deposit processes, cashiers or supervisors were not part of the team, but supported the core team by providing information. Having a member of senior management as a core member of the team increases the likelihood of the recommendation being accepted by management, but carries the risk that the senior manager is not able to commit adequate time to the assignment itself. The responsibilities of the team leader should be carefully defined.

FINCA Uganda adopted an alternative approach - they hired a consultant certified by *MicroSave* in process mapping to train staff members in process mapping and to guide them through the creation of the first few maps. After this the consultant visited twice more to review and validate maps that had been created. In the interim period FINCA Uganda brought together senior management to review the maps on a weekly basis. Whilst employing a consultant was expensive it clearly focused management attention. The other challenge that FINCA Uganda reported was the difficulty in putting together a team. Process mapping is an intensive process, which typically removes the core process mapping team from their day-to-day tasks, for a period lasting from one week to several months. During the process itself the team interviews front line staff extensively pulling them from their positions for several hours at a time. Careful co-ordination is required.

Step 4: Define the Process along with Process Mapping Objectives
Process mapping can have many objectives, but there are several that consistently stand out. Firstly the desire to improve the efficiency of processes, either increasing processing speed and/or decreasing process cost; secondly the need to reduce or manage risks by reworking control mechanisms and /or handovers; thirdly the desire to respond to increasingly competitive markets by improving service levels.

While the process mapping toolkit talks about the importance of having a core objective an outdated process often responds to multiple objectives i.e. it can be made more efficient, and lower risk. During the process of process mapping, many other factors are likely to emerge, for example, negative staff attitude, inter departmental communication breakdown and inefficient use of resources. It is important that the process mapping exercise is designed to capture these collateral benefits. This is clearly demonstrated by the example of CMF below.

Commercial Microfinance: Capturing Non-process Benefits

Commercial Microfinance (CMF) found that they were experiencing weaknesses in risk management and disaster recovery after years operating on the same lending procedures. CMF decided to use process mapping to strengthen risk management and disaster recovery, to develop training manuals and to document system weaknesses prior to the introduction of a new banking system.

Through process mapping, CMF determined that they could significantly rationalise loan documentation and procedures, but that this should be done in stages to allow changes to be tested and to allow staff time to get used to the new processes. A reduction in loan documentation requirements and a change in appraisal procedures increased speed of appraisal and improved customer service.

> Whilst CMF benefited directly from process mapping lending procedures, the team made observations during process mapping which indirectly related to the processes being mapped. Whilst these were not the focus of the exercise, the observations were documented and recommendations made. These observations led to the introduction of improved signage for customers and customer notice boards, digital cameras being used to take client photographs and the introduction of queue management systems.

For interlinked processes the main process could be mapped along with sub processes as part of the same map or sub processes could be mapped separately and simply referred to in the main map. The choice depended on how elaborate the sub process was and its relevance to the core process.

Step 5: Gather data – What data, from Where, When and How?
To map a process completely it often needs to be studied from various perspectives. This is because it is unlikely that any one individual has complete and detailed knowledge of the process as it is operates along with experience in risks and controls. A range of tools were used to gather data which included:

Interviews with staff: To detail the process being mapped;
Interviews with customers: To determine areas where processes adversely impact on customers;
Direct observation of processes: To directly detail processes or to confirm processes operate as discussed during an interview. To time processes to observe where process delays occur;
Review of internal audit reports: To determine areas where processes have control weaknesses or are applied inconsistently;
Reference to existing manuals: To construct "should be" maps; and
Reference to job descriptions: To determine the overall responsibilities of a member of staff, as their performance in a particular task is influenced by other tasks being performed.

The most common data collection method was interviewing staff. Staff being interviewed should be carefully briefed that the purpose of the interview is to obtain a picture of the process as it is actually happening. Often staff are aware of how the process should take place and without careful briefing tend to detail the "should be" process rather than the process that actually occurs. Secondly, a briefing ensures that the interview focuses on the selected process, its documents and consideration of the most likely risks.

Process mapping is very involving. A map of a single process can take several days to complete. This may require several interviews, often with the same person, each lasting several hours. This has several implications. Firstly, branch or department managers need to be briefed on the importance of the process mapping exercise. Secondly, support for the exercise from senior management needs to be well communicated to middle management before the process mapping exercise starts.

One person should conduct the interview, whilst a second person takes notes. This approach allows the interviewer to continue interviewing without pausing to take extensive notes – making the interview shorter and the interview process less disjointed. The key issues and the sequence of the interview should be discussed between the two interviewers prior to the interview.

It often helps to ask the interviewee to list all of the documents used in a process at the beginning of the interview, where possible the interviewee should provide a copy of the documents / files used. This approach helps in two ways: to ensure that all documents used in the process have been taken into account and secondly, to determine what information is being collected and to compare it with the information that is actually being used for that process.

Careful consideration of how documentation is used frequently leads to recommendations to reduce paperwork or avoid unnecessary process delays or handovers. For example, in FINCA the loan disbursement process had details of client dropouts, which are essential for the institution, but not a pre requisite for loan disbursement.

Observations in banking halls and back offices to actually see the process can help to identify additional risks. At one institution observation of tellers led to the discovery that cash was left unattended, and accessible whilst tellers sought approvals from supervisors.

Branches selected for observations should be considered representative of the institution. If the best or worst branch is selected, the recommendations given are often relevant for those branches and not for the institution as a whole.

Step 6: Construct "As Is" Map
A key challenge for processes that involve many documents and decision levels is to construct the "As Is" map in a way that retains visual clarity on the core process. This can done using a file symbol to represent a collection of documents; for example those that comprise an individual loan file. Repetitious checking processes are often best included as a sub-process which is recorded on a separate page using an off page connector.

In a larger team of people mapping processes across an institution, determining and maintaining common standards is a common issue. Without standards being rigorously applied every person drawing a process map will construct the map differently. Common areas of variance include:
- Choosing what symbols to use for uncommon activities
- Deciding the level of detail at which to analyse sub-processes
- Recording the flow of documents, whether this is on the line of the process or from the activity boxes.
- The extent and placement of text on the map itself
- The degree of detail in the description that accompanies the map

Step 7: Analyse Maps "As Is" Map
Once the "As Is" process map has been drawn and described it needs to be carefully analysed to ensure a) that processes operate as described, b) that if necessary, two or more "As Is" maps are drawn to describe different versions of the process operating in different places and c) that risks within processes are correctly identified.

Many methods of validation are possible, these include walkthrough testing – performing the process as described in the map. Observation – observing the process as it happens and comparing it to the map. Document validation – ensuring that every document has a start and finish point and does not simply disappear from the map! Multiple review – ensuring that the maps are reviewed by several different managers and staff. Internal and external auditors can also perform important reviews at this stage. Maps will change over time, and multiple versions of a map may exist over time – so be sure to date the map and include a version number.

Process mapping needs to be given sufficient time and resources if representative maps are to be drawn and analysed. One respondent replied that he had difficulty in analysing maps because the team was too small to spot key weaknesses in the process. "It was difficult to get enough time from some senior managers, so we consistently had to fall back on the core team – so we did not produce the best results."

To ensure best results analysis of "As Is" maps should be a participatory process. While performing risk analysis inputs should be taken from those operating and supervising the process and also those who are indirectly related to it. Senior management must be involved as they have a responsibility to maintain a balance between control and functionality. Internal audit maintains overall internal control and must be involved as should the risk manager. Risk managers are managers who are responsible for managing specific risks – e.g. the credit manager who "owns" credit risk must be involved in risk analysis on credit products.

Several Action Research Partners reported difficulties in analysing operational risks. These difficulties resulted from several causes. Firstly, the fact that team members often lacked experience in identifying risks. Secondly, some institutions found it difficult to obtain sufficient input from internal audit. Thirdly, while risks could be identified it was particularly challenging to obtain information on the incidence of that risk occurring – this was needed to determine whether the risk was a theoretical risk, or an actual

risk. In the words of one respondent "The determination of whether we could live with a particular risk is very difficult if we can not easily determine the incidence of the risk occurring."

Step 8: Analyse "Should be" and "Could be" Maps
Whilst introducing changes can result in quick wins and/or long-term benefits, the cost involved in introducing those changes needs to be considered. While every financial institution faces risk, a risk free institution is neither feasible, nor desirable.

While constructing the 'Could Be" map recommendations may be rejected if too many new aspects are introduced at the same time, or if they require significant change, or additional cost such as investment in infrastructure. In theses cases a phased approach may be the most appropriate, with changes prioritised, then tested and introduced over time. For FINCA Tanzania extensive changes were recommended in loan processes. FINCA Tanzania decided to implement changes gradually and in accordance with their existing change management initiatives. This meant in practice that easier recommendations, such as clarification of responsibilities and increases in teller limits would be implemented first.

In other cases, 'Could Be' maps may be very similar to 'As Is' maps, but descriptions of the process may change. Some parts of the loan disbursement map in FINCA Tanzania remained unchanged, though descriptions changed as the detailed activity at each step was better defined. Improved process descriptions aid consistency in training and in the application of procedures.

Step 9: Summarise and Distribute Findings
It is important to share the findings with the senior management in the institution. This is not the stage for extensive consultation, as this should have occurred during the analysis stage. However, it is a critical decision making point. Many of the senior management team are not directly linked to many of the processes, and will need thorough briefing before approving any changes, or approving a pilot test.

To ensure widespread buy in the findings should be presented with reference to all the basic steps in the process, rather than just presenting the "Could Be" process map. The findings of the analysis should be presented in a matrix of recommendations, which summarises the key observations and recommendations from the whole initiative. Tanzania Postal Bank's process mapping team went further and made recommendations on the pilot testing approach, pilot test branches, and the budget necessary for the pilot test.

Questions that naturally comes up at this stage, which senior management and the process mapping team need to consider carefully, are which changes should we implement directly, which require pilot testing, and how can we institutionalise process mapping. The next two sections will provide some suggestions.

Step 10: Getting into Action – Testing Out the New Processes!
Process mapping ends with pilot testing the 'Could Be' processes. The pilot test needs to be well planned with the team, location, dates other resources identified and arranged for. The implementation of new processes needs to be closely monitored to ensure that staff do not revert to previous procedures. A well-coordinated pilot test makes the process of transition smooth, increases acceptance and generally leads to success.

Table 8: Implementation of Process Mapping at TPB

Activity	Responsibility	Time frame
Present process mapping report to the Management.	The team	One day
Ensure all the necessary requirements are placed at the pilot branch.	Branch Supervisor	Three days
Train pilot branch staff on new processes.	The team	Three days
Pilot test new processes at pilot branch.	The team	Two months
Continuous monitoring of the location.	The team	Continuous
Conduct a mid term review of the pilot test.	The team	Mid way through the pilot
Presentation of the pilot testing report to management plus drafting rollout plan.	The team	End of Pilot test – two days
Rollout of revised processes to other locations.	The team	One month.

However, many institutions reported that they did not test many improvements to their processes. For example, Commercial Microfinance Limited did not test the introduction of their new forms, or the introduction of digital cameras. FINCA Uganda did not test the re-zoning of groups among field staff. This raises an important question, which we are still trying to answer - *when should processes be tested*?

One relevant distinction is between *process improvement* and *risk management*. Under pure process improvement a way has been identified of improving the process with very limited or no risk – for example introducing digital cameras to take photographs of customers for account opening. Under risk management a *qualitative* decision has been taken on how a process should be performed to *balance risk and performance*. An example of this would be to significantly change teller limits on withdrawals – before moving ahead to rollout the new teller limit an institution will need to consider whether there has been any change in levels of fraud and error.

Institutionalising Process Mapping
Most of *MicroSave*'s Action Research Partners started by mapping one or two processes, but have gone on to map much of their institution. CMF started by mapping their Duka Loan process. After seeing quick wins, they immediately started to process map their savings processes, treasury management and management reporting. After FINCA Uganda was exposed to process mapping it approached a donor to fund a *MicroSave* Certified Service Provider in process mapping to provide quality control as they proceeded to process map their entire institution. Equity Bank, which had earlier developed process maps to improve processes decided to re-examine all their process maps to improve risk management.

The aim of the institution should be to develop long-term capacity to maintain and update process maps. Process mapping has been institutionalised when:

  a) Procedures for new products and services are produced using process mapping
  b) Procedures are regularly reviewed in the light of institutional developments such as new frauds or increased workload
  c) Changes to procedures are automatically updated on process maps
  d) Process maps are used widely within the institution for process improvement, training, risk management and for documentation
  e) Skills in process mapping are highly developed within the institution
  f) A long term team has been created with the express task of maintaining process maps
  g) The scope of the process mapping team moves from developing maps to maintaining them
  h) Tangible benefits have been gained from mapping processes.
  i) Process mapping delivers the basic requirements for a quality management system such as ISO 9001.

Whilst core gaps had been identified in the first round of process mapping exercises, several institutions had already identified additional processes they wanted to map. In two cases (CMF, and FINCA Uganda) the operations department had been identified as the department, which should have responsibility for continuing to develop process maps. TPB is still making a decision where to house ongoing responsibility for process mapping. In part this is because the process mapping team was comprised of senior managers from different departments who do not have time to continue participating in the team. TPB will need to train additional staff in process mapping in order to institutionalise the skill set within the bank. One institution has formalised responsibility for process mapping. It has built review of process maps into the annual work-plan of the operations department. However, it is about to lose a key member of operations management who has been trained and is experienced in process mapping. Key to long-term institutionalisation is ensuring that there is a sufficient reservoir of skilled staff to continue to maintain process maps even when key staff leave.

The Relationship Between ISO 9001 and Process Mapping
It is worth a short aside to explore the relationship between ISO 9001, an internationally recognised international quality standard and process mapping, because the relationship is so strong. According to David Hoyle (Hoyle 2002), if ISO 9001 were to be resolved into a single requirement it would be

"The organisation shall determine what it needs to do to satisfy its customers, establish a system to accomplish its objectives and measure, review and continually improve its performance."

Process mapping is a core element in designing efficient and effective systems, and can be used to identify key performance indicators. Again according to Hoyle the generic requirements of ISO 9001 can be condensed into the following five simple requirements. The organisation shall:

- Determine the needs and expectations of its customers and other interested parties;
- Establish policies, objectives and a work environment necessary to motivate the organisation to satisfy these needs;
- Design, resource and manage a system of interconnected processes necessary to implement the policy and attain these objectives;
- Measure and analyse the adequacy, efficiency, and effectiveness of each process in fulfilling its purpose and objectives; and
- Pursue the continual improvement of the system from an objective evaluation of its performance.

Hoyle 2002

The primae facie differences, between ISO 9001 and process mapping, therefore, appears to be a) an explicit focus on the customer in ISO 9001, which is an explicit objective of many of *MicroSave*'s Action Research Partners, b) continuing to measure the effectiveness of each process, and c) a commitment to continually assessing and improving the system as a whole.

It would appear, therefore, that effective institutionalisation of a process mapping function within a financial institution can be a key step towards achieving an international performance standard; where process mapping develops and maintains well-documented procedures, produces key performance measurements and is part of a focus on continuous improvement.

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Annex 1: Rapid Self Assessment of Potential Benefits of Process Mapping

MicroSave has found that most financial institutions gain from carefully reviewing policies and procedures. From this experience a list of common problems alleviated by process mapping can be identified. Senior managers can complete a rapid assessment tool to indicate how much their institution may benefit from process mapping.

To see how much an institution might benefit from process mapping Senior Managers can complete the following rapid assessment tool. Using a scale of 1-5 where *1= Never 2=Rare 3=Sometimes 4=Often 5=Very often*, senior managers should ask themselves how much their institution experiences the following problems…

Table 1: Common Problems Alleviated By Process Mapping

Problem	Score
Out of date policies and procedures	
Policies and procedures inconsistently applied	
High levels of fraud	
Long queues in banking halls	
Insufficient or inadequate training on policies and procedures	
Frequent delays within processes	
Lots of staff or client complaints around procedures or processes	
High operational costs	
High levels of stress within the institution	
Highly competitive market/environment	
Communication problems within the organisation	
Long working hours with overtime being common	
Performance targets not identified or targets not reached	
TOTAL	

The higher the score the more likely the institution is likely to benefit from process mapping. Scores less than 20, suggest that benefits from process mapping are likely to be more limited.

Annex 2: In Summary - Tips and Challenges in Process Mapping

Step	Challenges	Tips
1. Identify and prioritise operational gaps	There are often competing views depending on the different priorities of team members and a lack of perspective on larger institutional issues by middle management.	Involve senior management in identifying institutional issues and assigning priorities.
	Misidentification of operational gaps - manifestations mistaken as cause of problem.	Collect views on operational gaps from different sources, observe signs of stress and collect feedback from customers, front line staff and management.
	Ensuring potential innovations are market focused.	Study your competitive environment for emerging process innovations.
2. Choose Processes to be Mapped	Mapping too many processes can lead to deviation from core objectives and loss of the strategic picture.	Attempt process mapping in phases according to identified priorities.
	Identifying relevant processes is difficult when many processes are interlinked and involve other sub-processes.	Ensure involvement of senior management and internal audit to make the most informed decisions possible.
3. Assemble an appropriate team	It can be a choice between a dedicated team to map all process maps or a representative team based on objectives for process mapping.	Initiate process mapping with limited objectives, to map one or two procedures before deciding on if and how to institutionalize process mapping.
	Team fails to produce high quality maps quickly.	Team should be headed by a senior manager.
	For a dedicated team, it is difficult to maintain interest in drawing maps.	Ensure team members have time away from other responsibilities so that they can concentrate on learning processes and drawing maps. Ensure that the process mapping team consults widely and uses a variety of techniques to gather data for maps. Consider mapping distinct functional areas and moving to pilot test to produce a stream of ongoing benefits to motivate team and provide variety. Use software to automate drawing maps.
4. Define the process along with process mapping objectives	Closely inter-linked processes make it difficult to determine the start and end points of a particular process.	As far as possible use the identified operational gap to determine start and end points for process mapping.
	Sometimes difficult to determine in which process operational gaps exist.	This leads to the requirement to map a number of processes.
	The process maps are often long involving many linked or sub processes.	Without taking too many shortcuts, determine the appropriate level of detail for the maps and use text to fill in any gaps.
5. Gather data – What data, from Where, When and How	So much information is collected that it is easy to loose focus on the core process.	Adhere to process and document flow when interviewing to ensure focus.
	Difficulty in getting responses from key staff.	Ensure Senior Management commitment to and leadership of the process mapping exercise.
	People tend to describe processes as they "should be" occurring rather than as they occur.	Ensure there is a triangulation process built into the process mapping exercise, which uses a variety of methods including observation to develop the maps. Investigate inconsistencies.
	Where there is a lack of uniformity across branches deciding which map should be used for analysis.	Ask management key questions (see text) before recommending specific branches to map. Identify any major variations and map alternate processes.
	Inconsistency in the development of process maps.	Sharpen the interview skills of team members (see process mapping toolkit).
6. Construct "As is" Map	Duration of activities varies significantly.	Needs to be validated through observation and a range of values can be given.

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Step	Challenges	Tips
	Team members sometimes find it difficult to use flow-charting software.	Try to select some team members that are familiar with a range of software packages as flowcharting software such as Microsoft Visio is intuitive for an experienced computer user.
	Duplicate/triplicate copies of documents are easily omitted from process maps.	Ensure documents are accounted for when they enter and leave the process. Ensure accuracy through observation and explicit questions concerning copies of documents. Follow up any inconsistencies.
	Sub processes/parallel processes are often not described. Sequence of activities or small sub processes may be lost if the interview is unstructured.	Level of details to be in line with objective of the process mapping exercise. Document common sub-processes once with a connector to the sub-process. Ensure maps are validated fully.
7. Analyse Maps "As is" Map	Unnecessary or unclear approval processes.	Look at each decision point for authority ambiguity (often with two or more people involved).
	Repetition of processes.	Look at each rework loop for the potential for eliminating the step, performing it in less time.
	Analysis sometimes fails to bring anticipated customer benefits or is poorly performed after the more time consuming task of constructing the "As Is" maps.	Allocate time, resources of team members and senior staff for analysis. Consider whether the step adds value from the customer perspective.
	Ensuring "As Is" maps represent actual processes being performed.	Inputs should be taken from those who are an integral part of the process and also those who are indirectly related to it.
	Lack of adequate skills to analyse maps, and / or lack of institutional buy in.	Present "As Is" maps to a workshop, and let senior managers identify risks and opportunities for improving efficiency.
8. Analyse "Should be" and "Could be" Maps	Poor quality and availability of manuals for developing "Should Be" Maps.	If manuals are very outdated and there has been significant drift away from " Should Be" procedures it may not be worth developing "Should Be" maps.
	Limited practicality of some changes.	Focus on the core objective. Strike balance between developing efficient systems and managing risk. Take inputs from those who are an integral part of the process.
9. Summarise and Distribute Findings	Failing to summarise key issues from details of process mapping exercise.	Summarise key issues in a recommendation matrix format as this documents observations, implications and recommendations. Focus findings on process mapping objectives.
	Gaining acceptance of proposed changes is sometimes challenging.	Present recommendations in a workshop not by distributing documents. Share the recommendations and suggest changes rather than announcing them as decisions taken by the process mapping team.
10. Getting into action – testing out the new processes!	Failure to successfully implement changes in procedures.	Commit resources to pilot testing significant changes in procedures. Develop and monitor action plans with those responsible with deadlines.
	Acceptance of changes especially for those who were not involved in the process mapping exercise.	Ensure Senior Management is seen as driving the process mapping exercise and that the institution performs careful testing of the new procedures for practicality and security.
	Awareness of improvements may be limited decreasing acceptance of changes.	Obtain pre pilot data for comparison with pilot test data.