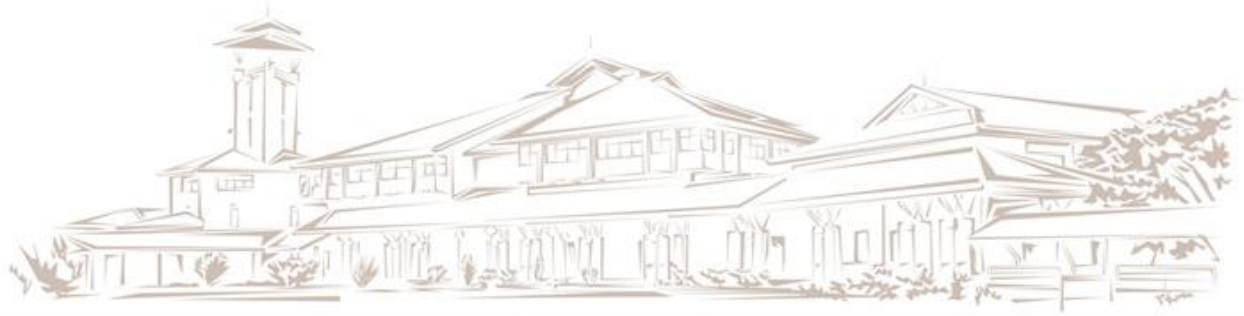


"A man is  
great by  
deeds, not by  
birth"

-Chanakya

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**Working Paper**

**IIMK/WPS/281/FIN/2018/25**

**May 2018**

**The case of a rural branch of an Indian Public Sector Bank:  
Innovation through Learning and Thinking Lean with a  
Managerial Performance Perspective**

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Abstract:

The Indian Public Sector bank's drawback includes cost per employee and inflexible operating procedures. This paper for the first time confirms application of innovative lean thinking process to this service sector through 'value stream mapping' during the phase when banks started with upgrades. The results were efficiency improvements through lower wait time, stress levels, besides increased customer satisfaction, profit, and business. The paper concludes that financial services renovation can be a catalyst for change, but demands coordination with other areas to maximize operational efficiency through redesigned resources and capacities, accurate and improved understanding of variation, demand and costs, to make decisions about service mix with policies.

Key words: Innovation in finance, lean thinking, Indian Banking, Value Stream Mapping

Under the Themes: Innovation in Finance/ Indian Banking

## **Introduction**

An objective of Bank's effectiveness is financial performance measure. Nevertheless, this traditional financial performance measures do not provide a complete representation relating to managerial performance. Merchant's (1998) study disparaged these measures for behavioral dislocation, shortsightedness, budgetary slackness and data exploitation. Eccles and Pyburn (1992) argue and claim that these financial performance measures are internally oriented, do not provide any information on customer's contentment, and organizational wisdom, or any guidance to future actions.

Besides that, there is no involvement of the top management in it since these measures communicate the results of the decisions taken at the Bank's branches, the unit level, and the operations level. Though traditionally the literature has always supported the view on the use of financial performance measures in evaluating the performance of the managers and communicating financial objectives of the organizations, Johnson and Kaplan (1987), questions the ability of these measures for internal performance measurement and evaluation as they are based on accounting information for external financial reporting purposes. However, in a Public Sector Bank (PSB) these measures are in consideration for performance measurement.

In US, there is now a call for an expansive position of performance measures because US corporations found their performance lower than Japanese counterparts who focus more on customers' satisfactions, and advanced technology (Hayes and Abernathy, 1980). While Kaplan (1983) argues for better performance measurement using non-financial indicators like measures for quality, flexibility and delivery performance, McNair et al. (1990) argue that non-financial performance measures are necessary for operational control purposes.

Whereas, Cooper and Kaplan, 1991 sites the progress of advanced management techniques, such as lean production, creating the need for non-financial performance measures, Neely (1999) says that the quick progress in IT has smoothen the process of presenting and analyzing financial and non-financial performance measures. Hatem (2001) quote that the literature on contingency theory not only suggests that the organization size may affect the design of organizational structure and the use of management control system but it also examines the relationship between contingent variables, the use of control and performance measurement system and organizational effectiveness.

Finally, Kaplan and Norton (1992, 1996) and Hoque and James (2000) suggest that financial objectives and, performance measures differ across the stages of a business life cycle, and that financial objectives in the sustaining stage focus on traditional financial measures whereas organizations with products in the early stages of product life-cycle tend to place less emphasis on the use of traditional financial control tools, and that improving customers' satisfaction, innovation and learning and internal business eventually lead to improving financial performance in the future period.

In addition, Hatem (2001) concludes that greater the perceived environmental uncertainty, the greater is the likelihood of integration of 'financial performance measures with non-financial performance measures' through innovative measures with a final measure of effectiveness being a mix of objective-financial and subjective-non-financial measures. Our purpose of mentioning the above studies is to show the importance of performance measures that are used and its effect that have or can have on the performance of a branch manager or unit level staff of a PSB.

Today business success is all about the necessity of having the knowledge of how a business is operating and performing. It depends on accurate, detailed information about the true costs of doing business to illuminate the links between long-term strategies and day-to-day decision making through a insight into best practices in management accounting, by optimizing profitability and pricing, improving shared-service costing, implementing predictive and performance-based planning, enhancing capacity, asset and resource management.

In other words, we get the organisational success through the effective execution of strategy using business performance management through identifying and mapping the cause-and effect relationships of business drivers and outcomes leading to the seamless fusion of strategy, operations and finance. To drive and sustain business for long-term success, management reporting and decision-making need to be based on balanced financial and non-financial indicators. This finance transformation as a catalyst for organisational change, as part of strategic approach, demands a coordinated collaboration with other areas of the business to maximize operational efficiency through process innovation.

Schumpeter defines process innovation as 'the introduction of a new method of production, that is, one not yet tested by experience' (Schumpeter 1911, as cited in Archibugi et al. 1994). Process innovation, is improvement in the process through process reengineering, is a source of competitive advantage an important source of increased value. The most important organisational determinants that have been used in more than one study and available in the literature are the size of the firm, profit, intensity of the capital , diversification, exports ( not applicable in our case), ownership and technical knowledge and its relations with process innovation which have been contradictory to each other.

Similar, is the case with important environmental variables related to process innovations like concentration, technical opportunity, competition, appropriability conditions and growth of demand. We cite a few instances in table 1. These studies have not lead to any confirmative directions, at the same moment; the most important thing that is missing here is the innovation in management process. Besides, small bank branches which are the unit level of a comparative organizations have situations like very little profit, non-existing market opportunities, less interest bearing priority sector loans, less staff, back in technology, low business but more work leading to high cost per employee, inflexible operating procedures, an orthodox hierarchical SOS culture with no place for business cyclicity or individual branch's set up.

The result is a tight expenses budget with not many places to cut cost. The only way out is to be creative to find waste where none exists as it is the cost, which drives the profit. And, in the Public banking service sector, if this happens, then it can also be confirmed that there is a connection between products, product life cycle stage and process innovation if we work with management innovation in the banking service sector.

Table 1: Determinants relations with process innovation.

Determinants		Relation with process innovations
Firm size	Lunn (1987)	Positive
	Cabagnols and Le Bas (2002)	Negative
Profit	Lunn (1987)	Positive
	Zahra et al. (2000)	Inconclusive
Capital	Lunn (1987)	Negative
	Martinez Ros (2000)	Positive
Diversification	Lunn (1987)	Positive
	Zahra et al. (2000)	Negative
Ownership	Martinez Ros (2000)	Negative
	Baldwin et al. (2002)	Positive
Technical Knowledge	Ettlie et al. (1984)	Positive
	Freel (2003)	Inconclusive
Competition	Martinez Ros (2000)	Negative
	Baldwin et al. (2002)	Positive
Growth of demand	Lunn (1987)	Inconclusive
	Martinez Ros (2000)	Positive
Concentration	Lunn (1987)	Positive
	Kraft (1990)	Inconclusive
Technological opportunity	Lunn (1987)	Positive
	Martinez Ros (2000)	Negative
Appropriability conditions	Cabagnols and Le Bas (2002)	Negative
	Baldwin et al. (2002)	Inconclusive

Toyota's lean management identified seven major types of non-value adding waste of which equally applicable to the banking service industry are:

- Waiting by employees, waiting of services for further process, or by customers for services and final tangible product,
- Unnecessary movements of goods,
- Over processing includes defects,
- Excess inventory of papers,
- Unnecessary movements of employees, and
- Unused employee creativity (by not listening to them).

At the same time, it is important that we summarize some of the important management processes practiced in large organizations across the globe, which are very much relevant to the Indian Public Sector Bank. Today, business equations have changed from  $\text{Sales} = \text{Cost} + \text{Profit}$  to  $\text{Profit} = \text{Sales} - \text{Cost}$ . Public Sector Banks (PSBs) are yet to start thinking in this term, budgets of course is given, but are not market reality based, employee rewards are still based on profit. The pressure is on the branch who cannot go with the principle of using only the profitable products and ignoring the other services (they were nationalized with a social cause), so what a Branch Manager needs to do is to manage cost, manage quality and speed of doing things in a continuous dynamical way, if it wants to be rewarded within the given financial performance measures. Yet many constraints still exist that come in his/her way.

Standard Operating Procedures (SOPs) no doubt are equally important. Banks survive on them because they have all checks and systems in place to do different processes in particular way. When a new employee join a bank he/she is given the SOP manual for his/her process, and from which he/she learns how to do certain acts, and handle certain performance requirement. However, SOPs are a fixed and a rigid way of doing things. When creativity is not an essential job requirement, SOPs are the best way of getting things done in a systematic way irrespective of the people doing it. SOPs are authorized written procedure giving instructions of performing operations.

SOPs can be effective for operations like handling inquiry, managing delivery, making payment, or welcoming customers and attending them in this service industry. The problem with PSB is the individual branch set up, vouchers per day, technological effect, with no place for creativity, vision and mission, and are mostly on inertia based functioning with a non-trust based rigidly hierarchical SOS culture with the fear of accountability, a bad grievance system that takes many years to settle a simple case.

Having dozens of computers and classy cells may make a firm tech savvy. However, using technology in itself means nothing. The key is how usage of technology is making better utilization of resources, which in turn improves costing and better product pricing. Thoughtless unconnected technology initiatives will yield nothing; customer focused technology programs will keep business competitive. Usually PSB are using a technology that is most of the time not user friendly or exactly not meeting the purpose. One single cash transaction sometimes takes as much as 20 minutes. At the same time, paper work more or less has remained the same.

Wow is an expression used when persons experience better than expected service quality, or behaviour or scene (Peters, 1994). Wow is a Culture. Be it for customers, or employees, a bank should be able to wow them whenever they are dealing with that bank. Most of the time customer feedback about the services they receive is unsatisfactory. Wow culture ensures that who-so-ever deals with the bank will always have a Wow experience. Wow culture can take shape on its own at each of banks operation levels. At the same time, branch must always look beyond their normal day-to-day market and should aim to create

an uncontested market place, make the competition irrelevant and capture this newly created demand.

Peter Drucker observed 50 years ago that the aim of business is to create the customers. Therefore, a branch has still hopes of giving a better performance, it has to, not only satisfy the need of customers but also create customers. This outlook more commonly is termed as the Blue Ocean Strategy (BOS). The fundamental of this strategy is to shift 'focus from competitors to alternatives and from customers to non-customers' (Kim and Mauborgne, 2005). BOS is about value innovation and not value creation. Here focus is on cost reduction and process differentiation. This only concludes the need of more value, which the customer in a service sector will realize only after its creation and experience, and this is the basis of innovative lean thinking. The fact that it is a continuous process with no standard rules makes it a learning process also.

Lean thinking in this case is a better process of value creation through a better operation process that lead to a better product in terms of experience by the customer. As such, Womack's, (2002) principles of lean thinking is equally effective in this sector. These are:

- Customer specifies the value
- Value streams that lead to a product is recognized and therefore, the wasted streams that exist which are then eliminated.
- Value creation is a continuous smooth flow process.
- Pull where there is no flow.
- Work towards continuously reducing the time.

Thus, lean thinking implementation is a continuous process which includes value stream mapping which is a process of linking, through initiatives and continuous learning, quality and lean improvements to achieve the best value to a customer (Tapping & Shuker, 2002) and simultaneously better and improved performance for the Bank. In PSB, these initiatives will to reduce the processing time in a branch and therefore, increase productivity in terms of business turnover, more profit. The after effects are the automatic creation of a wow culture that leads to a successful BOS. However, such optimisation process does not affect the entire Bank system but leads to a carry over comparative performance affect in the locality branches that ultimately benefits the whole regional performance of the Bank with a chain affect that slowly first reaches the top of the pyramid and then percolates down to the other regions.

## **2. Lean Principles in the Banking service sector and the Branches situation.**

Value stream mapping looks at an entire process through the experience, instinct, various known methods and available tools including support from the back office and tries to identify the areas that create the most value when improved. In the past, health care sector has successfully implemented this that resulted in improved patient care and bottom line (Bushel et al. 2002, Merriam, 2004). However, a literature search did not yield any confirmation of such implementation in the banking service sector. The reasons can be

many, and may include the basic reason that Bank operations spread over a vast area in numerous units and the possibility of such implementation required a culture shift, as it could not be enforced. Further, in the past projects like the Quality Circle had not lead to successful implementation.

We can apply the Toyota lean principles in the following steps:

- Dedicated manager and employees
- Smooth flow of customers and employees.
- Analysis of the root cause in bottlenecks, delays, customer complaints and corrective measures implementation.
- Value stream mapping process through diagram to remove the steps that are the root causes and create steps that customer perceive as valuable.
- Continuous improvement through a trail and error procedure, and can be compared to Kaizen.

Our case relates to two rural PSB branches: B1 and B2, located in Karbi Anglong District, Assam, which in the books of the PSB difficult centers due to insurgency problem, and remain close for almost 3 months in various stretches, in a given year due to various reasons. Both the branches are located within two kilometers of each other. We look at both the branch situation concurrently although the processes implemented in the branches had two different periods and under different determinants.

B1 period was from the year 2000- 2002, the branch was not computerized, the business turnover was very low, loan recovery was a mere 25% with NPA as high as 70%. The branch was showing a profit based on transfer price mechanism on deposits, which were mostly from a few local government establishments and few wealthy businesspersons cum moneylenders cum farmers. It was located in the rural market area in a single large hall with four supervising staff which included the branch manager, a credit officer, an accountant and a cash officer besides four staffs of which two catered to the cash section.

The branch had been termed as one of the ‘no hope’ branches where those serving will have no chances of a career reward because of the poor business environment. The branch was about 30 kms from the nearest town. The service area of the branch included 42 villages spread over a vast area and included hills and forests. The total population under its service is around 20 thousand or around 5000 families of which around 25% were BPL. The branch was around 25 years old and had shifted twice in the past to improve its turnover.

Nearly, 80% of the families had taken in the past a loan and had defaulted because of which around five villages had already been listed as non-viable area. The balance 20% were either not reachable or did not qualify for a loan. About 90% of the loans were under government-sponsored scheme with almost no recovery. Finally, the branch had to constantly depend upon the nearest district branch for cash requirements which happened at least once a month as very little cash actually came to the branch through the customers as such was a cash outgoing branch.



B2 period was from 2003-2004 and was located inside a small cement factory owned by the government with a strength of around 350 direct and indirect employee. It also had a similar situation in all respects except that the branch area was very small and that the computerization of branch took place during the year 2003. Further, its service area was small with less number of villages and mainly depended on the turnover of the cement factory and employees salary. Any, excess deposits of the factory was remitted frequently to factory head office in a city 400 kms from the branch free of cost.

Both the branches also had a significant numbers of pensioners as well catered to different schools located in the area beyond the service area and number were above 150 and catered to around 1000 teachers on government salaries. The salary was not regular and the amount paid was in bulk cash to the school's heads. In addition, salary reimbursement of several small government departments' took place in a similar manner.

Another, negative factor was the fear psychosis of middle class or the rich class farmers who feared the backlash from the insurgents in terms of extortion and as such avoided the branch visits. The fee income business was at the minimal as business money transfer took place mostly through the hundi method. In addition, many one-time government doles given for maternity care, old age, etc., created additional rush to open accounts. The purpose was to deposit the check received and cash it subsequently, after which the accounts remained inoperative. It only added to the number of accounts to balance every month as well interest payments. However, there was no Economy of scale benefits.

Despite the above-mentioned scenarios, the numbers of transactions were high in both the branches. As most of the village customers who had accounts withdrew there cash in small amount frequently, with no restriction on minimum amount withdrawal or minimum balance to maintain in the branch, there was always a rush to open accounts, and/or withdraw cash with the added responsibility of writing the withdrawal slips and the account opening forms as most of the customers were illiterate. Besides, the credit department of both the branches had to comply with numerous controlling office returns coupled with mandatory field visits.

The responsibilities of the officers according to their respective designation and no body gave a helping hand to the other in time of rush hours. So is the scenario with the other staff. Everybody avoided filling the account opening form or the withdrawal slip mainly due to some unseen unavoidable accountability. The customers will be requesting one staff after the other. Any, incorrect information or inability to properly identify himself or herself lead to cancellation of the form or postponement of opening of the account. The situation was worse in the B2 as the branch space was small; tensions and stress were frequent with no positive results.

In both the branches, there was also frequent absenteeism of staff/officers because of frequent closures of the branches that encouraged them to leave the station and not return in time due to either communication problems or personal reasons. The staff/officers had been stuck there for years together as no body was willing to come there and join. All this only de-motivated the employees who saw no future. At the same time, because of lack of

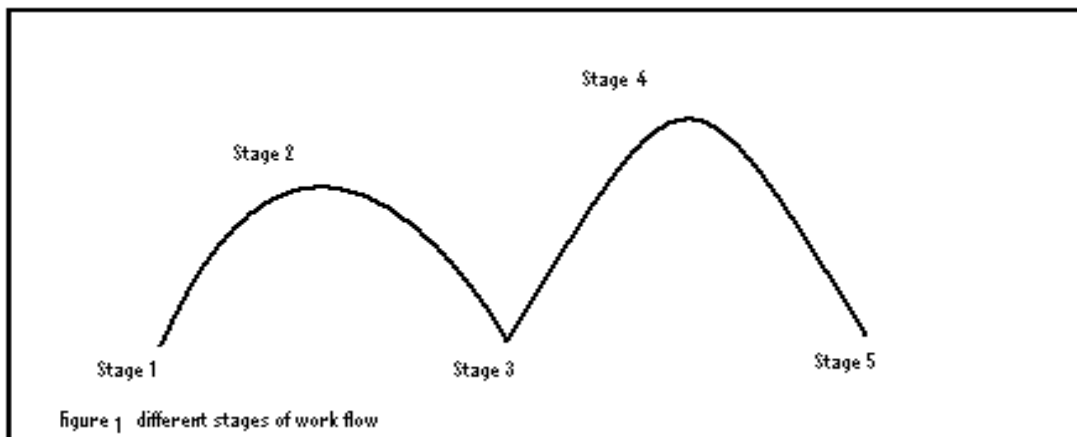
on-job training most of the staff and the officers were not competent enough to tackle various technical issues. The output was slow as they insisted on following the SOPs thoroughly. The personal stress on the staff created constant unpleasant decisions, which further lead to incorrect completion of works, resulting in delays and additional strains. Ultimately, both the branches had put a limit on various services on day basis that created a constant push scenario in the branches.

Even the author initially had tried his best to cancel this transfer. However, because of the promotion compulsion, as well as a special request from the controlling authority to turn around the B1 branch, he had no choice but to accept this assignment. The author joined the B1 as a credit officer and found that the desire to improve the operations and business was still prevalent but suppressed. This desire to improve was mainly because of the performance-based reward that would have created a chance for transfer with pride. It meant increasing the operations efficiency, business turnover, profit, and reduction of NPA level, customer complaints and costs.

### **3. Present State Mapping Process**

The first hurdle was the understanding the branch B1 and the local area environment besides bringing the credit department in order as per SOPs. The author took frequent trips to the fields, the market area, interviewed the defaulters to understand their problems (some of the defaulters were surprised to find a bank official at their doorstep after a gap of around two years and thought it to be a routine checkup to confirm the existence of the borrower). This continued on a daily basis, the routine was visit the branch, finish the daily SOPs, make a mental note of the operational process that were taking place and mentally mapping the improvement opportunities. After that, the Author will leave for visiting the borrowers/defaulters and understand their problems. Within a span of two months, it became very clear that every situation demanded a value-added process directly related to the desire of the customer level of service expectations. The scenario was the same when the author took over B2 branch as the branch manager to become eligible for the next promotion as well as with similar request to turn around the B2 branch.

In both the branches each staff, officers had their own suggestions of ‘the problem with this place’, the author of course saw that lack of expertise in procedures and practices were a major drawback in both the branches. Initially, the author started with the mapping project all alone as no one believed that the branch B1 could be turn around. (Of course, this was no more the situation, when the author joined the B2, as the staff by now had heard and seen the success of the B1 and more than willing to be a part of the mapping process). The mapping project initially looked at two parts, the first was the customer flow through the branch operation process system, and the second was the improvement in the skills of the staff. It was clear that both were heavily interlinked. Ignoring the first part was a logical step at that moment; the author started helping each of the staff in their workload to develop the team spirit, motivation and perhaps a sense of gratitude to work with the author besides a common complaint was less staff and over-work. The officers, the senior staffs were not pleased with the way the junior staffs were working, the workload seemed to be in the form of a wave (see figure 1).



Stage 1 was when the branch opened and remained the same for almost the next one hour; it reached the stage 2 just about 15 minutes before the lunchtime with maximum customers inside the branch waiting for the service. It reached the stage 3 about 40 minutes into the lunchtime, which automatically delayed the lunchtime of the staff as well as the officers. This resulted in late coming into the desk as well as pile up days end work with several customers still waiting for the non-fund based services. Stage 5 was about two hours after the closing time for the officers and one hour after the closing time for the staffs.

The reason for the stage 1 situation was ‘what’s the benefit, any how we will have to stay late, or it is not going to give me a reward’ from the concerned staffs in the cash department and the staff at the accounts department. At the same time, the customers complaint that officers were behind the delays. They will start late with cash as well keep everything pending until the end of the day like the passbook issue, draft delivery etc. At the same time, the customers surprisingly said that the junior staffs were more competent and delivered better service than the seniors or the officers, they were aware of the personal daily needs of the customers as well as the officer’s personality eccentricities and the approximate time required to deliver a particular service. (To author’s surprise similar situation existed in B2).

Thus, the root cause identified in the accounts and cash department were the officers. These aged persons knew that they will never get a promotion and as such really were not bothered with the reward system. The only alternative seemed to be the respect from the customers in and out of the branch. The author along with the two junior staffs and the branch manager in B1 began mapping the process upstream and downstream from these two points, that is the two officers with the believe that it is point where waste occurs in terms of time and quality of service, hence the final product. Accordingly, value –added steps starts from these two point processes. The time variability in their service process ranged from two minutes to one hour and dependent on many factors/variables.

The cash officer may have to suddenly receive a high quantity of soiled notes, or make a high value payment for which it may have to reopen the vault, which needs the company

of the second person who is none other than the accountant. He may have to wait until the accountant seems to be free, at the same time accountant may really be busy with tallying the signatures of the withdrawal customers, or simply will make the cash officer wait for no reason. The vice versa may also happen, it may be just that the accountant need to take out a safe custody document, which are kept inside the vault and needs the company of the cash officer to open the vault when the cash officer is really busy in counting back office cash and simultaneously separating the soiled notes.

It can also be that a customer first comes to the accountant with a request to open an account, who after the initial interview goes to the concerned staff. The staff helps the customer to fill up the form along with the enclosures and forwards it to the accountant for approval; the accountant looks into the form, scrutinizes it, requests for further changes/corrections and sends him back to the staff. By this time, the customer is frustrated. The procedure is again repeated till the accountant is satisfied with the filled up form. The customer then goes to the cash department to deposit the cash and waits for his number to come. Later on, he/she comes to the bank to collect his passbook and returns empty hand with an advice to come and collect it the next day. The fact is successfully opening an account in the branch was considered a real achievement by the customer.

The author observed all these schedules and followed the various processes from the moment a customer entered the branch for a typical service. The bottleneck seemed to be the accountant and the cash officer where process completion was on FIFO basis and needed a push from the next customer, ignoring consideration to time factors. Even, a small signature verification or collection of an overnight draft will take as much time. By now, the B1 branch manager had become a part of the team to develop the value stream process. Mapping of the current situation was ultimately completed (Figure 2).

#### **4. Current state observations and suggested future state**

In the banking industry, the in-process inventories are not carried over for the next day and therefore, it has to be emptied before the staff can stop for the day. As such, the author ignored the SOPs period, the first step was branch manager taking the responsibility of the account opening procedure. The author took on the responsibility of signing and releasing the drafts including overnight drafts by taking custody of the same every morning, since the author by now had completed his regular field visits. In addition, it was decided that if and when the author/branch manager is out of the branch, the other will take the responsibility of the others part. Consequences were immediate, inventory built up at stage four and stage five was no more. The flow became smooth with customers being pulled. Similarly, it was later, decided that cash will open at sharp office hours starting to avoid the inventory built up at stage one and two. This was possible only after the staff found that the value added steps were working for the accountant. The cash officer willingly cooperated in the process. The inventory built up at stage three automatically vanished, as there was no more pushing from the stage five inventories. Thus, the branch had successfully shifted itself from a pushing system to a pulling system.

The results were immediately visible, customers started coming with non-fund based business from the near by B2 as well as from the localities who were visiting the nearby town. However, the accountant was expected to continue with the same services during lean working days. Over a period, the accountant realized that it was his inability to serve in time, which had created the inventories. This resulted in a marked improvement in his ability. The accountant was promoted in the year 2003. B1 became the best branch in the whole of Northeast for the concerned bank in the year 2003. The author introduced the same process in B2 later. A similar situation existed in the B2, but the accountant took deep interest from the very beginning, resulting in a promotion for him in the year 2004. However, the value stream mapping was different for B2.

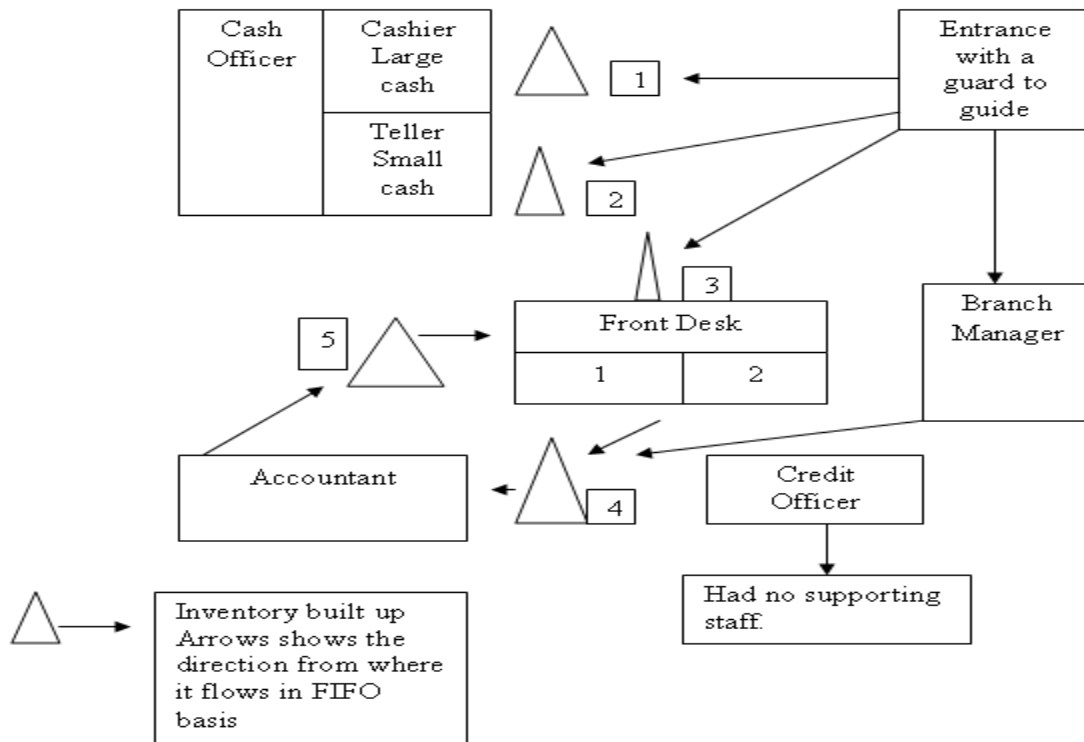


Figure 2 : Mapping of the current state in B1

Such was the effect of the results that all the staffs either were, promoted by 2004 from B1 or were ultimately transferred to their chosen branch. The author himself got two quick promotions. There were now staffs, who were more than willing to serve in this branch. We make a summarization of the process steps created in the new value added process with different considerations:

- By-pass lane creation to handle different services round the time. (The author observed this during his overseas tenure).
- A customer lost is potential revenue lost; a dis-satisfied customer takes away another five customers and vice-versa.

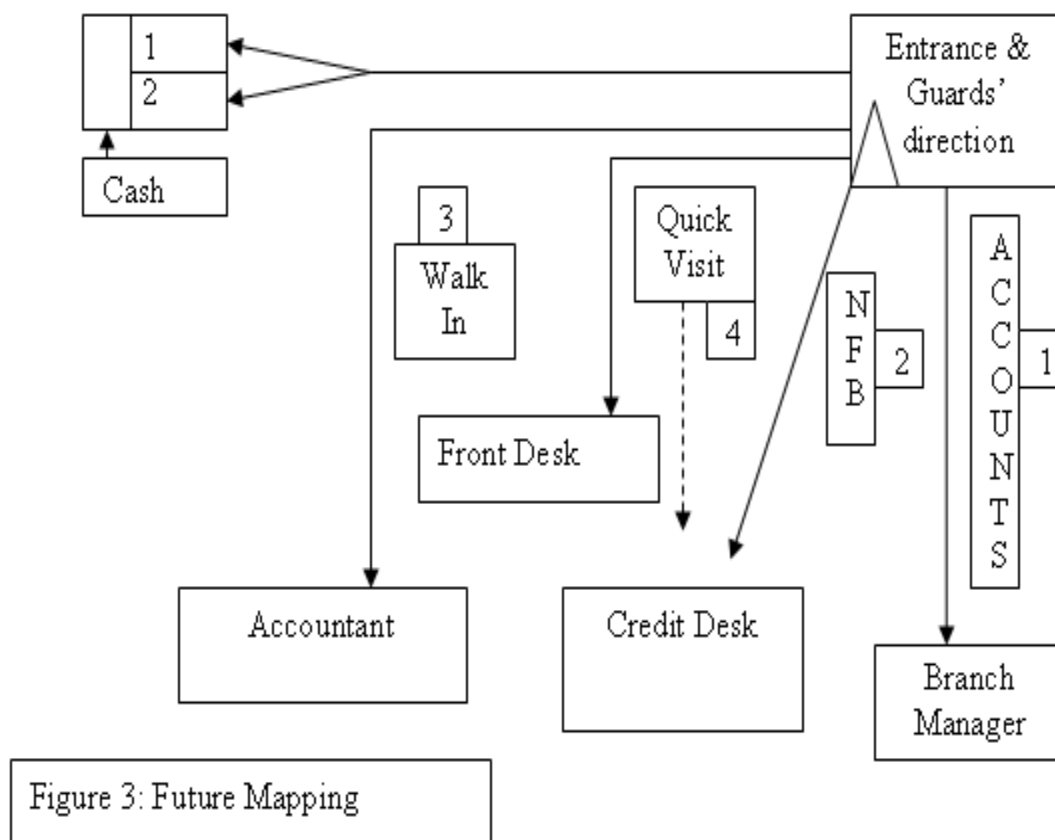
- No inventories can be carried over initially, later on; no inventories can be allowed to build up.
- Supervising staff with several employees will always lead to a bottleneck.
- Motivations, teamwork, skills, trust are more important initially. Reward comes automatically.
- Controlling management support is necessary in the end.

## **5. Process Description and scheduling of the process system**

What we did in the proposed process system was identifying and separating the customers into separate groups according to their needs. The account opening customers were guided to the branch manager. As they accounted for a very numbers, the branch manger was able to attend to them immediately or within a short interval of time. The author dealt the non-fund based customers. These were also few in numbers but more than the account opening customers were, and were regular customers. The accounted dealt the last minute or, unscheduled customers. With an average fifteen minute cycle time for a customer, a customer could be accommodated every five minutes, provided it was spread evenly across the day. Then this spread will do value addition because of the capacity in built even though the customers are still pushed because of the cycle time rate variation.

However, there remain the walk-in customers whose daily numbers across a given period need to monitored to do away with any future pushing at stage four in figure 2. There, also, remains the fourth group of customers who just needed a simple follow up visit to the B1 accountant. It was decided that these customers will be dealt directly by the front desk, and if needed will be first directed to the credit officer's desk, who will then decide the course of action to be taken. Thus, from the guard's point, four FIFO lanes will be generated, besides the lane directly for the cash department (See Figure 3). Based on the above, the guard's priority was to keep the lane one empty, then lane two, then lane three and finally lane four. That is if other lanes were empty, and there still were customers in lane one, they will be guided to the other two lanes namely the lane two and lane three.

Still, if it was felt that the process was being clogged because of unexpected long process time at any of the lane. The guard was advised to inform the customers about the expected time, he/she would have to wait. In addition, he/she had the option of taking a prior appointment from the credit officer for the next day/any other day according to the customer convenience. This system eliminated the chance of a customer returning dissatisfied. It has to be understood that the inventory build up is now taking place at the very beginning stage, at the Guard's point, which immediately takes care of the situation. The most important aspects of this 'pull-flow process' is use of a schedule which keeps a steady flow of customers. B1 with trial and error process and through learning process could achieve this schedule over a period helped by the fact that customers soon came to know of the advantage of a prior appointment, which was strictly followed by the branch. As the branch was dealing with human beings and not machines, an acceptable time of waiting was used to calculate the level of inventory built up.



The scheduling process board starts with the expected time available for the customers at each of the lane moving the day down as slots becomes full, if there is no choice of the customer. Gaps are kept down the day to deal with the daily jobs (see Table 2 for an example for one-hour schedule process). Over a period we also learned to keep extra slots off for absenteeism as well as for other field jobs related to the branch manager and the credit officer at B1 which also acted as a buffer against unplanned rush of walk in customers. At the same time, it was important that no business was lost due to a missed opportunity. At the same time, vacant slots at the end of the day ensured less stress for the staff in terms of extended workload.

	Time				
Lane	10.30	10.45	11.00	11.15	11.30
1	scheduled	a/c	a/c	scheduled	
2	scheduled	NFB	scheduled	NFB	scheduled
3	quick				
4	walk in	scheduled		scheduled	

## **6. Benefits and Challenges**

This paper presented a part of an actual experience of innovation through learning process and lean thinking with in a given management perspective through value stream mapping in the Public sector banking services. The challenges were to identify the different types of customers and scheduled them with in a specific lane. The advantage was that the customer quickly got adapted to this method. The process also discouraged inflexible customers. Though each lane capacity did change from time to time basis, the overall output was either constant or increased on any given day. The new process increased the turnover of the branch, reduced wait time for customers, reduced stress levels of the staffs and the process was duly recognized by rewarding the staffs besides walk in customers were also given a separate priority.

## **7. Mapping of the credit department process and B2 branch Mapping**

These value stream mapping were totally different and planned to be written separately during the next few months. It also supports the conclusion of Hansen and Birkinshaw (2007) that one should be cautious if they settle down on a single innovation based value chain as an end process.

## **8. Conclusion**

This paper for the first time, based on own actual applied experiences over a period of four years through deuterio-learning process along with learning by doing activities to reduce cost, develop efficient processes, to reduce delivery time and responses to new policies confirms application of lean finance to the banking operations through 'value stream mapping' in two rural branches. The results were efficiency improvements through lower wait time, stress levels, besides increased customer satisfaction, profit, and business. The paper concludes that financial services renovation can be a catalyst for change, but demands coordination with other areas to maximize operational efficiency through process innovation, redesigned resources and capacities, accurate and improved understanding of variation, demand and costs, to make decisions about product mix and service mix with policies that will encourage staff to respond to them. At the same time, the management has to fully understand what this means, commit and support it and not merely view it as another policy or, a set of tools but as part of a strategy which can include rapid successes that fundamentally consists of a paradigm shift in culture, thinking and structure to create an ecosystem where innovation in finance thrives. To end with we quote "The application of lean thinking has made a significant impact both in academic and industrial circles over the last decade. Fostered by a rapid spread into many other industry sectors beyond the automotive industry, there has been a significant development and "localisation" of the lean concept." (Hines, Holweg and Rich, 2004).



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