MEASURING TANGIBLES BY INTANGIBLES CASE OF SBI DATA SERIES: 2007-2016

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ABSTRACT

Panel data spread over twelve years from 2007 to 2016 and 29 indicators of the bank, are used for the purpose. The initial discussion relating to the significance of measurement of intangible assets and integration of contingencies in performance evaluation establish the need to design a comprehensive performance evaluation system for the Indian banks. It is found that being a part of the service sector, long-term strategic planning in a bank needs to concentrate on such a system. However, implementing this technique becomes complicated due to the difficulties in measurement of the intangible assets, existence of the interrelations among these indicators, differences in the significance assigned to various indicators within the organization and trouble in setting the linkages between the employee performance and the reward mechanism.

Paper evaluates the significance of intangible aspects as a tool for performance measurement in the Indian banking sector, with a special focus on the oldest, largest and the most widely spread bank – the State Bank of India. This is done by constructing a Balanced Scorecard for the bank, and then evaluating the performance of the bank through this BSC.

I. INTRODUCTION:

Typically, various performance indicators for an organization can be classified into four perspectives. These include financial, customer, internal business process and learning & growth. The balanced scorecard approach, which emphasizes all the four perspectives, can be an efficient technique for long-term strategic planning. This is also the case for service sector organizations like banks. The purpose of this paper is to understand how some of the apparently financial indicators also help in measurement of intangible assets of a banking organization, and how these can be used for performance evaluation of such an organization. The paper is divided into six sections. Section II, through a brief literature review, explains the significance of intangible assets in performance evaluation of Indian banks. A model Balanced Scorecard is designed in section III. Section IV discusses how performance of a public sector bank like State Bank of India can give a different picture when analysis of profits is coupled with other indicators introduced in the Balanced Scorecard. section V concludes.

II. INTANGIBLE ASPECTS IN PERFORMANCE EVALUATION OF BANKS:

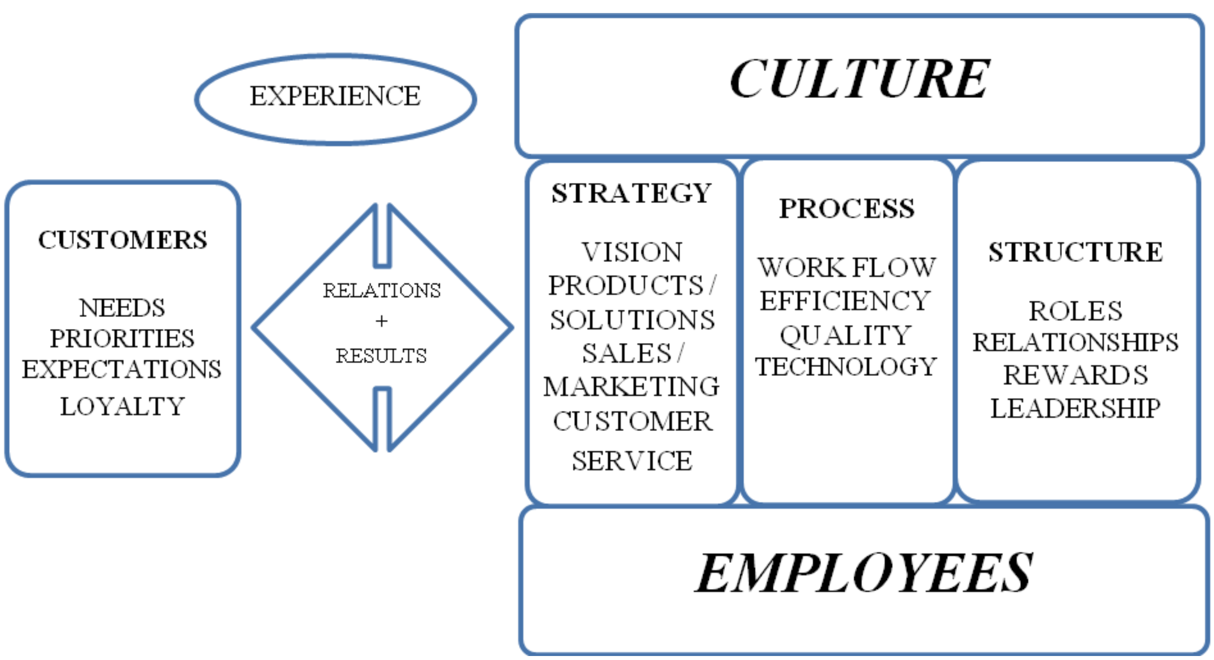
In the contemporary economic environment, factors like employee knowledge, relationship with the customers and the culture of innovation and changes define success for an organization. Thus, the intangible assets are the key to long-term success in today's world. The power of intangibles manifest in the valuations is quite visible in modern organizations. In the past two decades, the share of intangible assets has virtually doubled from 38 per cent. Following this, Kaplan and Norton (1992) recommended broadening the scope of the performance evaluation measures to include four areas of an organizational functioning. Apparently the BSC system addresses the shortcomings in financially oriented performance measurement systems. It also provides a number of mechanisms for linking long-term strategic objectives with short-term actions:

- Consensus on firm's vision & strategy
- Communication of the firm's strategy throughout the organization
- Allocate resources to & set priorities for long-term strategic objectives
- Monitoring & modification of strategies to prevent an organizational downturn

- Integration of the lagging indicators, with the leading indicators

For banks, studying financial indicators in isolation does not yield a very effective strategy since their performance interlinks financial indicators with other invisible indicators. In fact, financial performance is the translation of many intangible business processes and performance indicators. Subsequently, banks find it difficult to design a comprehensive strategy for long-term growth. This is where more comprehensive techniques such as the BSC can be incorporated. Indian banking sector can also adopt such a technique to overcome the limitations of the existing evaluation methods. (Lipe & Salterio, 1998a, 1998b, 2000) The first step towards this is to recognize appropriate performance drivers. Alignment of these performance drivers ensures effectiveness of the strategy. For an organization like a bank, the customer behaviour is a major indicator of the bank performance. The more is the value creation by a bank among the customers, the better the performance of the bank. This can be realized by the bank's efforts to understand the customer's requirements, offer products that satisfy customer's requirements, help the customer in the choice of alternative solutions, and effectively differentiate one's own services from the competitors. A simple ***Performance Driver Model*** as designed by Knight (2005) and given in diagram 2, with a focus on the culture, strategy, process, structure and people can be useful.

DIAGRAM 2: PERFORMANCE DRIVER MODEL



However, banks tend to focus upon financial aspects alone and concentrate on return on equity (ROE) or marketing of products with the volume and growth of credit and deposits as the central objective. The risk-adjusted capital adequacy guidelines, poor profitability over long-term, and conceptual and practical failure of the measures such as asset growth, often lead bank management to focus on ROE as the ultimate performance scorecard. (Karr, 2005) Such framework brings about many changes in performance measurement as well as in the management processes used to plan, operate and control the bank; but it does not present the entire picture of bank performance measurement and evaluation. A more comprehensive alternative is the CAMEL, i.e., Capital adequacy, Assets quality, Management, Earning quality and Liquidity. It includes financial performance indicators as well as managerial aspects of organizational performance. It has been implemented as an improvement over annual financial inspection introduced by the RBI in 1992. As the Indian banks comply with the Basle II Accord from March 2007, and get ready for integration with the global financial markets after 2009, they need to rethink on the lines of capital requirements, supervisory review and market discipline. (Tandon, 2006) This may lead to further improvements and adoption of more modern systems such as the BSC, which incorporate the correlation between technology and customer relationship management as well as the correlation between technology and human resources.

How can indicators other than the net profit and the growth rate in it, point towards the performance of a bank? Especially, when measurement of intangible indicators appears to be difficult? However, several seemingly financial indicators also point towards the performance of intangible assets of a bank. For instance, growth rate of deposits is a significant indicator of customer confidence in the bank. Similarly, growth rate of credit / advances is a significant indicator of customer preference for the services of a specific bank. The significance of such ratios and indicators is recognized by the Reserve Bank of India, and that is the reason behind the definition of many such ratios for the commercial banks in India. However, not many banks make an attempt to analyze the underpinnings of such ratios and utilize the trend observations to evaluate their own performance. Majority of the banks use growth rate of the net profits as the sole indicator of the health of their organization Of course this has changed lately, especially after implementation of Basel norms regarding the capital adequacy. Since 2006, when the Basel Accord I was implemented by the RBI for Indian commercial banks, the banks have started utilizing capital adequacy ratio as another major indicator of the financial health of the organization. Many more financial indicators can be utilized for the purpose. Moreover, customer behavior can also be analyzed by using certain apparently financial indicators, as mentioned above. Performance of a bank like State Bank of India can be evaluated in a much more effective manner by using such indicators. This helps in understanding questions like:

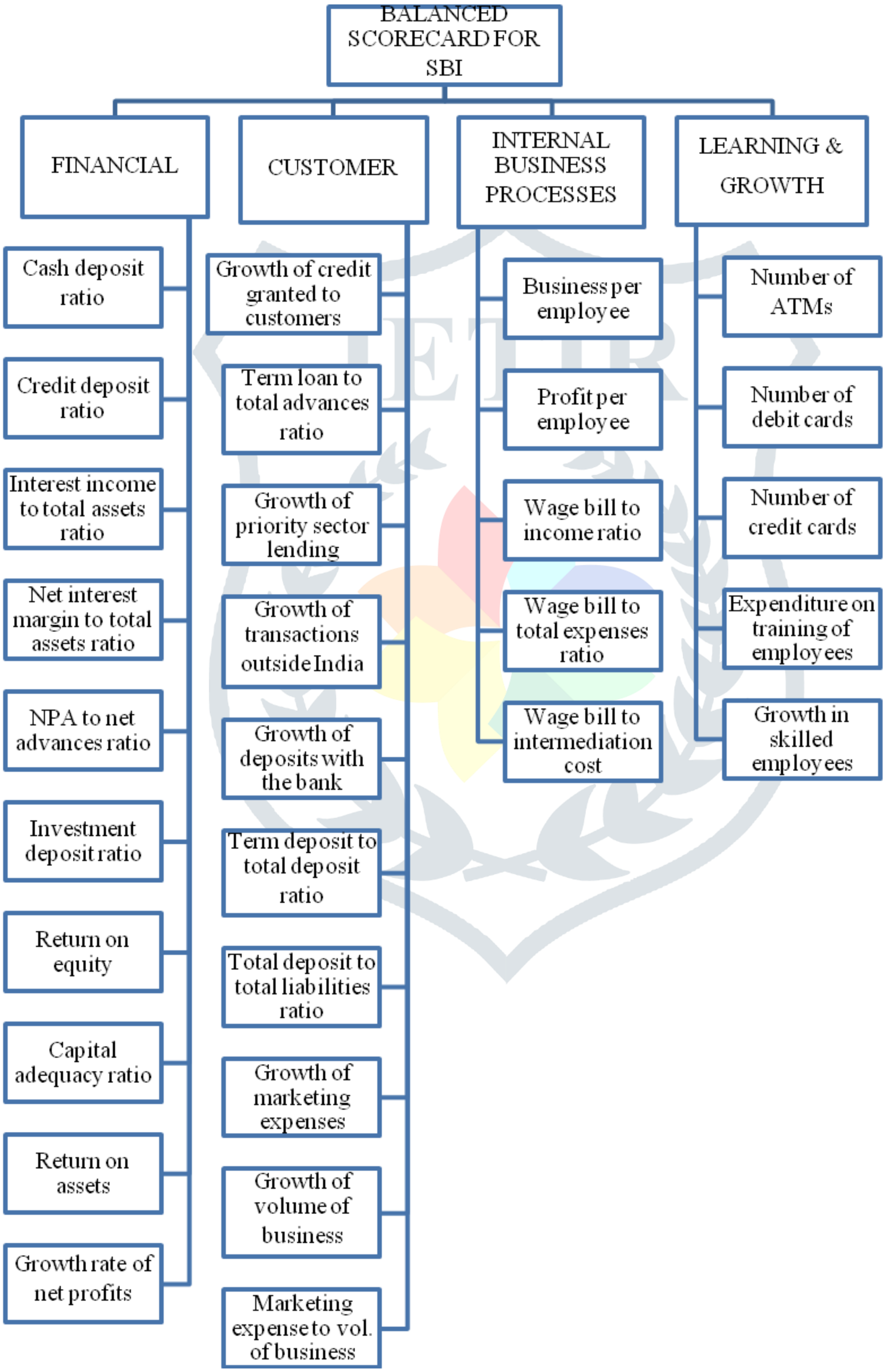
- Why does a bank report certain type of financial position, e.g., low/high growth in profit?
- Why has a bank been able to achieve sufficient capital adequacy norms?
- Why does a bank seem to focus more on satisfying customers, at the cost of profits?
- Why does a bank continue to operate in apparently non-profit making products?

  ... And so on

III. BALANCED SCORECARD MODEL

Answering the questions mentioned in the earlier section, a model Balanced Scorecard is designed, using the data collected by the Reserve Bank of India. These data series appear to reflect only the financial performance of a banking organization at a first glance. But a more careful analysis reveals that the same data reflect non-financial performance of the bank.

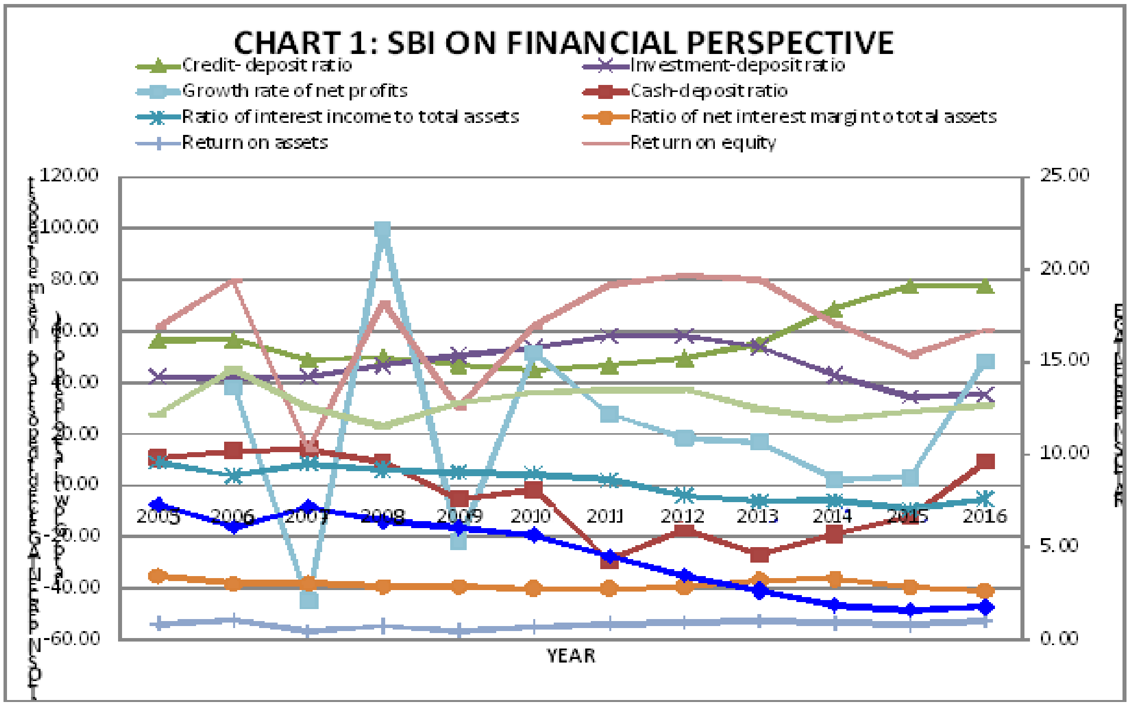
DIAGRAM 3: BSC FOR STATE BANK OF INDIA



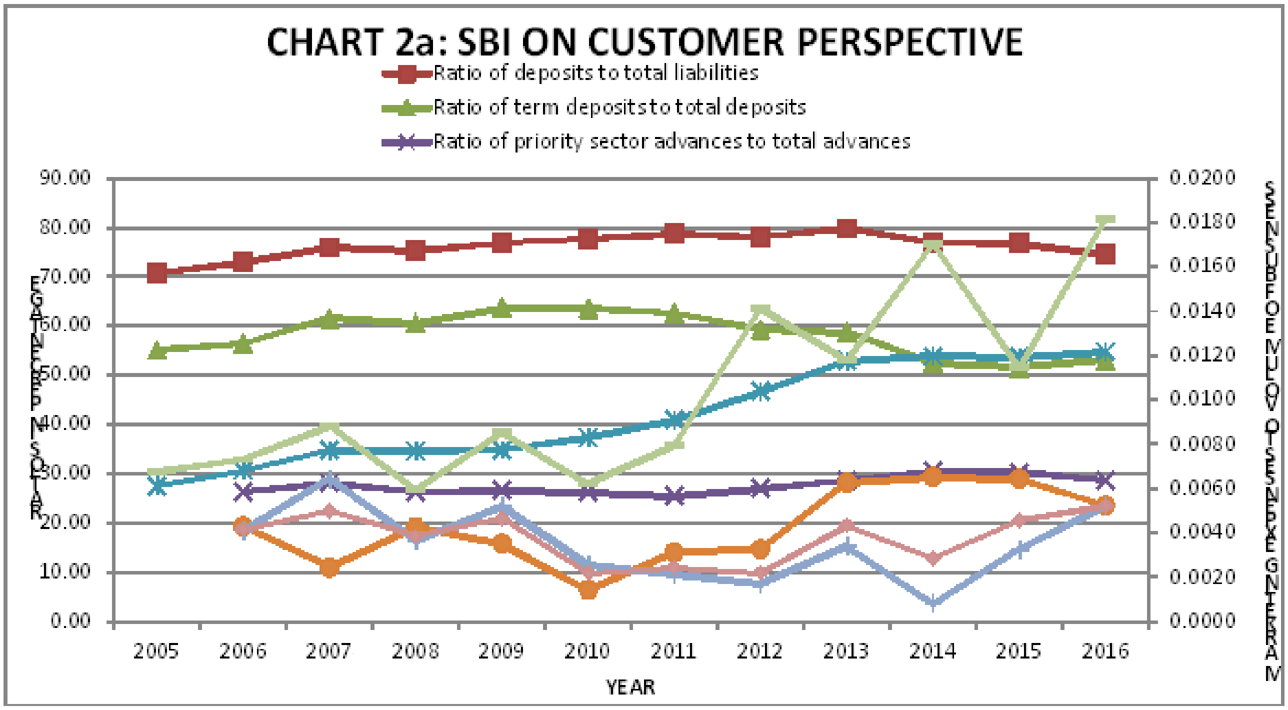
This dual utility and the ease in the measurement of these data render the data extremely useful for analysis through the advanced techniques such as the Balanced Scorecard. This also enables development of the overall business strategy of the bank in the long-term as well as defining the short-term objectives to be realized in a stipulated time period. Whether the objectives have been realized or not, and to what extent they have been realized, can be measured by using the performance indicators classified into four categories as per the four perspectives of the BSC. Comparing the past performance with the predefined objectives of the bank helps in knowing whether the growth strategy of the bank has been successful or not, and which new initiatives are required to realize the objectives in the future. Diagram 3 represents various indicators to be used in the Balanced Scorecard for State Bank of India. Panel data, presented in annexure one, involving 12 years' time series from 2005 to 2016 and spread across all these indicators are used here. Although in case of a few indicators, the data series are not complete, as the past data are not available. Preliminary analysis based on the graphical presentation of each perspective reflects absolute changes and a high degree of volatility in all the indicators, which is not sufficient to know whether the bank performance is consistent or not. This is because; all commercial banks may have gone through a similar phase of volatility during a specific year. To solve this, econometric analysis involving z-test for the mean difference between two samples is presented. Here, the mean of each indicator for each bank is compared with the mean value of the respective indicator for all commercial banks; and the null hypothesis that the mean difference is zero, against the alternative that the mean difference is greater than zero; is tested at 95 per cent level of significance.

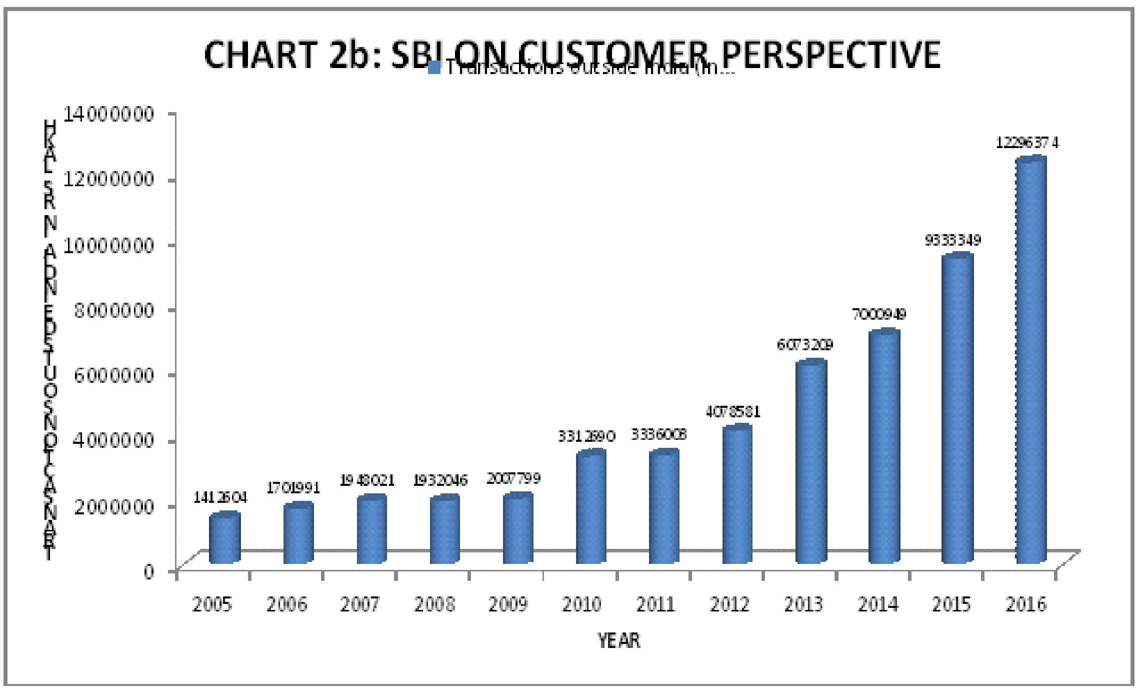
IV. STATE BANK OF INDIAS PERFORMANCE:

Charts 1 through 4 show the performance of SBI in absolute terms for each indicator within each aspect of the Balanced Scorecard specified earlier. These charts show that the performance of the bank has been relatively more volatile in case of some of the indicators. Especially, the following observations can be made:

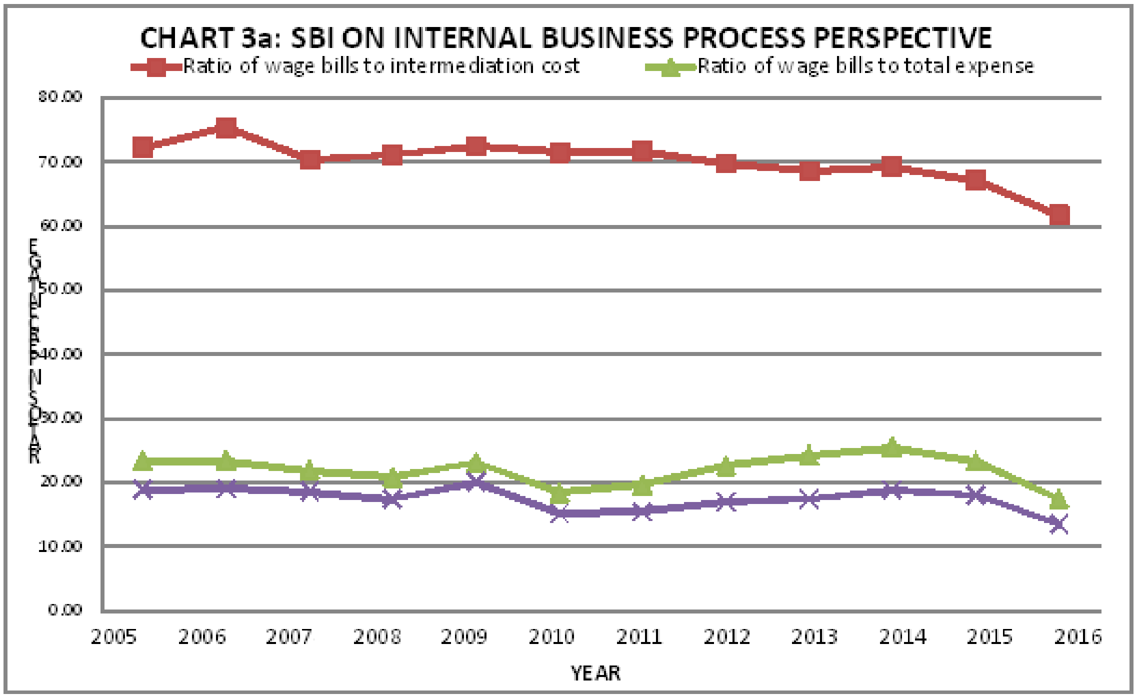


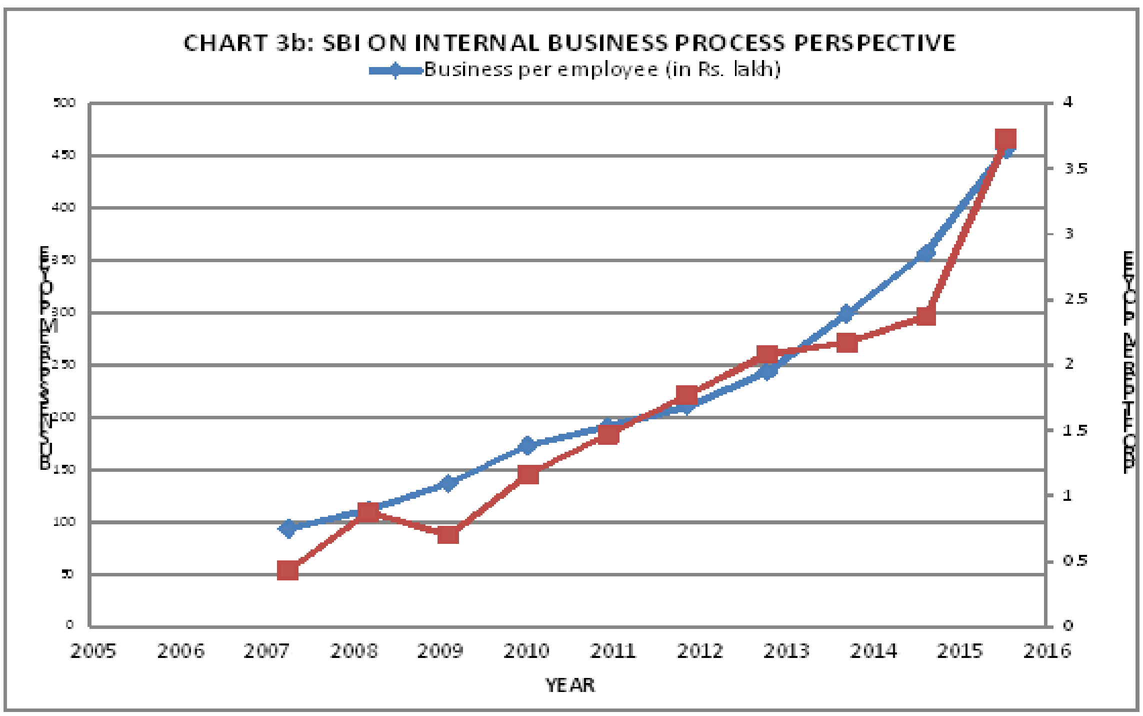
- In case of financial perspective, growth rate of net profits and return on equity have been highly volatile, while cash-deposit ratio has been increasing. the ratio of net NPA to total advances has been decreasing. The other indicators show almost a constant trend.
- In case of customer perspective, four ratios, namely, growth rate of total credit, growth rate of total deposits, growth in the volume of business and the ratio of marketing expenses to total volume of business are quite volatile. Term loans to total advances and transactions outside India are on a rise, while the other indicators show a constant trend.





- In case of internal business processes, ratios involving wage rate show a declining trend in the later years, while business and profit per employee have continuously increased.





- Finally, in case of learning and growth, the bank seems to be performing quite well. It has introduced new technology involving the use of ATMs, debit cards and credit cards on one hand, and spends more on the training of the employees on the other.
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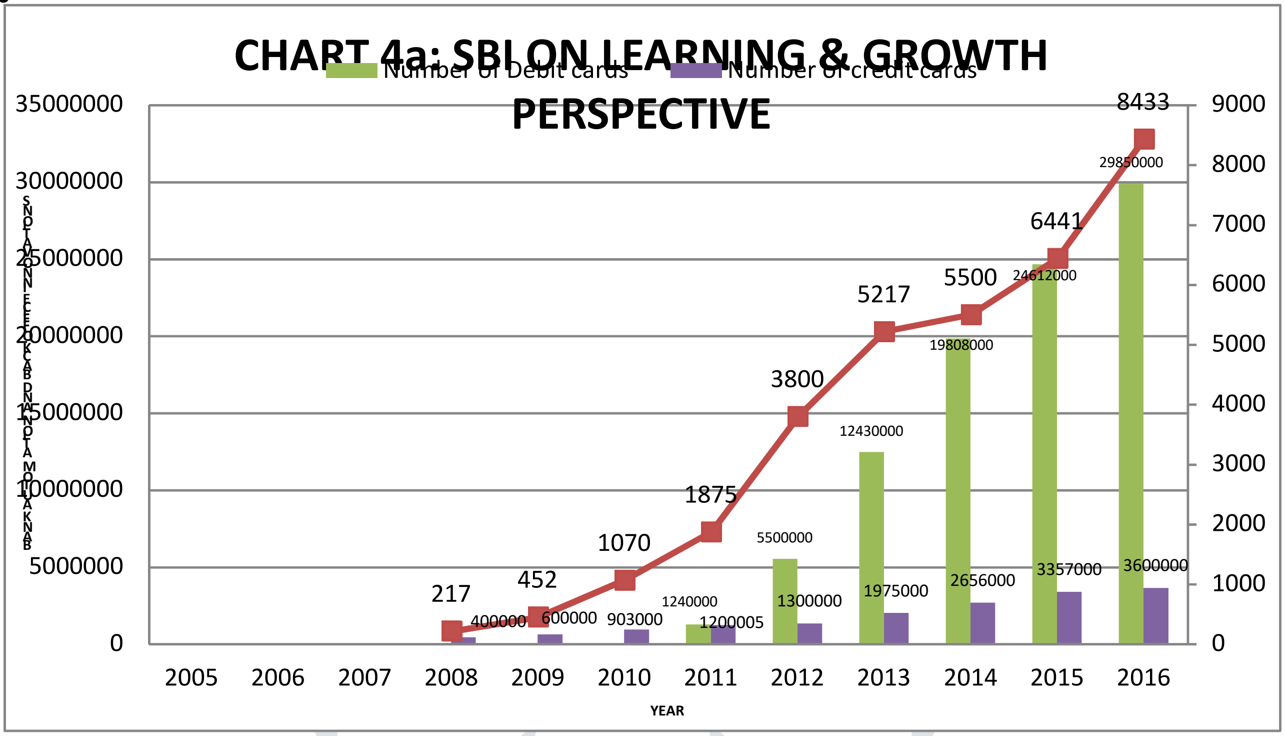

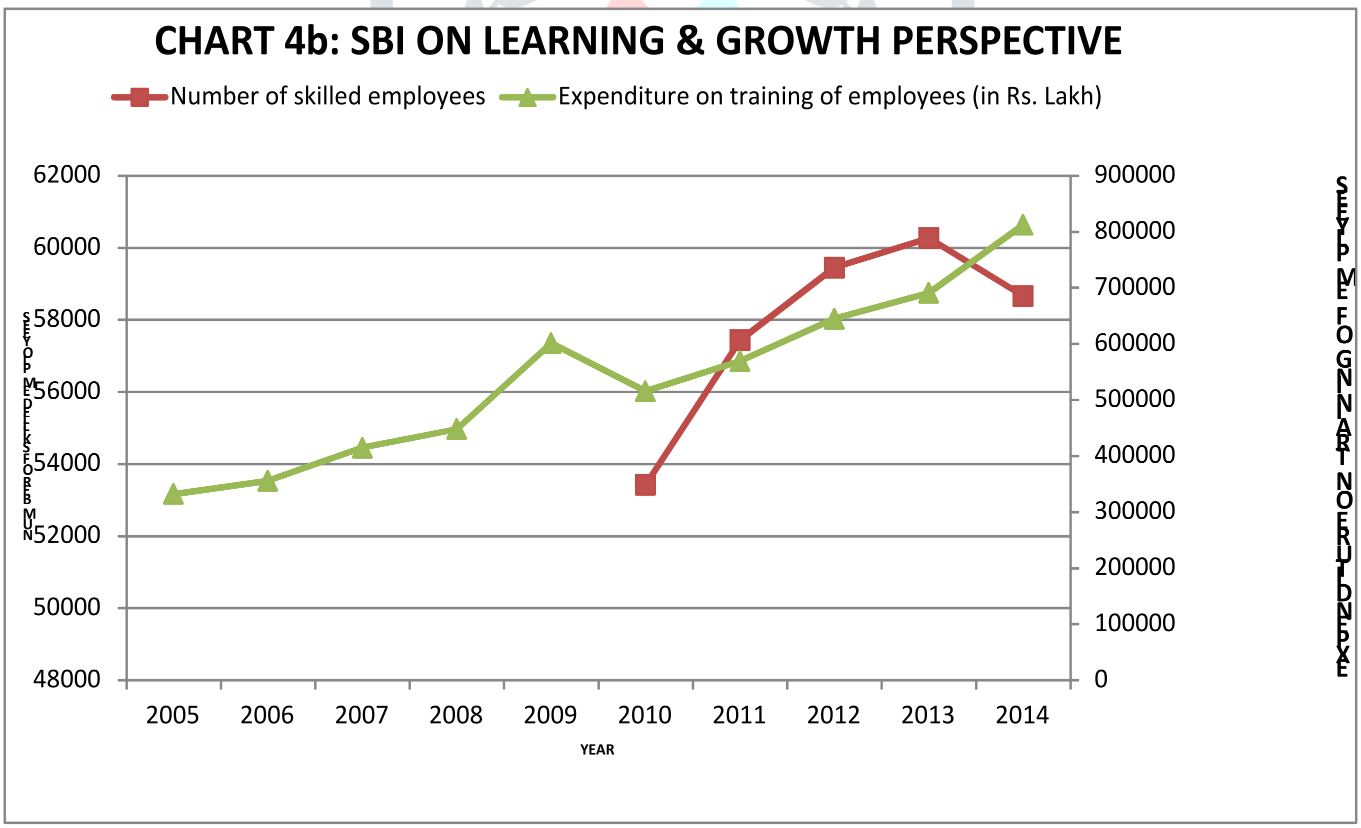

In the above analysis, if one focuses only on the growth rate of profit, which is the traditional method of evaluating the performance of an organization, one may conclude that the bank has been quite unstable during the last 12 years. Adding indicators such as return on equity and return on assets only reiterates the above judgment. Only when the ratio of net NPA to net advances is observed, the first glimpse of the strength of the bank can be seen. This clearly implies that performance of a bank cannot be evaluated only on the basis of its profits. Thus, using the other indicators, as defined through the four perspectives of the Balanaced Scorecard, definitely yields better performance evaluation.The above analysis of four perspectives can be strengthened by using econometric technique of comparison of the mean values against the mean of all commercial banks for each indicator. The results of the tests are presented in Table 1.

TABLE 1: RELATIVE PERFORMANCE OF SBI FOR EACH INDICATOR

Perspective	Indicator	Mean	Known Variance	Observations	z	P(Z<=z) one-tail
FINANCIAL	Cash-deposit ratio	7.70	4.92	12	-0.57	0.29
	Credit-deposit ratio	56.49	138.55	12	-0.83	0.20
	Ratio of interest income to total assets	8.42	0.79	12	0.50	0.31
	Ratio of net interest margin to total assets	2.96	0.06	12	-0.60	0.27
	Ratio of net NPA to net advances	4.54	4.74	12	0.08	0.47
	Investment-deposit ratio	***46.65***	***67.52***	***12***	***3.46***	***0.00***
	Return on equity	***16.81***	***8.38***	***12***	***-15.35***	***0.00***
	Capital adequacy ratio	***12.77***	***0.72***	***12***	***2.32***	***0.01***
	Return on assets	0.82	0.04	12	-0.14	0.45
	Growth rate of net profits	21.76	1502.80	11	-0.46	0.32

CUSTOMER	Growth rate of total credit	19.10	58.75	11	-0.82	0.21
	Ratio of term loan to total advances	41.85	100.19	12	-0.67	0.25
	Ratio of priority sector advances to total advances	***27.63***	***2.92***	***11***	***-5.91***	***0.00***
	Transactions outside India	***4536134.67***	***12044E+09***	***12***	***4.36***	***0.00***
	Growth in total deposits	15.67	57.39	11	-0.79	0.21
	Ratio of term deposits to total deposits	***58.21***	***19.35***	***12***	***-3.34***	***0.00***
	Ratio of deposits to total liabilities	***76.22***	***6.48***	***12***	***-3.63***	***0.00***
	Marketing expenses	***5509.92***	***23888154.40***	***12***	***3.39***	***0.00***
	Growth in volume of business	16.90	26.65	11	-1.15	0.12
	Marketing expenses to volume of business	***0.01***	***0.00***	***12***	***-6.42***	***0.00***

INTERNAL BUSINESS PROCESSES	Business per employee	227.13	13185.34	10	-0.67	0.25
	Profit per employee	1.68	0.95	10	-0.32	0.38
	Ratio of wage bills to total income	***17.43***	***3.59***	***12***	***2.85***	***0.00***
	Ratio of wage bills to total expense	***21.97***	***5.88***	***12***	***3.83***	***0.00***
	Ratio of wage bills to intermediation cost	***70.08***	***11.33***	***12***	***3.86***	***0.00***

LEARNING & GROWTH	***Expenditure on training of employees***	***579630.33***	***28775E+06***	***12***	***11.33***	***0.00***

	Number of skilled employees		1.40		21.66		6	-0.95	0.17
	YEAR	2009	2010	2011	2012	2013	2014	2015	2016
	Number of atms	217	452	1070	3800	5217	5500	6441	8433
	Number of Debit cards				55	124.3	198.1	246.1	298.5
	Number of credit cards	4	6	9.03	13	19.75	26.56	33.57	36

Financial perspective:

In the evaluation of any organization, financial performance is the single most important indicator. However, it is not the only indicator of the strength of an organization. This is even truer in case of a banking organization. In fact, profit making is only one of the many objectives of the bank in modern times of intense competition and global economic integration. More often than not, the bank management is content with a predefined satisfying level of profit, and then aims at attaining other objectives more vigorously. Under such circumstances, financial indicators do not capture the performance of the bank in these areas. Indeed, financial performance is only the culmination of the overall development strategy adopted by the bank, which revolves around the other objectives mentioned above. This appears to be true in case of SBI as well. It is important to note that the SBI is a flagship of public sector banks, with a clear vision of pioneering development banking in the Indian economy. Consequently, its strategy revolves around this vision, and focuses on providing banking services to all the sectors across the economy, reaching out to every group of customers through the right mix of infrastructure, human resources and modern technology, and setting up specialized domestic and international branches to cater to the global financial markets and efficient mobilization of resources. An analysis of the six financial indicators, viz., growth of net profit, return on assets, cash-deposit ratio, credit-deposit ratio, investment-deposit ratio, and interest income to total assets ratio, shows that the performance of the State Bank of India has been mixed. Growth rate of net profits has declined considerably, and has been lower than the average of all commercial banks. Similarly, return on assets has also been slightly lower than the average of all commercial banks. The ratio of interest to total assets has been higher, but this too, has declined continuously. All these ratios are insignificant for the SBI. Similarly, the cash-deposit ratio has been lower than the average of all commercial banks. It has also shown an increasing trend in the recent past. The credit-deposit and investment-deposit ratios have declined initially, but then increased, indicating that the bank has been able to expand its credit creation and investment activities. Except for the investment-deposit ratio, no other indicator from among these six is significant. This may lead to a conclusion that the financial strength of the SBI is waning. However, if the bank uses a more comprehensive technique like the BSC to analyze its performance, the conclusions can differ. It must be noted that return on equity and capital adequacy ratio both are positively significant. This implies that the financial performance of the bank is improving, with greater return on equity on one hand; and the safety of the depositors is also ensured as the bank meets with the capital adequacy norms stringently. The bank has been able to reduce its NPAs considerably, indicating improvement in the quality of assets of the bank.

Customer perspective:

Six out of ten indicators are significantly different from all commercial banks as far as the customer perspective is concerned. Though the ratio of term loans to total advances is rising, it is less than the average of all commercial banks. Even the priority sector lending is significantly less. On the deposits side, both the ratio of total deposits to total liabilities and term deposits to total deposits are significantly less as compared to all commercial banks. However, the bank has been able to expand its transactions outside India to a great extent. This is a positive sign in the rapidly globalizing financial markets of India. Even with the largest branch network all across the economy, the bank has been spending significantly large amounts on marketing. However, significantly low ratio of marketing expenses to the volume of business is a matter of concern. This clearly implies that there is still a lot of scope for the bank to improve its performance as far as the customer perspective is concerned. However, it should also be kept in mind that the bank has a very large scale of operations, and hence to achieve a small growth also it needs to increase its credit / deposit amounts by a large margin, which is relatively difficult. In spite of this, the bank has been improving its performance considerably during the recent years. The analysis of customer perspective shows that although SBI has been providing every type of facility to its customers, and has been able to spread its network throughout the country, it is still lagging behind in many indicators as compared to the other commercial banks. SBI has the scope to improve its performance as far as mobilization of deposits and credit creation process are concerned. If it focuses a little more on these two, it can really avail of the benefit of its branch network, and improve its own performance manifold.

Internal business process perspective:

The performance of SBI in internal business processes has been mixed. Business per employee and profit per employee are less than the average of all commercial banks, although the difference is not significant. At the same time, performance of SBI is significantly different from the rest of the banking sector in case of the other three indicators. The ratio of wage bill to total income is very high, indicating that the expenditure incurred by the bank on its employees is not sufficiently translated into higher revenue generation capacity. At the same time, the bank spends more on its wage bill out of both the total expenses as well as its intermediation cost. This implies that the bank spends more on its human resources as compared to the other resources. This is possible due to the fact that the bank has many branches in the rural areas, where the use of modern technology ma not be possible all the time. At the same time, this implies that the bank has been able to undergo automation process at relatively lower cost, and has taken advantage of the economies of large scale operations when it comes to the use of modern banking technology. This observation is further supported by the analysis of the learning and growth perspective

Learning and growth perspective:

When it comes to learning and growth perspective, SBI has performed very well. Due to the large branch network, SBI maintains a large number of employees. Total number of skilled employees is very large, but the growth rate in the number of these employees is not significantly different from all commercial banks in general. However, the bank spends a large amount of money on the training of its employees. This is evident from the positive and highly significant average expenditure on the training of employees of SBI.

Similarly, the bank has embarked upon an ambitious project of implementation of modern technology to enhance its banking services. As a part of this project, SBI has expanded the number of ATMs, starting from the year 2000. It has the largest number of function ATMs spread all across India. It also has several mobile ATMs, facilitating many banking transactions for its customers, such as withdrawal and despoit of money. Moreover, the bank has the largest number of debit card holders and second largest number of credit card holders. This has also facilitated SBI's banking operations. The use of modern technology is well complemented with sufficient expenditure on the training of old employees and recruitment of greater number of fresh employees.

VI. CONCLUSION:

Designing a single BSC for any organization is a very difficult task. Banks, being a financial service organization, design and implementation of the BSC becomes not only difficult, but complicated as well. Still, it emerges to be an efficient and all-inclusive tool, encompassing various aspects of bank performance. It helps in understanding the complementarities among various performance indicators for a bank, and makes the strategy designing and implementation process more efficient. With the financial reforms in full swing, and influx of private sector and multinational banks into the economy, it is necessary for the banks to adopt such a system of performance measurement if they aim at designing business strategy that ensures better performance in future. The fact that the RBI has initiated the process to collect data pertaining to many different performance indicators over the past decade can be considered to be a good progress in this direction.

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