

Progress in TQM & Indian Banking Performances

Paul Purnendu, Bose K Swapan, and Dhalla S Rizwan

Abstract—In recent years, banking institutions have been subjected to intense competition and increased customer expectation. Quality Management is the mechanism that can be used by banks to gain the competitive advantages. **Design/Methodology/Approach**—Critically examines the banking industry in a developing nation like India. This Paper is based on the results of Indian study aimed at identifying and exploring successful parameters of high quality performances and their possible interrelationships. Based on the Banking data we, examined the dimensions are more accurate in identifying quality progress and business performances of banks. **Findings**—Our research shows that different explanatory variables are linked to the progress in total quality management (TQM) and business performance. A second conclusion is that there is a positive link between progress in TQM and perceived service quality by customers. TQM improves perceived service quality. Progress in TQM and perceived service quality by customers are positively, but only to a limited degree, linked to business performances. **Originality Value**—In general, we conclude that progress in TQM leads to higher business performance of the bank, indicating the efficiency, and to a higher perceived service quality by customers indicating the effectiveness.

Index Terms—Total Quality Management, Banking, Business Performances, Quality Awards

I. INTRODUCTION

Total Quality Management (TQM) is arguably one of the most pervasive management strategies of last several decades. The rationale behind this study is to enhance our understanding of the relationship between quality management, performances and customer satisfaction using the framework of the European Quality Award (EQA), as well as a service quality model focusing on quality perceived by bank customers. Given the ubiquitous nature of TQM, many attempts have been made to ascertain the impact that this strategy has had on financial performance. Examples of prestigious quality awards are the Deming Prize (Japan), the Malcolm Baldrige National Award (USA) and the European Quality Award (EFQM, 1992). Quality Awards have also been established at the national and regional levels (Hardjono & Hes, 1993). Awards have in common that they provide a basic framework for analyzing different factors, such as processes, leadership, personnel management and business results, which play a role in the functioning of organizations. The area covers a wide range of subjects that are all relevant to quality performance in

organizations (Dessler & Farrow, 1990). Awards are indeed strongly based on the foundations of total quality management (TQM) (Bemowski & Sullivan, 1992; Stauss, 1994). Although quality awards were initially developed for profit organizations, the award models can also be applied, with minor adjustments, to not-for-profit sectors.

The EQA model distinguishes nine criteria (Fig. 1). These are:

- 1) leadership;
- 2) policy and strategy;
- 3) personnel management;
- 4) resource management;
- 5) process management;
- 6) employee satisfaction;
- 7) customer satisfaction;
- 8) effect on society;
- 9) organizational results.

In the model the criteria are divided in two groups: enablers and results. The results aspects of the awards are concerned with what the organization has achieved, while the enablers are concerned with how the results are being achieved. Customer satisfaction, personnel satisfaction, impact on society and business results are achieved through leadership, driving policy and strategy, personnel management, and the management resources and processes. The idea behind the nine categories is that a high quality standard will be attained if attention is paid to these categories in a consistent manner.

This paper is related to banking sector. Before we formulate the research questions, we consider it useful to give a short overview of total quality management developments in banks.

II. RESEARCH QUESTIONS

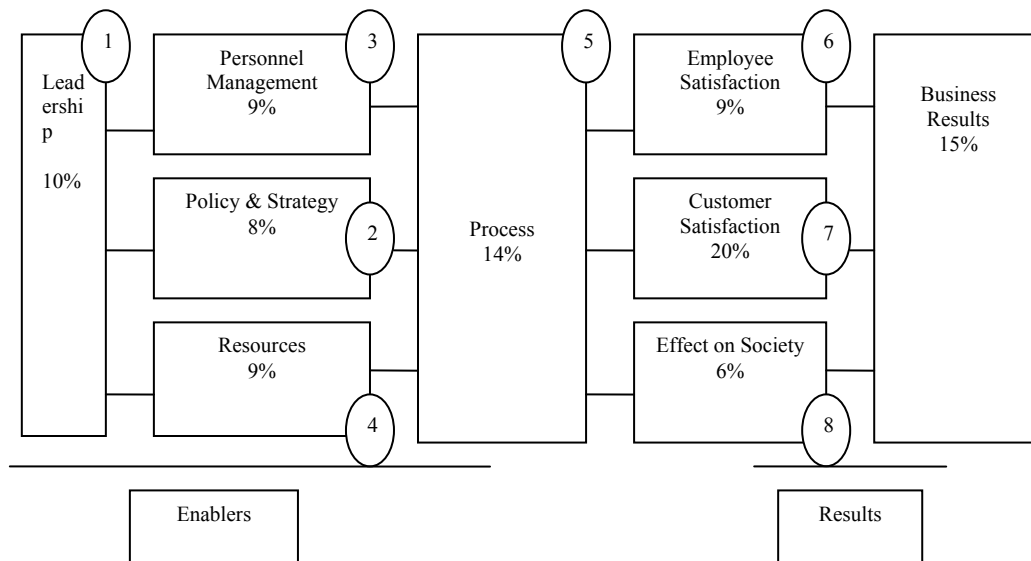
Our research questions are supposed to contribute to our understanding of the relationship between quality management, customer satisfaction and performance. Related to this specific context, and to the specific models we used, we formulate five research questions. The research questions concerning success parameters and Customer-perceived quality are as follows:

- 1) What are the success parameters of quality management in banks?
- 2) How well do these success parameters indicate achievements in quality management?
- 3) How well do these success parameters indicate business performance?
- 4) What is the relationship between quality management and customer perceived quality?
- 5) What is the relationship between customer-perceived quality and business performance?

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III. RESEARCH METHODS

Two different methods were used to gather data on quality management in banks: a written survey and in-depth interviews with quality managers. The latter were carried out to validate the questionnaire and to gain more in-depth insights in quality practices of banks. The questionnaire was set up in accordance with the EQA criteria in order to be able to compute quality scores for banks. For each criterion several questions were selected to obtain a valid representation of each individual criterion. A total of 36 items was used to measure all of the criteria. With respect to clients' perception of service quality, opinions of bank managers were used. Schneider *et al.* (1980) conclude that perceptions of managers can be reliable proxy of the actual perceived service quality of customers. We agree with Schneider *et al.* as to broad categories of services characteristics as they have been used in this study. For a more detailed analysis of processes, customers are indispensable, and management is frequently unaware of real problems. However, since we measure broad categories, we feel we can use the perceptions of managers. We measured these perceptions using five items related to the five dimensions of the SERVQUAL measurement instrument: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman *et al.* 1988). Table 1 gives an overview of the criteria used in the model and the operationalization of the criteria

IV. DATA COLLECTION

The study was conducted among the twenty-six public sector commercial banks operating in India. These 26 public sector banks comprise more than 80% share in the total assets of all commercial banks in India. Questionnaires were sent to total 220 bank branches in the city of kolkata. The sample of banks in India reflects their special situation,

that is, they are divided into PSU Bank, Private Bank, Foreign Bank and Co-Operative Bank. Respondents are mainly bank managers.

V. EMPIRICAL RESULTS

The first three research questions were:

- 1) What are the success parameters of quality management in banks?
- 2) How well do these success parameters indicate achievements in quality management?
- 3) How well do these success parameters indicate business performance?

For these questions we used the following analyses. We followed two-step approach with regard to the analysis of the data (Table 2). First, we carried out a factor analysis on all items of the award criteria to explore the underlying structure and to detect possible relationships and interdependencies of criteria. This resulted in an alternative set of independent parameters for banks. Second, the criteria and newly developed parameters were used to assess quality performance. This specific analysis was carried out in two ways. First, we calculated the criterion and parameter scores for the high-performing banks and the low-performing banks in order to explore differences. Second, we tried to assess the importance of each criterion or parameter by a regression analysis of the criteria and the new factor analyzed parameters, respectively, as explanatory variables for quality performance. This enabled us to compare the outcomes. Table 2 gives an overview of the comparisons made in the analysis of the data.

The five factors accounted for the variance. The resulting factors could be labeled as follows (Table 3):

- 1) Leadership and strategy;
- 2) Internal Process management;
- 3) External Process management;
- 4) Effect on society;
- 5) Technology used.

TABLE 1. OPERATIONLIZATION OF THE QUALITY AWARD CRITERIA

Criteria (number of items)	Description of items
Leadership (3)	<ul style="list-style-type: none"> Appreciation efforts of the personnel to improve service quality <ul style="list-style-type: none"> Informs itself about customer desires Management is the driving force behind increasing quality level.
Policy & Strategy (6)	<ul style="list-style-type: none"> Special attention for customer care Taking into account opinions or desires of stakeholders Use of information sources in formulating and evaluating strategy <ul style="list-style-type: none"> Strategic policy translated into departments Management pays attention to clarifying expectations of customers <ul style="list-style-type: none"> Strategic policy periodically evaluated and adjusted
Personnel (5)	<ul style="list-style-type: none"> Competencies and responsibilities are written down Competencies and responsibilities at lowest possible level in organization. Very clear competencies for personnel do not result in conflicts Improving level of expertise (average of recruitment, training, career development, supervision and peer review) <ul style="list-style-type: none"> Open communication in organization.
Resource management (4)	<ul style="list-style-type: none"> Sufficient support for personnel and professionals Measurement of costs of achieving quality targets Usage of modern technology to achieve constant level of care and service Technological developments result in innovations in products and services
Process management (9)	<ul style="list-style-type: none"> Processes that are important for high degree of customer satisfaction have been identified <ul style="list-style-type: none"> Measures are taken to identify needs and wishes of customers Information on care and service delivery processes is gathered in order to evaluate and improve processes. <ul style="list-style-type: none"> Assurance of service delivery processes by means of performances measures Working procedures and norms/protocols are available for all positions. Improvement of care and service processes takes place by comparison with other organizations <ul style="list-style-type: none"> Guidelines and procedures for dealing with complaints exists Information from complaints is used to improve care or service delivery processes <ul style="list-style-type: none"> Changes in care and service delivery are evaluated
Customer satisfaction (2)	<ul style="list-style-type: none"> Customer satisfaction is measured periodically Number of different ways of measuring customer satisfaction (surveys, consultations, visits, complaints, interviews)
Employee satisfaction (2)	<ul style="list-style-type: none"> Employee satisfaction is measured periodically Number of different ways of measuring customer satisfaction (complaints, evaluations, surveys, informal contacts)

• Social issues of interest for the organization (average score of environment, safety, well-being, employment and working conditions)

TABLE 2. OVERVIEW OF THE ANALYSIS OF THE DATA FROM BANKS

Analysis of the Data	Parameters for	
	EQA Criteria	Banks based on
	Factor analysis	
Differences between high and low performers	*	*
Importance assessment of criteria and parameters	*	*

TABLE 3. RESULTS OF PRINCIPAL COMPONENT ANALYSIS OF EQA ITEMS: VARIMAX ROTATED COMPONENT MATRIX WITH FACTOR LOADINGS (FACTOR LOADINGS<0.5 OMITTED)

Item in questionnaire	EQA criterion	Leadership & Strategy	External process management	Internal Process management	Effect on society	Technology
Management pays attention to customer	P&S	0.70				
Management is the driving force in quality initiatives	Leadership	0.68				
Translation strategy in departments	P&S	0.65				
Management appreciates effort	Leadership	0.63				
Evaluation of policy	P&S	0.59				
Quality in objectives	P&S	0.55				
Use of information sources	P&S	0.54				
Quality in objectives	P&S	0.52				
Guidelines for dealing with complaints	Process		0.68			
Gathering information on services	Process		0.65			
Working procedures and norms	Process		0.59			
Competencies on lowest possible level	Personnel			0.75		
Measurement of employee	Employee			0.73		

satisfaction				
Open communication	Personnel	0.72		
Level of expertise	Personnel	0.54		
Society: employment	Society		0.67	
Society: well-being	Society		0.52	
Innovative technological developments	Resources			0.62
Use of modern Technology	Resources			0.58

P&S, Policy and Strategy.

TABLE 4. AVERAGE SCORES OF LOW AND HIGH TQMP PERFORMERS AND IMPORTANCE

	Low TQMP performers (n=45)	High TQMP performers (n=45)	Importance (Beta estimate)	
<i>Quality award criteria</i>				
Leadership		3.28	4.31	n.s
Strategy		3.18	4.21	n.s
Personnel		3.18	3.97	0.43(2)
Resources		2.74	3.78	n.s
Process Management	3.19	4.21		0.65(1)
Customers		2.89	4.14	0.24(3)
Employees		1.45	2.78	n.s
Social effects		3.53	4.22	n.s
<i>Factor-analyzed parameters</i>				
Leadership and strategy		3.22	4.29	0.74(1)
Internal process management	1.78		3.26	0.56(2)
External process management	3.45		4.53	0.52(3)
Social effects		2.42	3.73	n.s
Technology		3.11	3.77	n.s

n.s, not significant.

TABLE 5. AVERAGE SCORES OF LOW AND HIGH BPS AND IMPORTANCE WEIGHTS

	Low BP performers (n=54)	High BP performers (n=73)	Importance (Beta estimate)	
<i>Quality award criteria</i>				
Leadership		3.46	4.31	n.s
Strategy		3.38	4.10	0.30(1)
Personnel		3.14	3.93	n.s
Resources		2.78	3.78	0.21(2)
Process Management		3.23	3.98	n.s
Customers		2.98	4.01	n.s
Employees		1.61	2.67	n.s
Social effects		3.58	4.28	n.s
<i>Factor-analyzed parameters</i>				
Leadership and strategy		3.36	4.14	0.22(1)
Internal process management	2.02		3.17	0.21(2)
External process management	3.45		4.33	n.s
Social effects		2.42	3.98	n.s
Technology		3.19	3.77	0.14(3)

n.s, not significant.

TABLE 6. IMPORTANCE RANKING OF EXPLANATORY VARIABLES FOR PROGRESS IN TQM AND BP

	Progress in total quality management	Business performance
EQA model	1. Process management 2. Personnel 3. Customers.	1. Strategy 2. Resources
Parameters based on factor analysis	1. Leadership & Strategy 2. Internal process management 3. External process management	1. L & S 2. IPM 3. Technology

L& S, Leadership & strategy

Remarkably, leadership and strategy emerge as separate factor. Moreover, internal process management emerges as the solution factor. This implies that banks can be differentiated on the basis of personnel. Furthermore, there are close interrelationship between employee satisfaction and service process within the parameter external process management on the one hand, and the customer satisfaction and service process within the parameter internal process management on the other. This results in a distinction between the internal (employee) side of processes and external (customer) side of processes, suggesting that the traditional categorization into technical quality (processes and procedures) and functional quality (perceived quality) as introduced by Gronroos (1984) might be valid in banks. Examples of internal processes are the staffing, hiring and retaining of high quality employees or evaluation and rewarding of superior performance. Examples of external processes are complaint handling and procedures to collect policy-relevant information from customers. Both have a bearing on the way the processes have to be improved. Internal process management relates to technical knowledge and ability and machines, materials, facilities and technologies. External processes relate to service minded behavior, employee availability, appearance and accessibility.

The next step is comparing high performers and low performers. We used two different conceptualizations of performance, total quality management progress (TQMP) on a 1-10 scale and business performance (BP) of the banks in terms of net profit and business volume (average of two 1-5 scales). Low performers had a score of 0-4 on TQMP scale, and high performers scored 8-10. This selection resulted in 45 low-performing banks and 45 high-performing banks (out of total of 220). The BP score consisted of an average of three items. Low performers (54) were identified by a score of 1-3.8, high performers (73) by score of 4.5-5 out of total of 220 banks.

VI. HIGH AND LOW TQMP PERFORMERS

In the table 4 the average scores of low TQMP and high TQMP performers on the quality award criteria (average scores) and the five new factor-analyzed parameters (average scores). High performing banks have higher scores on all criteria and parameters simultaneously. The results suggest that there is no natural, logical order in which higher levels of TQM can be achieved.

Here, leadership and strategy, internal and external process management are the most important criteria. Internal and external process management consists largely of items derived from the criteria process management, personnel and customers of the EQA model. Therefore, the new model explains a slightly lower variance with five explanatory variables, and adds the importance of leadership and process management as explanatory factors for TQM progress in Banks.

VII. HIGH AND LOW BP

In the table 5 the average scores of low BPs and high BPs on the quality award criteria (average scores) and the five

factor-analyzed parameters (average scores). Once again, we calculated the importance of each criterion by regression analysis. Strategy, Process

Management and resource management seem to be the most important drivers of business results of banks. These parameters show the up gradation of technology, in addition to internal process management, leadership and strategy.

Our goal was to assess the relationship between customers' quality perceptions and achievements in TQM and BP of banks. This goal was reflected in research questions 4 and 5:

- 1) What is the relationship between quality management and customer perceived quality?
- 2) What is the relationship between customer-perceived quality and business performance?

As stated previously, Schneider et al. (1980) concluded that there is a close relationship between the employee-perceived quality in banks and the actual service quality perceived by bank clients. This analysis shows that the variance in perceived service quality could be explained by progress in TQM. Less variance in BP could be explained. In total, BP could be explained by customer-perceived quality and TQM in progress. These outcomes suggest that there is clear relationship between TQMP and perceived service quality. Total Quality Management Progress (TQMP) and perceived service quality are linked to BP only to a limited degree, in which both are equally important. The effect of progress made in TQM on perceived service quality might be viewed as effectiveness of such programmes. Subsequently, the effect of progress in TQM on FP might be seen as efficiency, related to the managerial and cost related variables. FP may be dependent on the stage of TQM of the banks in this study. Improvements may be an effect on perceived service quality, but in this stage does not result in cost reductions.

VIII. LIMITATIONS

However, our research shows that there are severe limitations. First, measurement of BP differs from the measurement of TQM progress. In TQM progress there are different explanatory variables as compared to business performance (Table 6). Second, the object of measurement also influences the study. Our factor analysis shows differences in explanatory variables (Table 6). For example, for banks a role of technology use emerges.

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