

CHAPTER FIVE

Findings and Conclusion

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Chapter Five: Findings and Conclusion

5.1 Summary, Findings and Conclusions

The technique of ABC involves identification of production path, identification of activities that go into making a product or service, selection of suitable drivers, creation of cost pools, calculating the activity cost driver rate and assignment of the cost based on the activity cost driver rate and activity consumed by cost object. The basic idea of ABC is that costs are grouped according to what drives them or causes them to be incurred. ABC is the method of cost attribution to cost units on the basis of benefits received from indirect activities. It puts emphasis on performance of activities and demands that these activities make on the resources of the organisation.

In the Indian context very few studies were carried out on Activity Based Costing particularly in the service sector. This research endeavor emphasizes on link between objectives of keeping cost accounting system and its effective use to provide information for various business applications. Attempt has been made to establish that the use of ABC as a tool of cost management is advantageous in service sector by using both, quantitative method and qualitative methods. Thus, the outcome of the two case studies- one in the health care and the other in the cooperative bank has proved by now establishing Activity Based Costing System improves operations better meets the needs of Service providers and Service sector customers in a more cost – effective manner.

This research endeavour has been presented in Five chapters. The major summary and conclusion derived from this research work are as follows:

Chapter One deals with the introductory part of the research work. This chapter deals with rationale of the study, objectives of the study; the methodology used for the research, and also spells out the plan of the study.

Chapter Two explains literature review carried out in relation to historical development of Cost Accounting Theory and Practices. The next part of the chapter discusses the Traditional Costing System, emergence of idea of Activity Based Costing, practical application by retrieving the journey of Activity Based Costing

system and its application in the business in general as well as service sector in particular. Further, it discusses studies and research work carried out in the area of Activity Based Costing system at international level as well as in India. The next part of the chapter discusses literature review on application of Activity Based Costing particularly in Banking Sector and Health Care Sector. The last section of the chapter is about the literature gap that was unfolded in the process of literature and it recommends further research areas that would be of great utility in the present research endeavor in general and particular in service sector which needs development of new models.

This chapter throws light on some interesting findings as given below:

- i. Accounting and business has been central to the development of every culture and civilization and mainly depends on economic and social development. Accounting evolved, improving over the years and advanced with advancements in business. Modern accounting is an outcome of a series of organized and systematic processes that were taking place since the beginning of human civilization and shall continue in future.
- ii. Accounting base was strengthened with the Publication of explanatory books on accounting methods and Publication of Critical Articles.
- iii. The series of steps involved in initially recording information and converting it into financial statements is called as accounting system. Information required by those who were interested with a business organisation was met by practicing a system of accounting known as financial accounting system. While calculating true profit need of correct valuation of inventory arose, with this importance of cost calculation emerged.
- iv. Cost accounting was evolved mainly because of scarcity of the available resources. In order to ensure the optimum utilization of scarce resources in business, the value of input is measured against the value of output. This implies matching cost per unit of production against the value of output or selling price. In the early stages, cost accounting was considered as an extension of financial accounting.
- v. Economic theories and writings of economists helped in forming a specific opinion regarding cost-determination, assets valuation and income determination etc.

- vi. On the one hand with beginning of the First World War the cost accounting concepts advanced further, on the other, recession in the post-World War I period dramatically revealed the shortcomings of the planning and control systems of most industrial enterprises which further consolidated the significance of cost management practices by academicians and practitioners.
- vii. During depression liquidity crises shattered the industries posing a major challenge for firms to develop cost accounting systems to determine costs for all phases of their operations, including primitive analysis of overhead costs which lead to the development of charging non-manufacturing cost to the production cost. During this period it was found that firms practicing advance cost accounting management system could practice and survive in adverse situations. It also lead to the practice of charging overheads to specific products and prices could be set differentially, based on product costs and potential demand for specific products.
- viii. After the World War II, advancement of science and technology production system changed to a great extent. Under the changed circumstances traditional system of accounting failed to meet the demands so, attempts were made to update the accounting system. Nineteen Sixties witnessed the modifications in cost accounting with onus on the application of quantitative models to a variety of planning and control problems emerged.
- ix. Factors like global competition, automation revolution, changes in business processes and intense competition, advancements in data analysis and data processing posed greater challenges on Cost management practices. Now, Cost management system was used by both manufacturing and services organizations facilitating effective management of costs.
- x. With the influx of the above mentioned factors, the Conventional costing systems based on a two-stage procedure were gradually becoming redundant, as it fails to provide information that can be applied to cost management and performance improvement. On account of use of arbitrary base for allocation of overheads to cost objects, increase in share of overhead in the product/service cost, Traditional Costing System failed. In the present scenario the nature of overhead cost has undergone change from costs which were predominantly influenced by volume-related factors to a composition determined mostly by non-volume-related factors.

- xi. All the above discussed factors paved way for Activity Based Costing System which helped in overcoming the problems of overhead cost measurement and management caused by traditional costing systems.
- xii. The practical and application based research led to advancements in Activity Based Costing and Time Driven Activity Based Costing (TD-ABC) evolved as a tool of measurement of cost. TD-ABC uses time as a measure of resource consumption by activities that have been triggered by cost objects to produce outputs. ABC systems assist in identification of value and non-value added activities that can be reduced or eliminated to improve business performance.
- xiii. The literature review revealed that ABC was more prevalent and in vogue in manufacturing sector but, gradually it seeped itself into non-manufacturing i.e. service sector too with healthcare, banking, and insurance to mention a few.
- xiv. Literature review revealed the dominance of quantitative method in researches of ABC whereas qualitative methods were scarcely conducted.
- xv. Most of the Activity Based Costing research was done in developed countries and very little research has been done in developing countries. In India very few studies were carried out on Activity Based Costing, more particularly in the service sector.
- xvi. The decade beginning from 2004 saw an increase in the number of studies on use of application of Activity Based Costing in the Health Care and Banking sector. These studies highlighted the advantages of ABC with a rider that the details of ABC calculation and its comparison with the traditional method was never disclosed.

Chapter Three presents the case studies with a view to filling the gap between idea and practice of Activity Based Costing in service sector with cost system provides better control over the cost in comparison with the traditional costing system. The main objective of this research endeavour is to carry out a systematic study of role of Activity Based Costing as a tool in cost management as well as business decisions. In order to achieve the aforesaid objective case studies of two organisations: one from Health care sector-Parakh Laboratory, and the other from Banking sector-the Government Servants Co-operative Credit Society Limited were conducted and the subsequent outcomes were presented. The major findings and conclusions from these two case studies are summarised below:

Both the organisations followed and practised traditional method of keeping and maintaining records/ accounts on commercial basis. There is good costing awareness among management and staff of both the organisations. The professional set up the management of organisations is less aware of the detail and accurate cost of various activities performed, profitability of various services provided to customers and use this information for decision making.

CASE-I: Designing Time Driven Activity Based Costing System for Parakh Laboratory a private laboratory:

The main objective of the study was to suggest TD-ABC for Parakh Laboratory by assigning cost to various Cost Objects and constructing a mathematical model that contributes in performance improvement and profitability by minimizing unused capacity by procuring detailed cost, activity wise cost, cost of various tests performed. Presently manager of Parakh Laboratories is not aware about accurate cost per Test and cost of various kinds of activities performed for a particular test. They are not aware about the factor which drives the cost of each activity. The present method does not provide detail information to analyze customer profitability or cost object profitability. Health Care organisations (laboratory) have been struggling to identify the costs of products and services they provide. Owing to the complexities in health care activities accurate cost measurement has been a huge challenge in the laboratory. From the first stage of admission of a patient to investigative procedures till his/her exit, s/he test consumes different resources of the laboratory. As the laboratory procedures were inter-related and interdependent and also that management was unaware of allocation and absorption of costs to various cost objects (here tests) there were difficulties in ascertainment of accurate cost and profit from each test performed. Following are the findings that came up while conducting the study of Parakh Laboratory:

- i. At present overall profit for the organisation as a whole is calculated as reflected by the financial statements prepared annually. Service or test wise cost and profit are not calculated.

- ii. At present service or test wise resource consumption is not identified. Resource cost drivers as well as service cost drivers are not identified. Customer profitability is not known at present.
- iii. Process cost is not known. Single process results in producing more than one output. Single cost produces multiple outputs. Single process uses multiple resources as well as multiple processes.
- iv. Accurate cost calculation for each activity and output is challenging task.
- v. The problem very categorically observed was in terms of allocation and absorption of costs due to the finding that there were various integrated and inter-related and inter-dependent processes.
- vi. It was found out that poor costing system has adverse influence on pricing and quality of service rendered which led to poor decision making affecting the sustainability of the laboratory.
- vii. Without a proper understanding of cost the laboratory was unable to link cost to process improvements or outcomes leaving behind a poor pricing system so, making systemic and sustainable cost reductions & services emerged as a huge challenge. This finding established that there is a dire need introducing a cost system which resolves the challenges before the management.
- viii. These findings served as the foundation to introduce mathematical model of TD-ABC as an effective tool for cost management.
- ix. To use TD-ABC, Mathematical time driven equation designed especially for the laboratory was used to calculate total time, cost and cost driver rate of various activities.
- x. With the help of the mathematical model various activities and cost drivers, cost of capacity supplied, practical capacity in terms of minutes and capacity cost rate were calculated. Capacity requirement of various activities for time equation was estimated. Time equation for activities like registration of patient for testing, cash collection, and sampling, analysis of sample / testing, report preparation and delivery of report, performed in the laboratory were determined. Then, total cost of cost objects i.e. output (tests performed) like Hematology, Biochemistry, Serology, Hormone Test, Parasitology, and Microbiology were determined by TD-ABC.
- xi. With the help of time driven equation total time, cost and cost driver rate of various activities were calculated.

- xii. Total time, total cost for each cost object, total cost of Used and Unused capacity was calculated with the help of Time Driven Activity Based Costing model such detailed information about cost which could help in Pricing Decision and improving performance and profitability.
- xiii. The calculation of reliable and accurate cost and the identification of value added activities is one of the greatest advantages of TD-ABC.
- xiv. TD-ABC helps to calculate accurate cost of each test individually which can be reliably used in pricing decision this in turn helps to evaluate output wise or test wise profitability
- xv. Profitability 60 % and above is considered as higher profitability, 40% to less than 60% considered as moderate profitability and less than 40% considered as low profitability. After applying TD-ABC it was revealed that Profitability for Hematology is 86.44% which is the highest followed by Biochemistry 63.29%, Serology 63.19%. Profit and profitability per test is considered as moderate in case of Parasitology and Hormone which are calculated at 58.67% and 41.86% respectively. In case of Microbiology profit and profitability is low at 23.54% per test.
- xvi. From the analysis it was observed that there might be cross cost subsidization in cost calculation for the pricing at the Parakh Laboratory this is reflected in the cost and price/rate of Hematology Test. Laboratory charged Rs. 200 per test whereas cost of performing test is Rs. 27.11. This indicates that to remain competitive in the market, price reduction program can be exercised for this type of test and can attract more test jobs. The same is reflected in the case of Biochemistry, Laboratory charged Rs. 120 per test whereas cost of performing test is Rs.44.05. Serology Laboratory charged Rs. 120 per test whereas cost of performing test is Rs.44.17 and Parasitology test Laboratory charged Rs. 100 per test whereas cost of performing test is Rs.41.33.
- xvii. The information regarding unused capacity is helpful in decision making regarding accepting job work or makes efforts to use at out counter.
- xviii. TD-ABC model is helpful in minimizing unused capacity by utilizing unused capacity productively and can improve its performance as well as profit.
- xix. The results of various tests calculated with the help of TD-ABC established and validated that it is imperative to hold sound cost management Strategies & technique. And also that there are significant opportunities for the healthcare

providers for the sustenance and growth of their entities lest they learn to micro managed their costs although, the calculations system can become overly detailed to manage.

- xx. The results of the case study concretized that TD-ABC is easy and fast to implement, inexpensive, fast to update and it captures the complexities of health care organization.

This mathematical approach towards calculating profitability was entirely novel to the management but, there was an overwhelming response towards acceptability of TD-ABC.

CASE-II: Designing of an Activity Based Costing System for Government Servants Co-operative Credit Society Limited:

The Co-operative Bank under study is reporting on the basis of general purpose Financial Statement. The present accounting system followed by the bank does not provide detail about cost and profit individually for the services provided or income earning products/actions (output) by the bank i.e. Loans and Investments. In order to assign resource costs to cost objects via main activities under taken by the bank, on the basis of cause and effect relationship, new tool became essential. As it is reviled in the literature review, that the cooperative banks are facing multifold challenges due to heavy competition created in the financial market with entry of other banks (other cooperatives and private sector banks). The growing challenges in the field of banking sector as an outcome of the fierce competition, demands accuracy in product wise cost calculation, ascertaining profit as well as profitability. This compels them to invent more efficient ways of doing business by managing cost effectively. The present situation of competitive conditions in the banking sector fostered the development of accounting system to support management functions like planning and control as it is the high time for Cooperative banks to improve its bottom line through internal accruals without relying on frequent bouts of capital infusion by the government. Therefore the main objective of this case study was to check the efficiency of Activity Based Costing as a tool of cost management system. Following are the important outcome of the undertaken case study of The Government Servant Cooperative Society.

- i. The state of Cooperative bank in this case study was no different, review of pricing policies on deposits and loans, appraisal systems, recovery procedures, major expenditure items was necessary. And a suitable action plan to plug leakages and augment income needed to be devised. The present state of condition of the cooperative made it imperative to look for a good cost accounting system for detailed cost information to sustain with profitability in the growing market.
- ii. Detail observations and survey with the help of personal interviews main two events are identified as output i.e. cost objects first loans and advances another one investments.
- iii. On detail observation and study of expenses incurred by the society all the resource cost are identified and collected in to three main resource cost pools namely Human resource costs, fees and operating costs.
- iv. At Government servant cooperative society all the activities studied in detail and merged in three main identified activities namely
 1. File creation related activities
 2. Accounting work related activities and
 3. Recovery related activities.
- v. To assign resource cost to activity by establishing cause and effect relationship following resource costs drivers are identified.
- vi. Human resource cost as nature of duty performed. Fees costs were assigned on the basis of total amount of loan and investments and amount recovered. Operating Costs related monthly reports are used which specify the nature of the expenses and their connection with activities in the proportion of numbers of files, accounting entries and recovery transactions.
- vii. After first stage assignment of resource cost to identified activities, respective activity cost is calculated.
- viii. After calculating activity costs for respective activities, these activity costs are assigned to identify outputs. For this purpose, on the basis of observation and establishing cause and effect relationship between activities and output, activity cost drivers are identified. For File creation related activities numbers of Loans and Investments Accounts, for

Accounting work related activities numbers of accounting entries and for Recovery related activities numbers of recovery transactions.

- ix. The costs of each activity to the different cost objects traced on the basis of activity consumed, activity cost driver rates are calculated.
- x. After calculating activity cost driver rates, cost of each cost objects are calculated on the basis of activities consumed and by applying cost driver rate.
- xi. From the view point of cost, total cost of loans and advances is 7.59 % which is higher than the total cost of investments which is 7.20% so, investment is less costly as compared to loans and advances.
- xii. From the view point of income, Interest received on loans and advances is 10.39 % whereas from investments it is 13.57 % so, investment is providing more interest as compared to loans and advances.
- xiii. From the view of net profit investments is fetching higher rate of net return as net profit generated from loans and advances is 2.8 % and from investments is 6.37 %.
- xiv. It is also found that profit earned by bank on loans and advances is lower which is about 40% of the profitability calculated on investments. So, by increasing profits on loans and advances can increase performance of bank. As larger proportion of loans and advances can help bank to increase an overall profit by remarkable amount if it increases nominal increase in percentage return. Increase in investments can increase overall profit of the bank at a higher rate due to leverage effect.
- xv. It was found that total costs of Loans and Advances (88%) are higher than Investments (12%). It means that operating costs of Loans and Advances were very high and for Investments operating costs were found to be medium.
- xvi. Findings from the Profitability point of view were observed that total profits from Loans and Advances (27%) are lower than Investments (48%). It means that profitability of Loans and Advances were medium and for Investments profitability were found to be high.

The findings and their analysis asserted that it is possible to implement ABC in the cooperative bank although there might arise difficulties to manage calculations as the system information is overly detailed.

From case study analysis major findings are: Accurate measurement of cost of activity and cost objects helps to make various managerial decisions. It improves decision making process by eliminating the factor of cost cross subsidization and helps in long term sustainability of the organisation by providing space for accurate competitive pricing. It helps to understand the cost and profit process wise and product wise by establishing relationship between product and activity performed. The organisation become competitive while bidding prices as they are aware about activity wise cost, product wise cost and profitability of each product or services as well as it helps to know customer profitability. It also helps to identify product with under pricing with low profitability.

Chapter Four seeks to gain insight from the practicing accountants, owners, trustees, managers, research scholar executives, professionals, academicians, post graduate students related with the discipline of accounting and cost accounting, members of professional bodies on practices, awareness and practicability of objective and effectiveness of activity based costing system as a tool of cost management. The results of the empirical analysis provide information about the state of Activity Based Costing practices in India.

The major findings of the study are explained below:

First part of the findings shows Demographic Profile of the Respondents:

- ✓ The demographic profile of the Respondents showed that the majority of respondents were commerce graduates (87.6 percent), and post graduates with accounting and finance (70.54 percent) and also holding PhD Degree of Commerce (18 percent) falling in age group of 31 – 40 years (51.16 percent).
- ✓ Among all the respondents with Professional Qualifications, maximum respondents holding ICWA (CMA) degree (39.53 percent) belonged to service class (82.17 percent) having specialisation of Costing (46.51 percent), quite experienced (45.74 percent) with high and highest understanding about Cost Accounting system (71.32 percent).

Second part of the findings showed the result of inferential statistics. Inferential statistics including reliability test, Chi square, Factor analysis and Wilcoxon Sign Test were conducted.

- ✓ The reliability tests Cronbach alpha coefficient determined that the attributes/opinion were strongly related to each other and to the composite score. All dimensions of the questionnaire related with measuring opinion were tested and the Cronbach's alpha ranged from 0.771 to 0.960 which really shows internal reliability of the scale. Testing the scale for reliability revealed that for all the statements Cronbach alpha coefficient of 0.914. Therefore, this scale is considered reliable.
- ✓ Various Chi-squares were conducted for checking influence of one factor over another: the analysis revealed that there is significant influence of Education Qualification i.e. Graduation, Post-Graduation, and Professional Degree, Specialization/Department/Expertise, Work Experience on understanding of Cost Accounting System. It was found that there is significant influence of Work Experience, Professional Degree, and Occupation on system for allocating overheads in Service Sector Organisation. It was found that there is significant influence of Occupation on costing method used in service sector.

Apart from the above mentioned findings, Factor analysis was also conducted. Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables. Factor analysis can also be used to generate hypothesis regarding causal mechanisms or to screen variables for subsequent analysis.

- ✓ Factor analysis was conducted to explore reasons befitting the use of cost accounting system. The component matrix showed that Cost Accounting System should differentiate cost for different purposes and be designed as per the requirements of the organization to facilitate control which in turn are the major objectives found for establishing good Cost Accounting System in any organisation.
- ✓ Factor analysis was conducted for application of activity based costing system. The major applications found were: Research and Development, Cost Management, Cost Object costing, Managerial Planning, Product Engineering and Process Improvement.

- ✓ Factor analysis conducted to know the Significance of Service Sector and Need for Redefined Cost Accounting System established that changing environment has compelled Service Sector to adopt advanced Cost Management practices and lowering the “cost to serve” is a critical success factor in Service Sector. Use of Skills and knowledge to focus on myriad of activities performed as per the requirements of Customers are the significant factors for Service Sector so as to contribute maximum share in GDP.
- ✓ Factor analysis conducted to explore the Need of Activity Based Costing System in Service Sector ascertained the need to implement Activity Based Costing to Compare Benchmarks, ensuring Cost Control and Process Improvement.

Apart from the above mentioned findings, Wilcoxon Signed Test was also conducted for comparing technical factors related with Traditional Costing System and Activity Based Costing System. Following are the major findings:

- ✓ ABC increases the accuracy of cost allocation with the help of cost driver.
- ✓ ABC assigns costs based on cause-and-effect relationships.
- ✓ ABC shows more realistic cost behavior.
- ✓ ABC reflects cost actually consumed by cost object.
- ✓ ABC provides fact-based insight into the spending on cost object.
- ✓ ABC provides fact-based insight into the profitability of cost object.
- ✓ ABC provides accurate cost information in case of increased overheads.
- ✓ ABC separates profitable and non-profitable activities.
- ✓ ABC separates controllable and uncontrollable cost.
- ✓ ABC controls costs based on tangible activities.
- ✓ ABC is suitable for cost controls.
- ✓ ABC provides greater cost efficiency.

From the above findings based on Wilcoxon sign test analysis it is evident that Activity Based Costing is an effective tool of Cost Management.

5.2 Objective wise Findings

The main objective of this research endeavour is to carry out a systematic study of role of Activity Based Costing in cost management as well as business decisions. Further, to check the effective use of Activity Based Costing as a tool of cost management in service sector organisations, by integrating both, qualitative as well as quantitative measures and understanding the same. The major findings in continuation with the objectives are stated below:

Objective 1 & 2: Expound the theoretical framework of cost structure as well as different approaches of Costs ascertainment in service sector organizations. And document the cost ascertainment practises of select service sector organisations.

The present study reveals that different costing methods are used in service sector to determine cost with increased impetus on the use of Job Costing system for service costing and financial reporting purpose followed by Hybrid Costing Method and others.

Majority of service providers are using actual cost review for allocating overheads followed by Traditional budgeting. Very few service firms are using Activity Based Costing System for allocating overheads in the service sector. This shows that in India, activity based costing system is still in infancy stage as compared to Traditional costing system used for cost calculation and reporting. The case study also substantiates the above finding as no separate records are maintained to calculate total cost, cost per cost object and profitability of each process or cost objects.

Objective 3: Study the objectivity of Cost data and its use in Cost Management practices in Service sector.

Cost Accounting System is needed to determine cost and facilitate planning and controlling. This ascertains that the main objective of designing of sound Cost Accounting System must differentiate cost for different purposes and design as per the requirements of the organisation to measure the efficiency by which input resources can be converted to output based on cause and effect relationship. Cost Accounting

System measures the efficiency of internal operating process and develops competitive strategies. Cost Accounting System provides basis for valuing manufactured inventory, Cost of goods sold for external reporting and facilitates day-to-day Decision Making.

As significant and growing economic activity is being observed in the Service Sector with its increasing contribution in the economy, a refined Costing System with better understanding of costs information to improve profitability is the need of the day.

Majority of service providers are using actual cost review for allocating overheads followed by Traditional budgeting. Very few service firms are using Activity Based Costing System for allocating overheads in the service sector. This shows that in India, activity based costing system is still in infancy stage as compared to Traditional costing system used for cost calculation and reporting.

Objective 4 & 5: Examine the objectivities of present traditional volume based indirect costs allocation practices followed by service organisations and expected enhancement with the Activity Based Costing. And gauge the relationship of indirect costs with reference to use of cost data in decision making of select service sector organisation.

Traditional costing system is not providing detail information about cost objects. It arbitrarily absorbs overheads on cost objects and distorts the cost calculation as a consequence, decision based on such information do not tend to be productive. Owing to non-uniformity in the resource consumption by customer in service sector Activity Based Costing System with its focus on resources consumption meets the requirement of service providers.

In response to comparative evaluation of the Traditional Costing System and Activity Based Costing System it was observed that increase in accuracy of cost allocation with the help of cost drivers is an important factor of overheads management system, followed by greater cost efficiency and accurate cost information in case of increased overheads as effective use of indirect cost allocation system.

Activity Based Costing system as an indirect costs allocation method is suitable for cost control to objectively assign costs based on cause-and-effect relationships to show more realistic cost behavior. Activity Based Costing system as an indirect costs allocation method controls costs based on tangible activities, and also separates profitable and non-profitable activities and controllable and uncontrollable costs. Activity Based Costing system as an indirect cost allocation method reflects cost actually consumed by cost object by providing fact-based insight into the spending, cost causation and profitability of cost object.

This research is a critique of Traditional Costing System and emphasizes that accurate cost is measured with the help of Activity Based Costing System. Activity Based Costing System Increases accuracy of cost allocation with the help of cost drivers and provides greater cost efficiency by supplying accurate cost information in case of increased overheads.

Application of Activity Based Costing is advantageous as a Total Quality Management tool to perform various functions like i) Cost Object Costing ii) production related functions iii) customer related functions and iv) managerial decision making.

In response to Production related functions Activity Based Costing System provides quality information for Process Improvement, Inventory Valuation, Product Re-engineering Quality Control, Product Engineering and Research and Development. In response to Customer related functions Activity Based Costing System improves Customer Value with the help of activity analysis, helps in Customer Satisfaction Analysis and it provides competitive cost for sound Pricing Policy. In response to Managerial Decision Making related functions Activity Based Costing System provides different cost for different purposes, performance measurement, identification of relevant and irrelevant cost for decision making, cost management, identification of non-value added activity, product-mix decisions, managerial planning, detection of causes for deviation from budget, quality control and decisions outsourcing for decision making.

Objective 6: Ascertain the views of practising accountants, company directors, auditors, members of the professional bodies and managers with regard to the utility of information generated by Activity Based Costing.

For this purpose a Structured Instrument was developed and administered to Study Operationalisation of Activity Based Costing system as an effective tool for cost management in service sector. The questionnaire was canvassed to 200 people who willingly consented to participate in the research. In response a hundred and forty five questionnaires were received back from the respondents, out of which hundred and twenty nine were considered for further analysis. The answers given by the respondents for each question as well as sub question were quantified in categories and then computed in tabular form for further illustration and analysis. The findings are discussed in chapter four.

5.3 Further Research Scope

This research has provided greater understanding on application of activity based costing system in selected service sector organisation. Further research is encouraged to address some limitations of this research. Research experience has shown that the usefulness of the ABC is enhanced by repeating the study periodically and applying the results into the Managerial Decision Making process of the organisation. The scope of the study is limited as it focuses on only on application of Activity Based Costing in a cooperative Bank and a Laboratory. As very few empirical research efforts are seen on ABC adoption and implementation and application of Activity Based Costing in India, it offers vital scope for further research. Following are the areas in Indian context for future researchers.

- ✓ Application of Time Driven Activity Based Costing in Banking Sector in India
- ✓ Comparative study of Activity Based Costing and Time Driven Activity Based Costing
- ✓ Application of Activity Based Costing in Education Sector in India
- ✓ Application of Activity Based Costing in Telecommunication Sector in India
- ✓ Activity Based Costing and Firm Valuation in India
- ✓ Application of Activity Based Costing to measure Profitability of organisation in India

- ✓ Implementation of TD-ABC system to similar small service businesses in India.

5.4 Recommendation

Almost all the organisations are using Job Costing system for service costing and financial reporting where in Actual cost review for allocating overheads is followed, very few service firms use Activity Based Costing System for allocating overheads in the service sector. This shows that in India, activity based costing system is still in its infancy as compared to Traditional costing system used for cost calculation and reporting. This study has witnessed an interesting contradiction that the best outcome can be obtained through the application of Activity Based Costing but in reality very few organisations are applying Activity Based Costing in practice.

Mass awareness campaign should be embarked upon by accounting professional bodies with a view to educate Health Care managers and Bank executives and Directors about the application of Activity Based Costing. Awareness seminars with respect to costing of services should be organized by relevant government agencies or accounting professional bodies to educate service business owners.

TD-ABC designed for Parakh Laboratory by assigning cost to various Cost Objects and constructing a mathematical model. It contributes in performance improvement and profitability by minimizing unused capacity by procuring detailed cost, activity wise cost, cost of various tests performed. This output can be used for managerial decision making. Following are the suggestions to the laboratory:

- a. To adopt TD-ABC as it is easy and fast to implement, inexpensive, fast to update and it resolves the complexities of laboratory.
- b. To calculate reliable and accurate cost and identify value added activities which prove to be of greater significance in the laboratory.
- c. TD-ABC can be used as a tool of cost ascertainment and control to provide detail cost information to control current operations and plan for the future.

- d. On the basis of the profitability of various tests by using TD-ABC laboratory can take decision for bought out services for particular type of Test.
- e. Effectively utilization of the unused capacity for job work can help to increase profitability.
- f. With the help of accurate cost per test and profitability per test pricing of various tests can be reviewed and by reducing price more patients can be attracted or business from other laboratory can be attracted as job work at reduced rate.
- g. TD-ABC can work as total quality management tool, as it helps to know about various activities performed, its capacity and capacity cost, activity consumed by the tests and its cost and profitability.
- h. TD-ABC also works as process improvement as development model requires information about activities, its time and resource consumption.

The Costing system designed and suggested to Co-operative Bank provides cost data for selected cost objects based on the methodology of Activity-Based Costing. This output can be used for managerial decision making. Activity-based costing (ABC), as a management accounting tool, offers a remedy for accurate costing as well as improvement in Cooperative bank under study. Following are the suggestions to The Government Servants Co-operative Credit Society Ltd., Vadodara:

- a. On the basis of the profitability of cost objects, operating cost of loan and advances are required to be reduced by managing the activity performed at bank. It was also found that bank has taken no steps to reduce transaction cost which means that cooperative bank has not resorted to adopt technological means like ATM service, e-banking, mobile banking etc.
- b. Considering large proportion of fixed operating costs, transaction cost can also be reduced by increasing numbers of accounts as well as transactions. The reduction in transaction costs will help to improve overall profits as well as profitability of loans and advances having more than 95% of transactions in overall transactions.
- c. It is recommended that Bank should adopt latest technological means to reduce transaction cost this can be adopted by providing e-suvidha

like ATM, passbook printing and deposit machine in nearby Government offices on the same line as multinational, nationalized and some of the cooperative banks. This type of facility may reduce transaction cost to the bank and may increase customer satisfaction and profitability. This will also help to increase in number of accounts and in turn increases the profitability.

5.5 Conclusions

Cost Accounting System differentiates cost for different purposes hence, it can be customized as per the requirements of any organization. Cost Accounting System is needed to determine cost and to facilitate planning and controlling- the main objectives of any cost accounting system. Cost Accounting System helps to measure and develop competitive strategies which can be helpful to improve the efficiency of internal operating processes. It provides basis for valuing manufactured inventory, Cost of goods sold for external reporting and helps in making day- to- day decisions. This is also reflected by professionals, social scientist in the survey.

Adoption of Advanced Manufacturing Technologies have drastically increased size of the business, market and changed the way of conducting business activities all over the world and resulted into change in cost structure which led the academicians and practitioners to argue that Traditional Costing System is not providing detail information to analyze customer profitability or cost object profitability. Such changed environment led to emergence of Activity Based costing system which attempts to assign overheads into cost object on a more realistic basis by eliminating process of allocation or absorption.

When the Traditional Costing System was compared with Activity Based Costing System increase in accuracy of cost allocation with the help of cost driver, greater cost efficiency, accurate cost information in case of increased overheads, effective indirect cost allocation system established the superiority of ABC over TCS. ABC as Indirect costs allocation method which is more appropriate for cost control, as it is based on tangible activities, separates profitable and non-profitable activities, controllable and uncontrollable cost and reflects cost actually consumed by cost

object by providing fact-based insight into the spending and profitability of cost object.

The application of Activity Based Costing performs various organisational functions- as a Total Quality Management tool for Cost Object Costing; Production related functions (Process Improvement, Inventory Valuation, Product Re-engineering Quality Control, Product Engineering and Research and Development); Customer related functions (Customer Value Analysis, Customer Satisfaction Analysis and Sound Pricing Policy); Managerial Decision Making related functions (different cost for different purposes, performance measurement, identification of relevant and irrelevant cost for decision making, Cost Management, Identification of non-value added activity, Product-mix Decisions, Managerial Planning, Detection of Causes for Deviation from budget, Quality Control and Decisions Outsourcing).

As significant and growing economic activity is being observed in the Service Sector its profitability needs to be improved with better understanding of the increased overheads, customer's requirements, innovation and market condition, for which ABC is a suitable answer. Activity Based Costing system is a solution in the service sector to compare benchmarks, to provide insight into cost causation and rational ascertainment of cost information for Managerial Decision Making. Activity Based Costing System augmented with resources consumption is the need of the day in Service Sector.

Literature review, the two case studies in the service sector and the empirical analysis have confirmed that the objectives with which this study was undertaken have been efficaciously achieved. The pursuit has reinstated the indispensability of ABC in select service sector organisations. It is crystallized from the case study analysis carried out as a part of the research work that Activity Based Costing system has been proved to be easy and fast in implementation, inexpensive in operation, fast to be updated as it captures the complexities of organisation. The Costing system designed and suggested for selected service sector organisations provide cost data for selected cost objects based on the methodology of Activity-Based Costing. This output can be used for effective managerial decision making. Activity Based Costing (ABC), as a management accounting tool, offers a remedy for accurate costing as well as

improvement in efficiency, effectiveness, and quality of the cost information in organisations. ABC is hence a better costing system for services to improve profitability, achieve organizational goals, target growth, sustainability and development.