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Impact of Operations Management Activities on Operational Performance in Service Organizations

Ms. Pooja Gadwe, Dr. Pallawi B. Sangode
Operations Management,Dr. Ambedkar Institute of Management Studies and Research,Nagpur, India.
Operations Management,Dr. Ambedkar Institute of Management Studies and Research,Nagpur, India.

Abstract: *Operations management plays an essential role within the organization. However, operations cannot add isolation from different business functions. Recall that every business operates manages distinctive aspects of the business, and they all must work together. Most of the manufacturing firms implement the operations management activities and there is positive impact on the operational performance of the firms. As Service firms today are recognised as good sources of comparative advantage and services become an increasingly important and large sector, it is necessary to develop and test appropriate theories that relate specifically to the operational performance of such firms. It is important to more focus on service operations management with the ardent belief that operations management activities can provide the competitive edge in service organisations.*

I. Introduction

Operations Management is an area of management that deals with the process of production or production process and redesign of business operations in the production of goods or services. It includes the responsibility to ensure that business operations are efficient and efficient to use fewer resources as needed to meet customer requirements. Operational management (OM) is the business work responsible for managing the process of manufacturing goods and services. Operational management is mainly related to planning, organizing and supervision in terms of production, construction or provision of services.

Because operation management is a management task, it involves managing people, equipment, technology, information, and all other resources required in the production of goods and services. Operational management is the central main task of each company. It is true regardless of the size of the company, whether it is in the industry, whether it is manufacturing or service, or for profit or not for profit. (Sanders, 2014)

Operation management includes areas like banking systems, hospitals, companies, suppliers, working with customers and using technology. Along with supply chain, marketing, finance and human resources, operations are one of the main functions in an organization. Managing the strategic and day-to-day production of goods and services is required in the operation function.

The primary activities of operation management include job design, scheduling, content management, capacity management, facilities management and quality management. There are different operations management Activities considered here are Aggregate planning, scheduling, work measurement, forecasting, facilities layout, facilities location, job design, inventory Control, product or service design, quality and process control, maintenance, efficiency, production control, and inventory management.

Operational performance objectives are areas of operational performance, which a company tries to improve its bid to fulfil its corporate strategy. Firm's performance measured against standard or prescribed indicators of effectiveness, efficiency, and environmental responsibility such as, cycle time, productivity, waste reduction, and regulatory compliance. Few of the metrics considered here as an operational performance are: Quality, Innovation, Delivery, Responsiveness, Speed, Service Recovery, Cost Reduction, Productivity, Efficiency, Dependability, Flexibility, Effectivity, Sustainability. These metrics which cumulatively determine the operational performance of the company are very useful and important as these help the company to identify the particular area in which the company is lacking and it tries improving on these aspects. A company with a high operational performance is seen in good light by all, customer, employees and investors so all companies are continuously trying to improve this.

II. Literature Review

This paper (Belvedere, Defining the Scope of Service Operations Management: an investigation on the factors that affect the span of responsibility of the Operations Department in service companies, 2012) deals with the definition of the scope of operation management (OM) in the service companies. Operations in service companies are often spread across the organization and therefore it is difficult to understand where OM tools

and practices can apply and who should be in charge of their implementation. This paper analyzes three case studies in an effort to understand what else and why operations, in these companies, include various activities. The paper argues that three factors affect the alleged realm of OM, i.e. major culture; Industry specific entity Rules; Endowment of facilities.

This article (Daniel & Mark, 2014) represents an initial efforts and hope to develop an operational performance framework for service firms lead to work further in this field. In recent years there has been an increase in the effect related to operational management activities on display of operations in service organizations. This recognition, in return, emphasized on where and how to conduct operational management activities. The performance of service firms has affected the performance. This paper is an attempt to address it question attracted by the responses of most operating managers and operations directors.

This research (Rana, Zu'bi, Ayman, & Mahmoud, 2016) has been conducted to examine important factors affecting the operation. Excellence of Service Companies in Jordan , the main factors of interest are leadership, Human Resource Management Practices, Operational Strategy, and Participatory Culture. This Various service sub-sectors including banks, ICT, insurance, aviation, hotels and medical care were researched. In light of the findings of this research, which are in line with previous literature, Researchers have proposed some recommendations to be considered by academics and both Doctors in the field.

This literature (Maqableh, Mohammad, Rana, Abdel, & Majed, 2016) reviews the literature related to operations and excellence in research service firms. In addition, it examines factors that affect the operational excellence of the service sector. In literature, operating excellence for the service sector is still unclear. This research is an attempt to take advantage of the development done in the industrial sector, while at the same time different factors studied separately have to be painted together. It proposes a theoretical framework that examines some factors that affect operational excellence. This paper proposes a theoretical model among others in the service sector. Apart from this, it suggests that further investigations on obstacles may face firms to reach operational excellence.

The purpose of the paper (NEDYALKOV, ASPECTS OF OPERATIONS MANAGEMENT OF SERVICES, 2014) is to analyze the aspects of operational management of the services, developing guidelines for further investigation on this basis. There are differences between terms of marketing of services and commodities, but from a production point, the differences are only in the production of the operating system changes in operating management of services and support subsystems can be added to one component - back-office systems, and in the form of people.

III. Problem Statement

As Service firms today are recognised as good sources of comparative advantage and services become an increasingly important and large sector, it is necessary to develop and test appropriate theories that relate specifically to the operational performance of such firms. The inspiration of our study is that traditional operations management activities have evolved into the service industry by developing from the manufacturing sector.

Therefore the objective of our study is to examine the impact of operations management activities on the operational performance which has been studied in the manufacturing sector can also translate into the service sector.

IV. Research Methodology

Objectives

The main objective of our paper is to study how and at what extent the implementation of operations management activities affects the operational performance in service organizations. The specific objectives considered are as follows.

1. To study the operations management activities implemented in the service organizations.
2. To study the operational performance of the service organizations.
3. To study the impact of operations management activities on the operational performance in the service organizations.

Research Design Including Sample Design

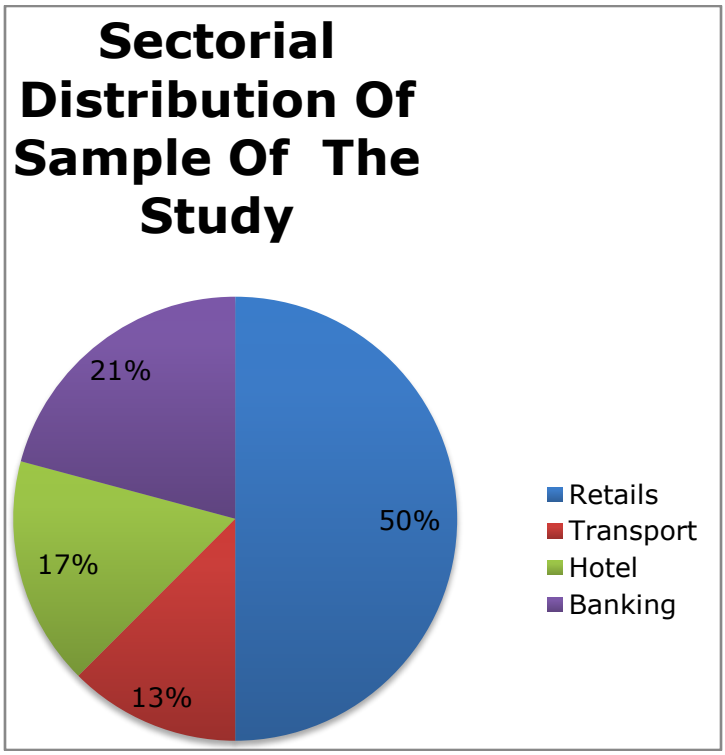
This research is an empirical type of research i.e. based on the collection and analysis of primary data based through direct observation or experiences in the 'field'. This study includes both qualitative and quantitative research. The qualitative research was conducted to understand the implementation of operations

management activities and its impact on operational performance. The quantitative research includes the comparative study. This data would help to address the research in service sector.
The sampling technique used for the study are stratified and convenience sampling and the study has drawn from 24 service firms, encompassing the service sectors such as transport (courier), retail, banking and hotel.

V. Data Collection

This study utilized primary data collection. It is done through the interview method and questionnaire survey. The structured questionnaire is designed which defines and fulfils the objective of the study. The questionnaire was designed in a simple table format which includes four questions comprising of various factors in each question. These factors were put on 5 point "Likert Scale", 1 being very low and 5 being very high. The questionnaire describes the various operations management activities implemented by the service organizations, the operational performance of the service organizations and the impact of operations management activities on the operational performance in service organizations. It also describes the perceived importance of operations management activities in service organizations.

Data Analysis



The below chart shows the sample size of the service firms in percentage in each service sector which has taken into consideration for the study. This study considers the four service sectors as Retail, Transport, Hotel and Banking. In which retail firms are 50%, transport or couriers service firms are 12%, hotels are 17% and banking are 21%. In this study all the factors and data is recorded for firms in these four sectors.

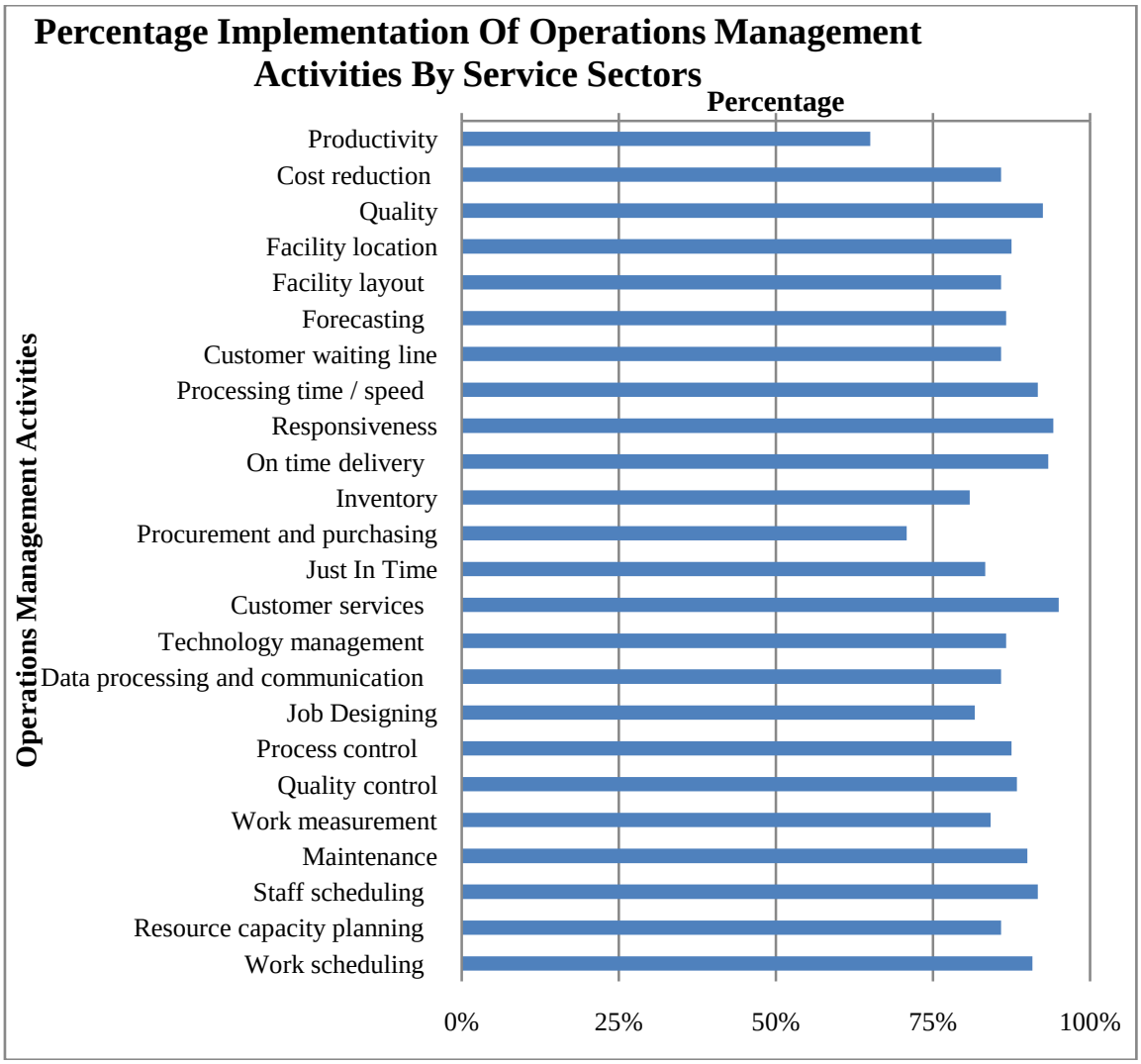


Fig.4.1 Percentage Implementation Of Operations Management Activities By service sectors

The above graph represents the percentage implementation of operations management activities in service organizations. From the above graph it is observed that all the operations management activities are implemented in all service firms like scheduling, measurement, service processes, logistics, service, support, facility, features and efficiency. Along with customer services work scheduling, maintenance, staff scheduling, responsiveness, on time delivery, processing time/speed, quality all these activities are highly implemented in all the service firms.

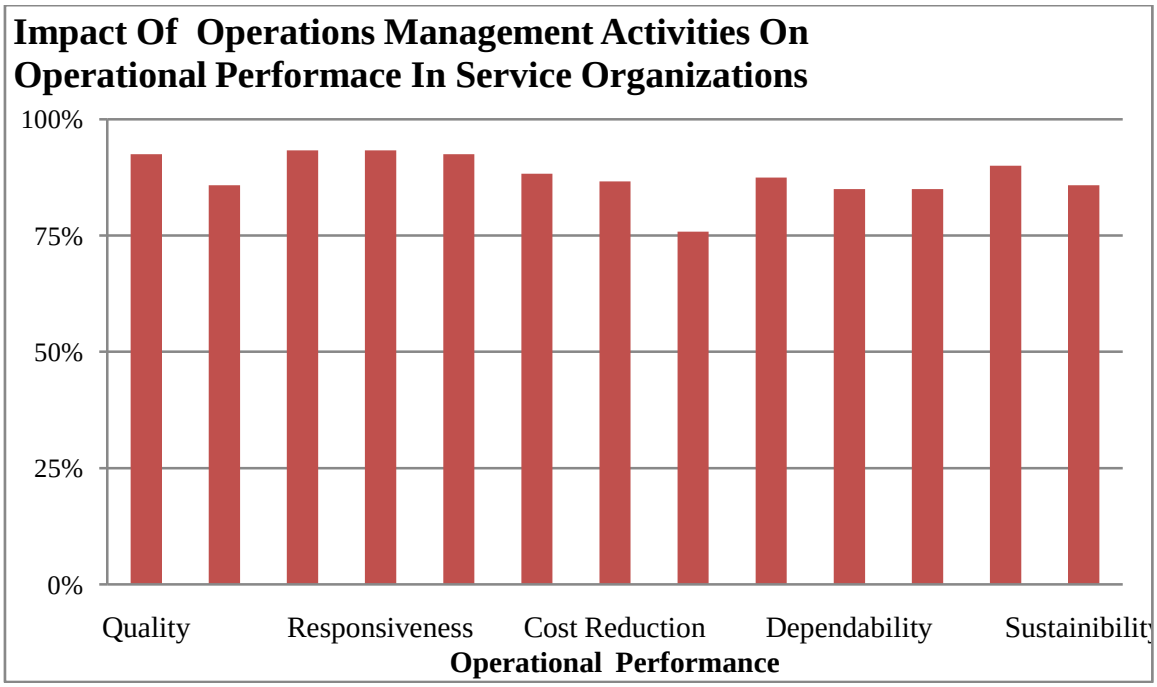


Fig. 4.2 Impact Of Operations Management Activities On Operational Performance In Service Organizations

The above graph represents the impact of operations management activities on the operational performance in the service organizations. From the above graph it is seen that there is high positive impact on the operational performance of the service organisation by implementation of operations management activities. Regarding service Quality, Delivery, Responsiveness, Cost reduction, Speed, Service recovery, Efficiency and Effectivity all these factors of operational performance are highly improved by service organizations by implementing Operations Management activities which are introduced in the previous graph. Altogether it is seen that implementation of Operations management activities increases the operational performance of service organizations.

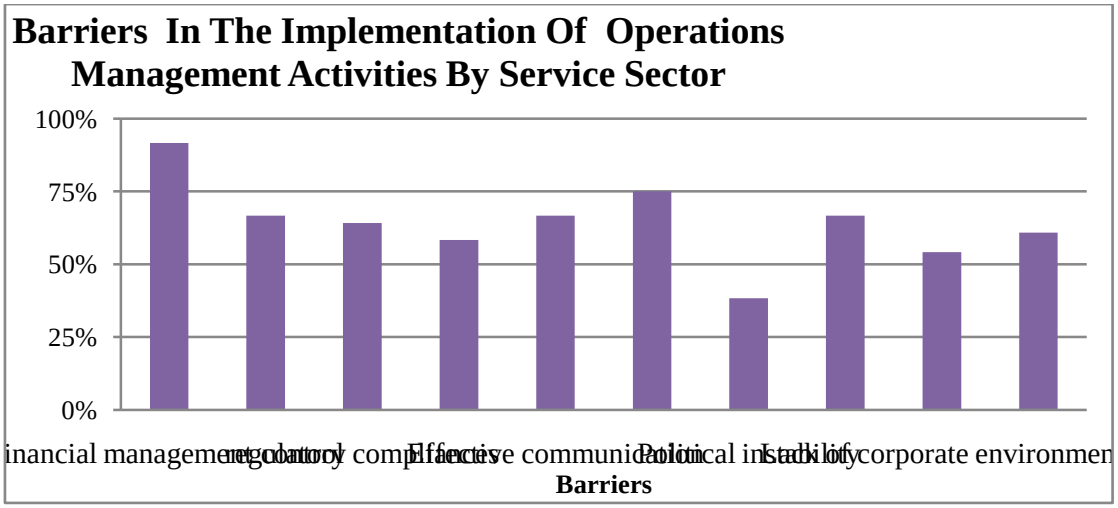


Fig. 4.3 Barriers In The Implementation Of Operations Management Activities By Service Sector

Above graph shows the barriers in the implementation of operations management activities in the service organizations. As shown in the above figure it is seen that all the barriers are facing by all service firms at distinct level. Financial management control is the most common and highest barrier in the implementation of operations management activities in service organizations. Along with infrastructural problem Effective

communication, Information technology, Faulty value chain system and regulatory compliances are also another barriers facing at some extent by the service organizations. As per graph political instability is the lowest barrier in implementing Operations management activities.

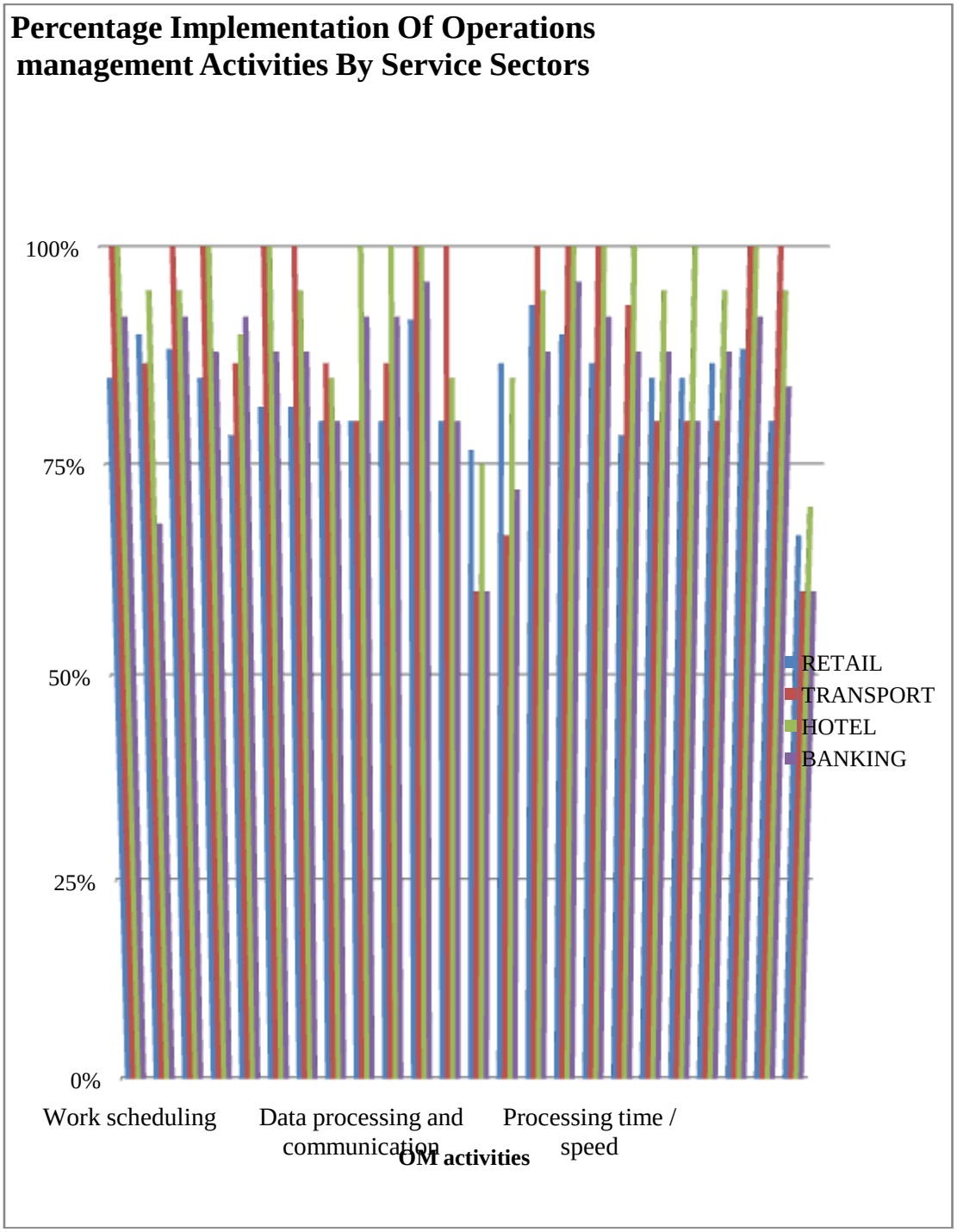


Fig. 4.4 Percentage Implementation Of Operations Management Activities By service sectors

Above graph shows the implementation of operations management activities by each service sector. It is the comparative study between the retail, transport, hotel and banking sector for the percentage implementation of the operations management activities. From this comparative study it observed that all factors or all activities are equally used or implemented by each of the four sectors considered here. Hence all the

factors or operations management activities are equally implemented by each sector. Operations management activities are highly implemented by the hotel and transport or courier service firms than retail and banking service firms.

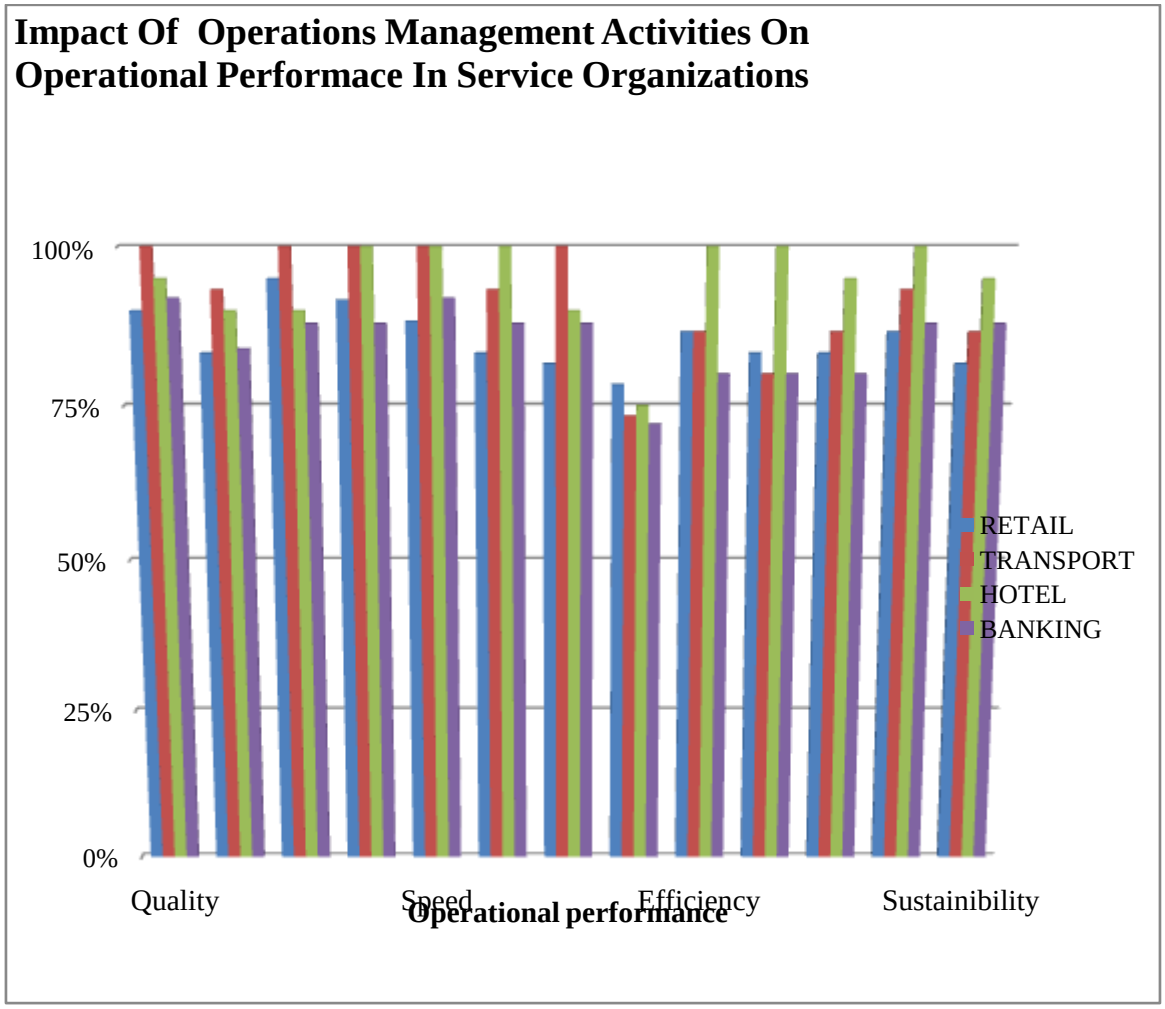


Fig. 4.5 Impact Of Operations Management Activities On Operational Performance In Service Organizations

Above graph shows the impact of operations management activities on the operational performance in service organizations. It is the comparative study between the retail, transport, hotel and banking sector for the percentage impact of management activities on the operational performance in service organizations. From this comparative study it observed that all factors are equally impacted by each sector. Impact of operations management activities on the operational performance in transport and hotel service sector is more than retail and banking service sector for all the factors of operational performance considered above. Altogether it is seen that implementation of Operations management activities increases the operational performance of service organizations.

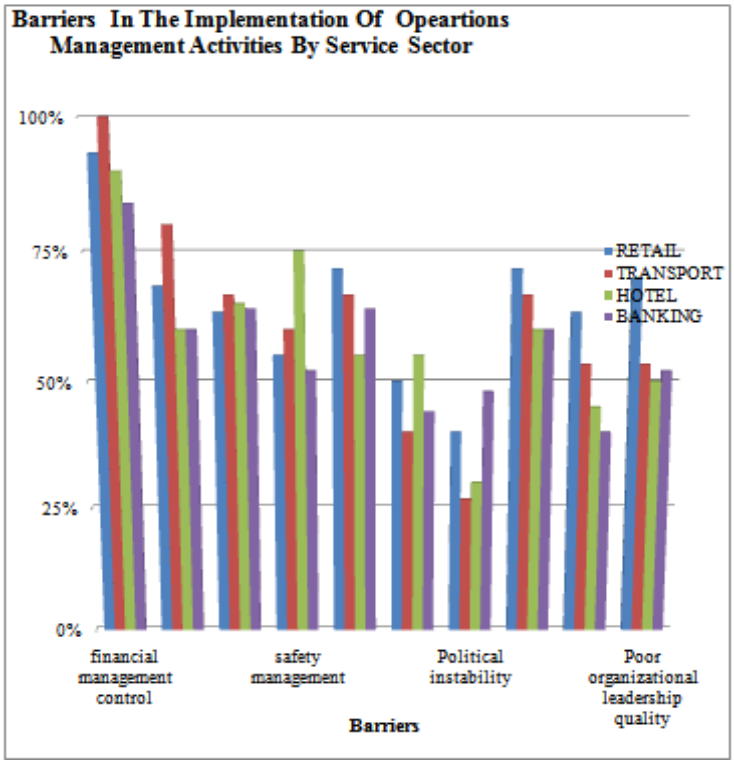


Fig.4.6 Barriers In The Implementation Of Operations Management Activities By Service Sector

Above graph shows the barriers in the implementation of operations management activities in the service organizations. It is the comparative study between the retail, transport, hotel and banking sector for the percentage barriers in the implementation of operations management activities in the service organizations. As shown in the above figure it is seen that all sectors are facing various barriers at distinct level. Financial management control is the highest barrier in the implementation of operations management activities in almost all the service firms. From the above figure it is observed that almost all barriers are equally faced by each sector.

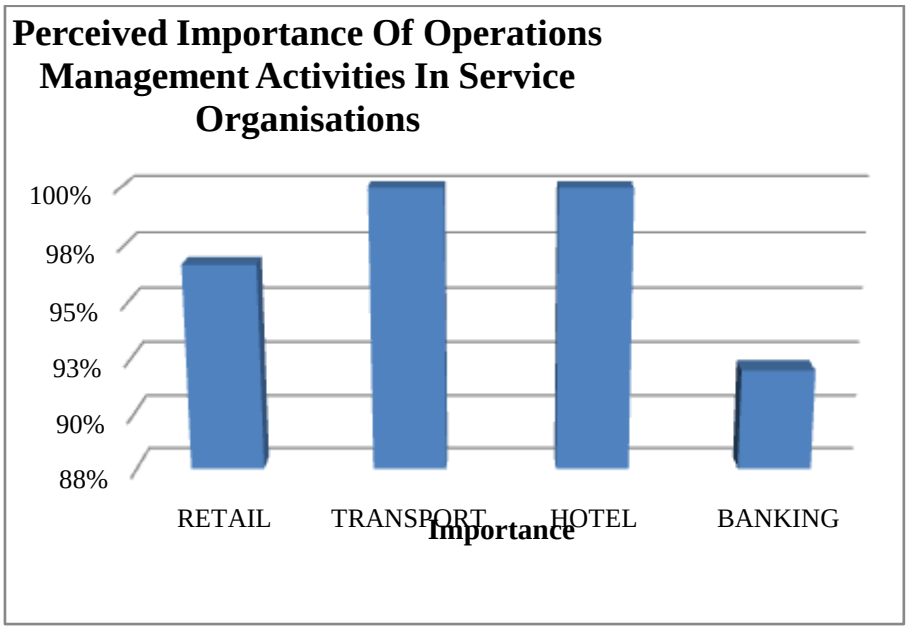


Fig. 4.7 Perceived Importance of Operations Management Activities In Service Organizations

Above figure shows the importance of operations management activities or operations management in the service organizations. It is the comparative study considered for the retail, transport, hotel and banking sector which shows the percentage importance of the operations management activities or operations management in the service organizations. From this study it is observed that operations management activities are most important in the service organizations. As the above chart shows the percentage importance of operations management activities or operations management in the service organizations is between 92% - 100% for all the sectors considered above.

Hypothesis Testing Null Hypothesis (H0)
The assumption that there is no significant impact of operations management activities on the operational performance in service industry is tested using the Pearson's correlation coefficient.

		Work scheduling	Resource capacity planning	Maintenance	Quality control	Just In Time	Procurement and purchasing	Inventory management	Processing time / speed	Average correlation of operations management activities	Quality improvement	Delivery improvement	Responsiveness	Speed	Cost Reduction	Productivity	Sustainability	Average correlation of operational performance
Work scheduling	Pearson Correlation	1	.236	.521**	.678**	.309	-.117	-.064	.612**	.619**	.729**	.175	.436*	.084	.309	.059	.566**	.482*
	Sig. (2-tailed)		.266	.009	.000	.142	.586	.766	.001	.001	.000	.415	.033	.696	.141	.783	.004	.017
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Resource capacity planning	Pearson Correlation	.236	1	.283	.271	.332	.403	.374	.281	.624**	.207	.260	.483*	.051	-.033	.247	-.005	.273
	Sig. (2-tailed)	.266		.181	.201	.113	.051	.072	.184	.001	.332	.219	.017	.812	.878	.246	.982	.197
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Maintenance	Pearson Correlation	.521**	.283	1	.777**	.425*	.127	-.045	.682**	.764**	.620**	.000	.790**	.471*	.437*	.221	.557**	.684**
	Sig. (2-tailed)	.009	.181		.000	.038	.554	.836	.000	.000	.001	1.000	.000	.020	.033	.300	.005	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Quality control	Pearson Correlation	.678**	.271	.777**	1	.419*	-.038	-.040	.664**	.749**	.705**	.250	.680**	.453*	.444*	.074	.560**	.681**

	Sig. (2-tailed)	.000	.201	.000		.042	.859	.851	.000	.000	.000	.238	.000	.026	.030	.730	.004	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Just In Time	Pearson Correlation	.309	.332	.425*	.419*	1	.132	-.165	.556**	.646**	.432*	.112	.364	.216	.571**	-.063	.244	.392
	Sig. (2-tailed)	.142	.113	.038	.042		.538	.442	.005	.001	.035	.602	.080	.312	.004	.771	.250	.058
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Procurement and purchasing	Pearson Correlation	-.117	.403	.127	-.038	.132	1	.684**	.244	.461*	.117	.273	.273	.075	.277	.427*	.025	.356
	Sig. (2-tailed)	.586	.051	.554	.859	.538		.000	.250	.024	.586	.197	.197	.727	.191	.038	.908	.088
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Inventory management	Pearson Correlation	-.064	.374	-.045	-.040	-.165	.684**	1	.151	.330	.053	.288	.165	.034	.073	.489*	.090	.304
	Sig. (2-tailed)	.766	.072	.836	.851	.442	.000		.481	.116	.806	.173	.442	.875	.735	.015	.677	.149
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Processing time / speed	Pearson Correlation	.612**	.281	.682**	.664**	.556**	.244	.151	1	.834**	.706**	.314	.667**	.281	.661**	.219	.594**	.746**
	Sig. (2-tailed)	.001	.184	.000	.000	.005	.250	.481		.000	.000	.135	.000	.184	.000	.303	.002	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Average correlation of operations management	Pearson Correlation	.619**	.624**	.764**	.749**	.646**	.461*	.330	.834**	1	.707**	.316	.768**	.344	.560**	.309	.518**	.774**

activities	Sig. (2-tailed)	.001	.001	.000	.000	.001	.024	.116	.000		.000	.133	.000	.100	.004	.142	.010	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Quality improvement	Pearson Correlation	.729**	.207	.620**	.705**	.432*	.117	.053	.706**	.707**	1	.156	.467*	.071	.414*	.012	.579**	.541**
	Sig. (2-tailed)	.000	.332	.001	.000	.035	.586	.806	.000	.000		.468	.021	.740	.044	.954	.003	.006
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Delivery improvement	Pearson Correlation	.175	.260	.000	.250	.112	.273	.288	.314	.316	.156	1	.318	.100	.201	.116	-.233	.365
	Sig. (2-tailed)	.415	.219	1.000	.238	.602	.197	.173	.135	.133	.468		.130	.642	.345	.589	.273	.080
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Responsiveness	Pearson Correlation	.436*	.483*	.790**	.680**	.364	.273	.165	.667**	.768**	.467*	.318	1	.700**	.443*	.378	.467*	.862**
	Sig. (2-tailed)	.033	.017	.000	.000	.080	.197	.442	.000	.000	.021	.130		.000	.030	.069	.022	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Speed	Pearson Correlation	.084	.051	.471*	.453*	.216	.075	.034	.281	.344	.071	.100	.700**	1	.443*	.200	.372	.694**
	Sig. (2-tailed)	.696	.812	.020	.026	.312	.727	.875	.184	.100	.740	.642	.000		.030	.349	.073	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Cost Reduction	Pearson Correlation	.309	-.033	.437*	.444*	.571**	.277	.073	.661**	.560**	.414*	.201	.443*	.443*	1	.129	.455*	.690**

	Sig. (2-tailed)	.141	.878	.033	.030	.004	.191	.735	.000	.004	.044	.345	.030	.030		.549	.025	.000
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Productivity	Pearson Correlation	.059	.247	.221	.074	-.063	.427*	.489*	.219	.309	.012	.116	.378	.200	.129	1	.220	.550**
	Sig. (2-tailed)	.783	.246	.300	.730	.771	.038	.015	.303	.142	.954	.589	.069	.349	.549		.302	.005
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Sustainability	Pearson Correlation	.566**	-.005	.557**	.560**	.244	.025	.090	.594**	.518**	.579**	-.233	.467*	.372	.455*	.220	1	.629**
	Sig. (2-tailed)	.004	.982	.005	.004	.250	.908	.677	.002	.010	.003	.273	.022	.073	.025	.302		.001
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Average correlation of operational performance	Pearson Correlation	.482*	.273	.684**	.681**	.392	.356	.304	.746**	.774**	.541**	.365	.862**	.694**	.690**	.550**	.629**	1
	Sig. (2-tailed)	.017	.197	.000	.000	.058	.088	.149	.000	.000	.006	.080	.000	.000	.000	.005	.001	
	N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Fig. 4.8 Correlation Table

Correlation Model

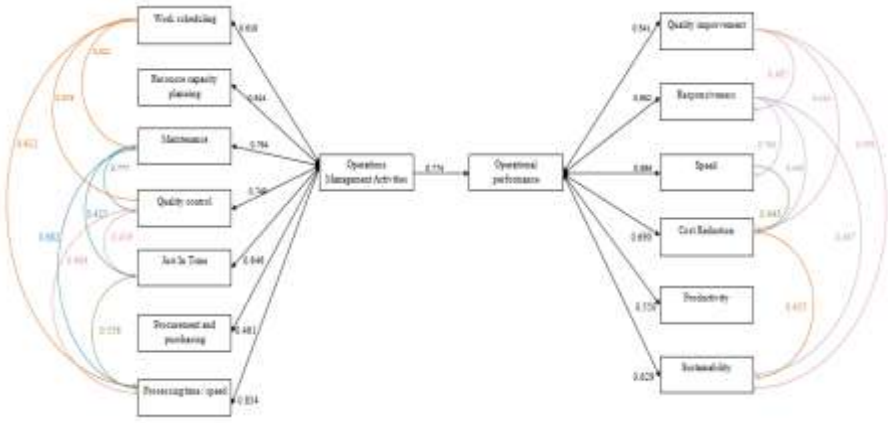


Fig. 4.9 Correlation Model

From the above correlation model it is seen that processing time/speed, quality control and maintenance are highly implemented operations management activities and the other activities which are also used by service industry are work scheduling, resource capacity planning, just in time and procurement purchasing. These activities are mostly performed by the service firms from the considered operations management activities. Inventory management is not highly used or considered operations management activity in service industry as per the result of the study.

From the above model it is concluded that maintenance and quality control is highly correlated i.e. 0.777 and most effectively used operations management activities. Maintenance and processing time/speed are also highly implemented operations management activities in the service industry and their correlation is 0.682. Along with maintenance, quality control and processing time/speed, work scheduling and just in time are also the most effectively used operations management activities as there is also high degree of positive correlation between work scheduling and quality control i.e. 0.678, quality control and processing time/speed i.e. 0.664, work scheduling and processing time/speed i.e.0.612, just in time and processing time/speed i.e. 0.556, work scheduling and maintenance i.e.0.521, maintenance and just in time i.e. 0.425, quality control and just in time i.e. 0.419.

It is seen that there is a high positive impact of implementation of operations management activities on the operational performance factors like quality improvement, responsiveness, speed, cost reduction, productivity and sustainability from the considered factors as their correlation is positive and high. And there is less impact on the delivery improvement which is considered as most important factor in the service industry.

Responsiveness and speed are the operational performance on which there is high positive impact of implementation of operations management activities and high positive correlation between them i.e.0.700. Along with these operational performance factors, the other operational performance factors on which there is high positive impact of implementation of operations management activities and high degree of positive correlation between them are quality improvement, cost reduction, productivity and sustainability. As correlation between quality improvement and sustainability is 0.579, quality improvement and responsiveness is 0.467, responsiveness and sustainability is 0.467, cost reduction and sustainability is 0.455, responsiveness and cost reduction is 0.443, speed and cost reduction is 0.443, quality improvement and cost reduction is 0.414.

Therefore from the above model it is concluded that the impact that operations management activities explain on the operational performance of the service industry is at extent 0.774 which is a high degree of positive correlation which means that if the above operations management activities are implemented by the service organizations with respect to maintenance, quality control, processing time/speed, resource capacity planning, procurement purchasing, work scheduling and just in time then the operational performance with respect to quality improvement, responsiveness, speed, cost reduction, productivity and sustainability is improved and increased to an extent of 0.774.

Degree of Determination

Correlation = r = correlation between operations management activitiesand its impact on the operational performance = 0.774

Degree of Determination = $(\text{correlation})^2 = (r)^2 = (0.774)^2 = 0.59 = 59\%$

Therefore the change in operational performance explained by operations management activities is 59% and the remaining 41% contribute to the other management activities including finance management, marketing management, human resource management etc.

Therefore from the above study it is concluded that operations management activities are also most important for the service industry to increase the operational performance of an organization.

VI. Conclusion

From this complete study it is observed that in all the service organizations all operations management activities like scheduling, measurement, service processes, logistics, service, support, facility, features and efficiency are implemented at different extent. And it is found that the highly implemented activities include factors of scheduling, service, features and service process in the service organizations. It is seen that customer services, processing time/speed, work scheduling , staff scheduling, responsiveness, on time delivery, quality control, maintenance, resource capacity planning, just in time and procurement purchasing are highly implemented operations management activities.

It is seen that there is a high positive impact of implementation of operations management activities on the operational performance factors like quality improvement, responsiveness, speed, cost reduction, productivity, sustainability, service recovery, efficiency, effectivity and sustainability.

This suggests that all the operations management activities forms an integral part of the performance of the service firms which solely focus on good features to win and retain customers which gives conformation of high operational performance. It also provides ability not only to fulfil the customers needs but also delivering on a timely basis.

Therefore from the above study it is concluded that there is high degree of positive impact on the operational performance in the service organizations due to implementation of operations management activities. Hence operations management activities are also most important for the service industry to increase the operational performance of an organization.

Recommendation & Future Scope

As services become an increasingly important and large sector, it is necessary to develop and test appropriate theories that relate specifically to the operational performance of such firms.

In today's competitive business environment, top management of service organizations must pay careful attention to the implementation of operations management activities so as to improve the operational performance of their firms for reasons of productivity.

From the study it is seen that there is no strong impact on the delivery improvement which is most important operational performance in the service industry so the firms have to focus more on operations management activities which would result in delivery improvement.

As this study is limited for only four service sectors in Nagpur region, the result may differ for various service sectors in various region and also for the various set of operations management activities implemented in various service firms. Therefore Future studies can focus on the differences such as geographic location, industry type, and the length of operations management practices within service organizations as the result may differ for such differences.

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