

A Correlation between Process Management and Procurement Efficiency in Manufacturing Sector

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ABSTRACT

Procurement has been evolved with this era of evolution. Now procurement has become an important part of supply chain, hence the performance and the quality of procurement is measured for the continuous improvement. Here process management and process design play very crucial role. The study aims to identify the relationship between process management and the procurement efficiency. The literature review would support the finding of this study by previous studies and researchers' findings showing the linkage between these two variables. Several researchers in the literature have addressed the positive impact on procurement efficiency by integrating, and implementing the process management approach, and drew their findings in the favor of this approach. The study is based on the qualitative research, for which the data was taken from the secondary sources, as well as from the primary source, through unstructured interviews from the procurement professionals in different organization of manufacturing sectors. The study concludes the valid and value added results, which are showing the significant and positive relationship between process management approach and the procurement efficiency. In addition, this leads to suggestion of some more valuable implementations.

Keywords: KPIs, Process Management, Procurement, Process Optimization.

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I. INTRODUCTION

Process Management has become a critical part of organization for surviving and growth. Though it has evolved with the passage of time and has created the influential effect on the supply chain of the organization. The supply chain including all its functions individually is evolving rapidly. Hence many challenges are coming up. Here process approach plays a vital role, where the understanding, managing and optimizing the process makes the performance more efficient and effective. The process management also includes the continuous improvement of process, in order to reduce the waste and enhance the quality and performances. And the process management is now considered as the most sufficient approach for the improvement of organization. This process management helps to understand the business mechanism and allows the organization to improve continuously. Perhaps, it may open a window to think for new businesses. Perhaps, the process management is beneficial for efficiency. Researches have addressed the importance of process management in competitiveness and performances.

Procurement effectiveness and efficiency would not be ascertained if there is no adequate information about the right processes of procurement.

However various organizations are confronting the disputes in the process flow of supply chain. There may be the several reasons, but this study is focused with the process of procurement. The inefficiency in the performances of procurement leads to create several hazards related to supply chain. Hence, the study is also highlighting the negative

consequences of improper processes in procurement and ultimately in entire supply chain. The efficiency gets compromise, which heads to affect the customer satisfaction. In addition, several organizations face financial losses because of procurement inefficiency. Although the flow of procurement seems to be simple, but still manufacturing organizations are facing delays in timely delivery, due to procurement non-efficiency. The procurement personnel often deviate from the processes and may have not an adequate understanding about process management in procurement. In some organization process does exit, but with the time, it gets ignored. It is also be seen that the efficiency of procurement is compromised because of useless or waste in process. The study also covers the responsible bodies for the efficiency of procurement due to process management.

However, the study aims to investigate the relationship between procurement efficiency and process management, process optimization and monitoring, within the manufacturing sector of Pakistan, where the efficiency led to the procurement performances.

The variables that are being examined in the study are related to procurement; therefore, focusing on them, the recent and important qualitative data can be gathered by the procurement personnel, because they experience all the aspect by working within the circumstances. The experience may differ from origination to organization as well as the process management adaptability varies from organization to organization. However, the data was only collected from the manufacturing organization in Pakistan. Since, the study was

conducted in the Karachi city of Pakistan, as it was more convenient to reach more people physically in the same city.

In addition, as per the census report for reference year 2005-2006 there are more than 6500 industries in Pakistan, from which more-or-less 1900 are in Sindh [2]. PBS is conducting Census of Manufacturing Industries (CMI) for reference year 2015-16. Currently the census report is in approval stage. However, Pakistan Bureau of Statistics will circulate the required information after the publication of Census of Manufacturing Industries for the reference year 2015-16 reports which is expected to be in March 2021 (M. Sarfaraz, personal communication, January 22, 2021). Therefore, the exact population of procurement personnel cannot be determined. The non-probability sampling method is used, in which convenient sampling technique is selected. Interviews were conducted as instrument. Hence for the unknown population, 11 interviews would be quite sufficient as a sample size of the population [4]. The interview type was unstructured, and telephonic as well as face-to-face interviews were conducted while the criteria for selecting the participants for interview is random, which means procurement personnel of different organizations were selected randomly for these interviews.

II. LITERATURE REVIEW

With the passage of time procurement has been evolved and recognized as a prominent function in the supply chain of organization. Hence the performance, effectiveness and efficiency of procurement has always been a concerning area for professionals. Therefore, the continuously changes in procurement is affecting the performance in its processes [5].

The supply chain in organization is determined on the integrated and interrelated series of processes from supplier to the end customers, thus it results in effecting the end customer and supply chain performance. The procurement has gained the importance when the organizations become more cost and quality oriented. However, the function of procurement is now a strategic process. The supplier's evaluation and selection are gone through the process, so that the organization could get the competitive and competent suppliers by continuous improvement and controlling of process [3].

There are varieties of products with similarities present in the market, which can easily be compared. Organizations try to make themselves stand separate by working on their process management. However, the process-centered organization mainly focuses on the process management, which also includes process optimization, process monitoring and controlling, process designs and analysis [10].

The process management allows keeping control over the system which is collectively made by these processes. Nevertheless, the integrated process management including the process design and process mapping leads to improvement in procurement performance and quality as well as value addition in the entire supply chain. There is a need of integrating the procurement process into arranging the process. This is how the procurement process can be managed [3].

If the procurement performance is not at the right path, the decisions would be negatively influenced which may give

organization some costly outcomes [5].

The understandable procurement procedures, process and standards help to shape the effective and efficient procurement and to meet the ultimate goals of procurement. While on other hand mismanagement of process in procurement leads to have unfavorable outcomes, as well as effecting the delivery time, product and service quality and customers satisfaction. However, the Procurement effectiveness and efficiency have a positive relation with procurement performance [5].

The customers tend to be more satisfied, and the employee turnover become less, when the process, plans and procedure or procurement function is continuously being measuring by implementing, monitoring, and controlling. And the procurement performance gets improved and become effective and efficient [6]. Since a process is determined by the workflow of steps in a function, hence the business process management helps to achieve the ultimate goal by integrating the workflow from upstream to downstream [7].

As per the years of examining and researches, a positive relation between process management and performances. Effective and efficient process plays very important role in the positive results. There is an influential effect of behavior, structures procedures and processes, hence the organization focuses on having proficient processes. Some studies also highlighted the positive outcomes of continuously enhancement of processes, and the processes shape the structure of culture in the process-focused firms which ultimately affects the customer driven market responsiveness. Although the organization may have several process issues, there are some entities for managing process, and enhancing process design. However, the management needs to get involved completely with all supportive efforts, in order to enhance the performance and the credibility of process. The process should be measured continuously to have creativity and communication throughout the process. Hence the more process ownership, continuous improvement, and adequate process design result in high performance process, and cultural structure, which also creates a remarkable positive impact on organization and customers' satisfaction in all sectors and industries [10].

Moreover, Amemba [1] also highlighted the procurement challenges in a study about selection of right processes, where the ICT and its infrastructure play a vital role in procurement process management. Since the procurement is itself an expensive activity, thus the waste in process may cost the entity more. The study also highlighted the need of adaptation of ICT in the procurement process to make the relationship better with suppliers for long term. The organizations which have adapted the ICT in its procurement process seem to have high performance than that of others who have not. Nevertheless, the wrong adaptation or waste in process may leads to the financial losses.

Now many organizations in the world are adopting the process management, like TQM, to have continuous quality improvement, performance, and efficiency. Some SMEs in manufacturing sector are showing efforts for being competent in adaptation and enacting the process management and its tools and methods, which is depicting the impact on quality improvement within the organization and in cross functions of organization. It is also found that the impact on quality

management by process management is also boosting the process in ISO-9001 certified organizations. This end to end process management also leads to the value added outcomes from customer's point of view [8].

The organizations are more focusing on process management and its improvement instead of traditional procedures. The process management includes recent development like business process design and redesign, process reengineering, just in time, total quality management, six sigma concept and ERP. They combinedly make the supply chain process effective and improved. However, the technology has its own importance in the efficient process performance. Every function of origination has a confined boundary; thus, the process management focuses the performance and activities within the function as well as across the functional areas [9].

III. PROCUREMENT PROFESSIONALS' PERCEPTION

Align the process with the strategic goals of organization is the main objective of process management (M. Rameez, personal interview, November 26, 2020). So, the process management would help to identify the bottleneck in all loopholes by designing the draft for the critical path. Therefore, the organization can figure out the best possible alternative for the losses generating bottleneck in process. If the process does not have the determined critical path, procurement would become difficult. Although the organization did all procurement without that path, the organization may face market liability and delays in projects and productions, which also may result fail in timely market interface of the production. Yet, if the procurement has good process management, it includes process optimization and process mapping. The procurement efficiency would increase, because the process mapping and process optimization form encoded messages to procurement, and the procurement would decode them into the market, by BOQs and BOMs. It ultimate results to deliver the material on time, and clears the 3 Vs' (Visibility, Variation, and Velocity). Hence it can conclude that the entire process management significantly impacts the procurement efficiency. Or in other words it can be said that process management is directly proportional to procurement efficiency.

W. Ahmed (personal interview, November 24, 2020) also concludes that the production is highly dependent on procurement and its efficiency in manufacturing sector. In manufacturing, it is very important that how much procurement function is capable, efficient, and organized, and how much it focuses on the timely procured, and supply approach. These all factors lead to the performance of procurement. The production is always planned for a particular target, and the plans are based on forecast. Hence the procurement can only reach the forecasted achievement if the procurement would procure timely. All the function of entire supply chain is interlinked with each other. However, the procurement professional would design the process of supply chain for procurement of raw material for the production, to get delivery on times, and avoid stock out. This process needs to be monitored at every determined point, to make the material available for production, similarly for the forward supply chain. All the functions need to be aligned

with each other to be in a smooth and optimized process, because if there is any bottle neck in the process, the efficiency would be compromised, which directly affect the performance of procurement. Therefore, having proactive approach, the procurement needs to design and integrate the process in a manner that the material needs to be available for production, in order to avoid shortage or production stop. And there should be integrated process. This is how the procurement would increase its performance.

J. Khan (personal interview, November 28, 2020) addresses that there are various external and internal factors that can affect the process, hence the process plan should include and consider all these possible factors to avoid deviating from the process design and process mapping. Sometime the organization undergoes from transformation, change, or evolution. The new process gets introduced, which need to be educated, understood, and conveyed to all the members of functions. When the process is cleared to everyone, then the members will work according to the implemented process, and also come up with the continuous improvement of process. Thus, the performance eventually gets increased, and the procurement department achieves the ultimate goals of supply chain in an organization. If the procurement fails in managing its process, it fails to provide the material for production on time, hence production would get late, and the organization would fail to reach its final customers on time.

In the view of (U. Qamar, personal interview, November 28, 2020), with the help of process optimization, procurement can minimize the cost of supply chain, which is the ultimate objective of supply chain and the performance gets improved. This improvement in performance of procurement would lead to maximize the profit of organizations. However, the organization also uses SCOR Model specifically in supply chain to optimize the process. When the operational reference gets inducted, it gives the enhanced process optimization, which comes up with the positive outcomes, such as minimization cost, maximize profit, and improvement in performance.

In addition, process mapping also help to add values, and eliminate the non-value adding elements. It also structures the priority matrix, by which procurement can be prioritize, on the basis of the need, urgency and importance. Thus, the organization can have the determined value-added process, and can have procurement more efficiently.

R. Ahmed (personal interview, November 25, 2020) also adds his views. The sound SOPs in process management increase the procurement performances. There should be KPIs, and prioritization of work in procurement, because there are various kinds of procurement, such some procurements are directly linked with the production, or other core functions, and some of the procurements are for management functions and some of the procurement are for supportive functions. On the basis of these functions, the procurement needs to be prioritizing in process management, which results in improvement in performance. In addition, the strategic alliances with vendors make the clear understanding between procurement functions and vendors. This process management also includes the best possible alternatives in vendors, and these vendors should be allowed to have enough access to the information of organization, so that they could

know the average time of demands of raw material, general items, or packages. These aspects can be possible if the procurement has strong SOPs, and its implementations, which also gives the quality procurement and efficiency.

M. Haris (personal interview, November 30, 2020) also highlighted in his interview. There are SOPs for every process, more specifically procurement. So, these SOPs are integrated with a process flow, which needs to be implemented, monitored, and continuously improved. Since the concept of total quality management or quality management systems also refers to the elimination of waste in processes, making the process more optimized. This makes the timely delivery and updates the stock level easier and more efficient. Hence the performance gets improved ultimately. The process management does not allow to compromise on quality standards, but there could be any possibility of delays in production and deliveries, therefore, in order to maintain quality, and the supplies flow, a strongly implemented process plan and design is necessary, so that the quality remains up to the standards without having any restrain in flow of process.

Moreover, there is strong relationship between process management and procurement, stated by (A. Abdullah, personal interview, November 25, 2020). And the process management is highly effected when the management and the system of organization takes deep interest. Sometime the poor process management takes procurement efficiency down because the management is not taking charge to make the system strong. And sometimes some external factors (such as delays from the vendors' quotations, supplies, inefficient vendor etc.) disturb the process and the procurement efficiency. Despite of this, the procurement efficiency is compromised because of unnecessary urgencies, or unplanned maintenances, because the vendors work according to their own processes. These urgencies lead to deviate from the cost saving element of supply chain objectives. However, there is need of strong planning, so that the procurement can be done under non urgencies circumstances. In addition, the equipment should be well maintained, to avoid these kinds of those urgencies, which could raise the question mark on procurement performances. In addition of these factors, the users also play vital role in process management, where the information from the users need to be firm and correct.

Apart from this, the unnecessary burden of work has also create negative impact on procurement efficiency, due to the weak process management, highlighted by (D. Atif, personal interview, November 26, 2020). Because the main objective of procurement is to optimize cost, but the mismanagement of process creates a load of work, which does not allow the incumbent to work for more cost saving and efficient. The processes of organization, its vendors and suppliers are different, it is important to have inducted collaboration between these bodies, thus, if the organization has mismanagement in process, it will become difficult to work with the supplier. The process design should be waste-less, and have alternatives, because the unavailability of any authorized body would create a restrain in the flow of process.

The long and non-delegated hierarchy brings gaps in-between, which creates the inability for the management to keep monitoring the process and SOPs. Sometimes the

management builds a long hierarchy but fails to fill the hierarchal gaps. This creates the delays in process.

According to (E. Nabeel, personal interview, November 29, 2020) there is an important part of planning in process management, which is related to the SOPs. Sometimes there are SOPs, procedures, and processes in the function, but the procurement fails its strong implementations, and continuous monitoring. Hence, the procurement gets deviated from the process, and creates bottlenecks in processes, which disturbs the procurement efficiency. Therefore, the continuous improvement needs to have strong KPIs, so that restrains or bottlenecks in process can be determined on time, and professionals can have span to understand these hurdles, reach the root cause and bring out some alternatives or solutions. The aim of KIPs is to have continuous monitoring of processes and SOPs, and keep the incumbents stick to the process plan.

A. Majeed (personal interview, November 30, 2020) also stated in his interview. The procurement department has various process, undergoing for various task, such as selection of supplier, clearing product/services, placing order, order completion, monitoring. Every process of procurement takes time, and path to reach completion of process. The hurdles in processes create delays, which negatively impact on the procurement efficiency. The hurdles can be caused from user side if user fails to provide complete and clear information about the product. Additionally, the process plan should be integrated with the supplier, so that the organization and the supplier would be on same page regarding the requirements. Any delays in placing order and completion of order, leads to impairment of procurement performance. The delays in procurement process would also disturb the Inventory Replenish strategy. The clear information about the product should be conveyed to supplier to avoid restrains in process flow.

The process monitoring plays crucial part in all these integration, implementation of process. This helps to have better understanding, continuous improvement, complete controls, and can avoid mismanagement of process. In addition, the process management also needs to take the suppliers on-board in the processes so that the processes would become more optimized and waste-less.

IV. FINDINGS & DISCUSSION

The procurement professional personnel who were the participants of the interviews belong to different industries of manufacturing sector. Every participant shared his/her opinion toward the related topic and variables. The data from the primary source concludes that there is a significant relationship between the efficiency and process management. The process management including process mapping, process optimization, and process monitoring creates strong impact on procurement efficiency. Every activity within the procurement function undergoes from process or processes, thus any delays or deterrence in process, leads to the loss in production, stock out or not reaching the customers on time. The process needs to be well designed, strongly implemented, and completely aligned with the organization strategic goals, because weak process design would compromise the procurement performance. In addition, the failure in process

implementation and non-aligned process would lead to deviate from the organization ultimate goals. However, the implementation and alignment of processes would be possible, if the process is well planned in the initial stage and then effectively conveyed, explained, and understood to every related member of function. The process monitoring following by pro-active approach, helps to retain the process with respect to the practical approach, and cop up with the bottleneck in the flow of process. Moreover, the main objective of supply chain is cost optimization which can only be possible if the organization successfully implemented the value-added and optimized methods in its processes.

The gathered data also reflects the prioritization in procurements, so that the efficiency can be enhanced by management the procurement. Furthermore, the quality is dependent on the procurement performance and efficiency, as the procured items is not up to the marks, the outcomes would decline in quality. The new strategies with more cost-effective, less waste in process and high quality satisfaction would be brought, if the procurement personal have enough work load, and time to come up with more creativity and efficient progress.

Nevertheless, the flow of correct information also affecting the efficiency, as it is difficult to find the particular product in the market or placing the order timely with the information that is misleading or improper.

With all these perceptions of respondents takes the results of study towards the depiction of positive relationship between the process management and procurement efficiency.

V. RECOMMENDATION & IMPLEMENTATIONS

There should be well determined and self-explanatory process plan that leads to the proper process design. Whether there is a new process design or existing process in the procurement function, the strong implementation is necessary. The process needs to be monitored, to avoid the hazards in process, and should be in continuous improvement state, to keep optimizing the process. The entire processes should have strong involvement of management of the organization to make its employee stick of the plan and SOPs and set KPIs to measure the performance of procurement. There could be various hurdles bottleneck found in process flow in procurement, which need to be determined and solve on urgent basis. The procurement should have more than one vendor ready to fulfill the requirement, so that the procurement could avoid the uncertainty from the vendor side and production would not rely on one vendor. The procurement should go with the prioritization approach, perhaps, should try to take the other procurements simultaneously. However, the sufficient human capital to handle the procurement task simultaneously.

VI. CONCLUSION

The supply chain is the backbone of any organization because the supply chain is responsible for the flow of material from tier or supplier, along with optimization of cost as much as possible, which results in increase in profit of the

organization. Yet, the procurement is the most crucial part of the supply chain management. Thus, the efficient procurement leads to achieving the ultimate goals of supply chain and organization as well. The procurement is chained-up with the supply chain and organization by the integrated processes. Hence the good process management helps to smoothen the flow of material within the time frames. The processes may have several sorts of hurdles, restrains, bottlenecks and wastages. These aspects highly affect the procurement performance and its efficiency. Therefore, for the efficient procurement is to be only possible when the procurement has a well-designed process, which is strongly implemented and conveyed to each of the member who is the direct or indirect stakeholder of the process as well as aligned with the strategic goals. There are several functions, highly relying on the procurement such as production, dispatch, logistics etc. Therefore, any delay or disruption in the process, would leave these functions dispersed. Despite of these function, the quality also depends on the process flow. In order to retain the quality of process, and avoid the deviation or distraction from the SOPs, the process has to be kept in continuous monitoring. In addition, the KPIs to measure the performance and efficiency of procurement enable the continuous improvement in the process. In which upper management intervention and involvement is necessary because the SOPs are floated and conveyed from the upper management to the lower. With the help of process management, organization would be able to track the gap and point of fault or deficiency.

Furthermore, process management also includes the aligning of vendor and suppliers, and have alternative for the vendors, so that the flow of material and process would not disturb for any uncertainty from the vendor or supplier side. It is concluded here that the process management is significantly correlated with procurement efficiency, and strongly preferred by the industry professionals

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REFERENCES

- [1] Amemba CS, Nyaboke PG, Osoro A, Mburu N. Challenges affecting public procurement performance process in Kenya. *International Journal of Research in Management*. 2013;3(4):41-55. Available: http://www.rpublication.com/ijrm/ijrm_index.htm.
- [2] Bureau of statistics. Number of Reporting Establishments [Internet]. Islamabad [cited 2020 Oct 29]. Available at: <http://www.pbs.gov.pk/content/1-number-reporting-establishments>.
- [3] Darestani SA, Houshyar AN, Ismail N, Leman Z. Improving purchasing performance by implementation of QMS process management approach in a manufacturing company. In *Advanced Materials Research* 2013 (Vol. 622, pp. 1868-1872). Trans Tech Publications Ltd. Available: <https://doi.org/10.4028/www.scientific.net/amr.622-623.1868>.
- [4] Galvin R. How many interviews are enough? Do qualitative interviews in building energy consumption research produce reliable knowledge?. *Journal of Building Engineering*. 2015 Mar 1;1:2-12. Available: <https://www.sciencedirect.com/science/article/abs/pii/S2352710214000023>.

- [5] Kakwezi P, Nyeko S. Procurement processes and performance: Efficiency and effectiveness of the procurement function. *International Journal of Social Sciences Management and Entrepreneurship (IJSSME)*. 2019 May 23;3(1). Available: <http://mail.sagepublishers.com/index.php/ijssme/article/download/42/44>.
- [6] Knudsen D. Procurement Performance Measurement System: Focusing on the Swedish Public Sector. from Lund Institute of Technology web site: http://www.tlog.lth.se/documents/publications/Lic_Daniel_Knudsen.
- [7] Mitchell, M. Business Process Management (BPM) v workflow for procurement: What's in a name?. Weblog. [Online] Available from: <https://www.determine.com/blog/business-process-management-vs-workflow> [Accessed 02 December 2020].
- [8] Psomas EL, Fotopoulos CV, Kafetzopoulos DP. Core process management practices, quality tools and quality improvement in ISO 9001 certified manufacturing companies. *Business Process Management Journal*. 2011 Jun 7. Available: <https://www.emerald.com/insight/publication/issn/1463-7154>.
- [9] Silver EA. Process management instead of operations management. *Manufacturing & Service Operations Management*. 2004 Oct;6(4):273-9. Available: <https://pubsonline.informs.org/doi/pdf/10.1287/msom.1040.0055>.
- [10] Weitlaner D, Kohlbacher M. Process management practices: organizational (dis-) similarities. *The Service Industries Journal*. 2015 Jan 25;35(1-2):44-61. Available: <https://www.tandfonline.com/doi/abs/10.1080/02642069.2014.97940>.

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