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EXAMINING THE IMPACT OF SUPPLIER SELECTION ON PROCUREMENT PERFORMANCE OF PHARMACEUTICAL FIRMS IN PAKISTAN

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Abstract

The purpose of the study is to determine the impact of supplier selection on procurement performance of pharmaceutical companies in Pakistan. The framework of study is based on five independent variables i.e. supplier's ability to meet delivery due dates, supplier's quality, financial stability, supplier's capacity and supplier's continuous improvement of product and services and dependent variable is procurement performance. Primary data was collected using a structured research questionnaire and 150 questionnaires were filled by the employees of pharmaceutical companies. For analysis we used descriptive statistics, Pearson correlation analysis and regression analysis. The results show that supplier's ability to meet delivery due dates, supplier's quality has a significant impact on procurement performance. While financial stability has no significant impact on procurement performance of pharmaceutical industry. The results also shows that supplier's capacity and supplier's continuous improvement have less impact on procurement performance then other independent variables. It is concluded that quality commitment must be considered as important factor in supplier selection. It is also recommended that supplier's capacity and delivery dates should be considered properly when giving supplier contracts.

Keywords: Supplier selection; Delivery Due Dates. Quality Commitment, Supplier's Capacity, Financial Stability, Continuous Improvement in Product

Introduction:

Traditionally buying is not the top-level activity in the firm's structure. Somewhat, buying functions have been subordinated to the manufacture or operating functions. By the time firms moved to the business of buying as a separate functional part as like the HR, finance and production. As market factors change, firms also need to change. Firms are always under pressure in finding different ways to cut their material and production cost by engaging in planned supplier selection and evaluation process. (Weber, 2020).

Supplier selection is a secondary function of procurement it has turn into one of the basic roles of procurement managers, as it influence the organization's competency (Odhiambo, 2019). Thus, now business competitive situation in these days firms have to increase their service quality, lead time as to be work efficiently. To meet this challenge many firms are finding different techniques to improving supplier agreements. More or less all Pharmaceutical industries are depending on suppliers and their performance. Some previous studies argued that the business key performance of suppliers always having a significant impact on the key performance of the buying firms. This research study will examine the impact of supplier selection on procurement performance of Pharmaceutical industries. The supplier selection is becoming most important concern of businesses for making the best supply chain system. The general goal of supplier selection process is to decreasing the purchasing risks, increasing buyer's overall value, and building the long term relations among buyer and supplier. Selecting good suppliers considerably minimizes the buying cost, enhances firm's competency level and has a great impact on procurement performance; so many professionals considered supplier's selection as the most significant role of buying firms (Dobler et al, 2021). The buying of goods and services to run the firm's operations has become very important part for SCM managers (Coase et al, 1998). This is not possible for single firm to fulfill every requirement. So Pharmaceutical industries on the same time have to rely on various suppliers for running their industrial operations.

In Malaysia, Junli (2018) conducted a study to evaluate the impact of supplier's evaluation on firm performance in private hospitals. In Pakistan, Rashid (2020) conducted the study of supplier selection and evaluation in the telecom sector of Pakistan. In Kenya, Kiprotich and Barrack (2022) conducted the study to see the effects of supplier selection on procurement performance of public universities in Kenya. Buying decisions can improve quality, lesser inventories, join together the purchaser and supplier arrangements, and make supportive dealings highlight the requirement for best supplier performance. Performance provide the base for an organization to measure how well it is progressing toward its prearranged goals, see the improvements and decide how it will perform well.

According to Van Weele (2016) organizations who do not perform good have some problem in their processes and procedures, and their plan does not performs well, then this all will leads to turnovers of employees and customer's dissatisfaction. While according to Muma et al. (2014) operational procurement performance is linked with reduction in procurement costs in order to improved attainment of firm's procurement goals. Buyer supplier relationship does not lasts longer, usually in most cases firms select suppliers on the base of less price and give little importance to suppliers who assures on time delivery and best qualities(OECD, 2022). The

question arises in this case as to what criteria to manufacturing sectors use in selecting its suppliers for better procurement performance.

So there should be good supplier selection procedure for procurement performance, in this paper I checked the impact of supplier selection on procurement performance of Pharmaceutical industries in Islamabad

1.2 Study Statement

Firms can bear millions of financial loss due to its poor supplier's selection; this loss is due to different recalls, poor inventory management and delay in delivery time and this delaying in deliveries and poor features of goods and service can affect procurement functions badly. To avoid these costs firms should select suppliers carefully that should impact on its overall procurement performance.

1.3 Study Objectives:

The main objective of this paper is to examine the impact of supplier selection on procurement performance of Pharmaceutical companies. So we set the following objectives.

- To determine the impact of suppliers' ability to meet delivery dates on procurement performance of Pharmaceutical companies.
- To determine the impact of suppliers' quality commitment on procurement performance of Pharmaceutical companies.
- To determine the impact of supplier's financial stability on procurement performance of Pharmaceutical companies.
- To determine the impact of supplier's capacity on procurement performance of Pharmaceutical companies.
- To determine the impact of supplier's commitment to continuous improvement in product and process on procurement performance of Pharmaceutical companies.

1.4. Literature Review

Supplier selection

Supplier selection is the practice of selecting a supplier to obtain the important materials to support the outputs of organizations. By assessing the supplier's capabilities we can select the best and more appropriate suppliers. (Shih et al, 2020). According to Kotabe& Murray (2017) there are great benefits to buyer when supplier knows well about the important conditions for selection, and it also helps them to make their strategies best to meet the requirements of buyers. Supplier Selection must have contribution in the procurement performance of an organization.

Today's dynamic environment of business has changed the Supplier Selection Process from the traditional and technical operational function to a more strategic role so to enhance the firm's competitiveness, the technical team which select or evaluate the suppliers should separate the different organization's functions i.e. Procurement and operation, accounting, information technology and finance etc. The final choice on the selected supplier should not just consider the price of goods and services but also include the Total Costs involved.

An internationally competitive situation has forced the firms to improve quality, lead time and rapid responsiveness and to be also cost effective. By this, firms are finding ways to enhance their supply chains and focus on supplier's selection and evaluating the role of suppliers in their tasks (Pralhad et al, 2015).

In order for choice to work as a benefit to business, there is the use of competitive source initiatives which contain: tender, biddings, supplier's evaluation, and the service level of supplier firm. These initiatives works perfect and ensures that best suppliers are selected and which can be helpful in improving the performance of business. (Munyua 2022)

Supplier selection has been very theoretical and useful work in business management literature and is usually considered to be one of the most essential tasks of the management's purchasing function. Firms who have the strategically approach in purchasing they were more involved in the selection of suppliers than other company and this strategically approach had a good impact on seller buyer relationship and supplier selection and evaluation system had a good impact on the financial position of the buying firm and it also may benefit the different departments of buying company. Carr and Pearson (1999).

Supplier Capacity

Capacity can be defined in two types: volume capacity and throughput capacity. The number of hours that a supply/store performs per time period e.g the number of working hours a manufacturer complete per week is volume capacity. Throughput capacity provides information of how many hours per time period required to perform certain activity. (Mattson and Jonsson, 2023). According to onsite seminar of institute of supply management supplier's capacity is the ability to meet upcoming demand. In addition to this Supplier's capacities treated the same but all material parts and the capacities of the suppliers are not the same so, limitation of capacity and output regarding decisions should be made first while making contract with suppliers (Hasenklever, 2019). According to Pamela (2020) in her study in the Pakistan telecommunication industry on supplier's selection she says s supplier's financial capacity is the one most important variable for enhancing the procurement performance.

Financial Stability

Financial stability of suppliers should be evaluated in the beginning of supplier selection process. According to Chartered Institute of Purchasing and Supplies (2017) by gathering and examining financial information on suppliers and service providers such as income, fiscal positions, credit policy, and negotiator ratings, firms can reduce the business risks while making partnership with third party. In a supply chain, one weak link can disturb the flow of goods and services, which have a big effect on all other suppliers and customers that lies in this chain. A financially instable supplier will not have much to invest in project, machinery, and he/she will be financially depends on buyer. When a firm has confidence in its supplier's financial stability then it would not have to waste time to manage or replace the unreliable supplier. As such, the firm can effectively run all suppliers and plans downstream. (Ritterbush, et al., 2014)

Commitment to Quality

In market nowadays, quality is considered as a particular requirement and measured as an entrance point feature of the market (Barrie et al 2018). In current business environment competition is much extreme and quality is known as a main consideration in different buying decisions. There is no doubt that quality is an important component for firm's products as firms seek different means to distinguish their products from competitors.

On the release of ISO 9001:2000 standards justifies the addition in its version that ISO is labeled for a Quality mgtsystem. The standards are planned to be used as an outline to direct firms towards advancing their performance. According to ISO these standards are resulting from cooperative practice and facts of worldwide professional and these standards has improved competencies in buying and subcontracting processes. From supplier quality management, a firm may take benefits of reducing lead times, increases responses to consumers, increasing orders, loyalty and profitability, reducing cost and having effective communication between the firm's suppliers and its customers (Kitheka et al., 2016)

Continuous improvement in product and process of suppliers

Since the business world began to practice tough global competition, the general term continuous improvement is the center of consideration. While globally continuous improvement is very important in achieving best quality to reach at best level in high competitive marketplace, there are dissimilar views to achieve it. Many unconvinced observations are made by the producers whomake effort to apply CI actions in their business at the cost of wealth and time(Dhillon, 1998). Continuous process improvement serves as the power that sustain and proceeds development to next development level and it is important for procurement performance of a firm. (Lockamy& McCormack 2014)

Procurement performance

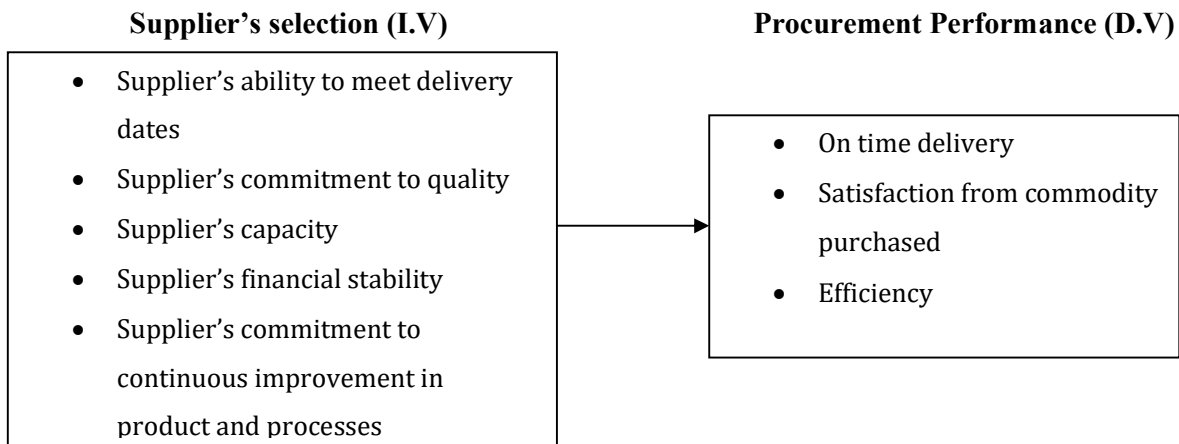
Procurement is the function of finding, obtaining, purchasing goods or services from an outside sources, by tender or competitive bidding practices. This practice is use to make sure the purchaser gets the goods or services at the best price, while comparing the aspects of features, place, amount, and time. (Weele& Van, 2010) and according to the Chartered Institute of Procurement and Supply (CIPS) gave promotion to a form of "five rights" which are "a traditional method stating the main objectives and criteria by which the procurement efficiency can be considered", i.e. the goods and services that a firm is buying should be of good quality, within correct amount, distribute to the correct location at the exact time and gained at the correct price. According to CIPS knowledge team, all procurement experts should train themselves with supply chain management skills such as processing and performance management and shift from the traditional procurement, i.e. organizing upstream supply chains into the firm's different functions of SCM (CIPS, 2021).

For attaining procurement efficiency organizations should determine the best stability among agile and quick adaptation of vendor's selection and improvement of long lasting partnership with them.

Procurement performance is a result of the effective and efficient use of rules and procedures implemented by the organization while selecting their suppliers (Basheka, 2018).

According to Barsemoiet *al*, (2019), poor procurement performance leads to decline in productivity thus it will be major barrier for an organization’s growth and it will leads to delay in lead times, increases the deficiency of materials and services, poor coordination and low down the product’s quality. Assessing and improving supplier performance using the quality and manufacturing capacity criterion can lead to the decrease in supplier quality problems removes inefficient steps in an organization’s own process and also help in improving the supplier’s firm rules and thus assisting the purchaser assist suppliers drive waste and inadequacy out of procurement, which results in high quality supplier and lower the cost which in return improves the purchaser’s profitability.(Handfieldet *al*, 2018).

Theoretical framework of study



The dependent variable of our study is procurement performance which is further operationalize into on time delivery, satisfaction from commodity purchased and procurement efficiency while the independent variable is supplier selection process (including supplier’s ability to meet delivery dates, commitment to quality, capacity, financial stability, continuous improvement in product and process

On the basis of the above framework we developed the following hypothesis for this paper.

H01: Supplier’s ability to meet delivery dates has significant positive impact on procurement performance of pharmaceutical companies.

H02: Supplier’s commitment to quality has significant positive impact on procurement performance of pharmaceutical companies.

H03: Supplier capacity has significant positive impact on procurement performance of pharmaceutical companies.

H04: Supplier's financial stability has significant positive impact on procurement performance of pharmaceutical companies.

H05: Supplier's commitment to continuous improvement in product and processes has significant positive impact on procurement performance of pharmaceutical companies.

Methodology

In this study we used an adopted a questionnaire design to collect data from pharmaceutical companies for the study variables. The sample size is 150 and they were the employees of pharmaceutical companies. The questionnaires were personally distributed to both male and females employees who are working in supply chain, procurement and distribution departments as well as employees from finance and IT departments are also part of sample

Descriptive Profile of Respondents

The table 1 shows that the Female candidates were 47 out of 150 respondents. The rest of the 103 respondents were male who filled the questionnaire, and they constitute 68.7% of the sample. The education levels of respondents were bachelors and masters and with bachelor's degree were 69 out of 150 and rest 81 candidates were master's degree holders and they constitute 54% of the sample and majority of the respondents (39%) were from procurement departments while (28%) from SCM departments respectively. On the other hand, (22%) of the respondents were from finance departments and only (1%) were from IT departments respectively.

Table 1 Demographic Profile (Gender, Education, Department)

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	103	68.7	69	68.7
Female	47	31.3	31	100
Total	150	100	100	
Education				
Graduate	69	46.0	46.0	46.0
Masters	81	54.0	54.0	100
Total	150	100	100	
Department				
SCM	42	28.0	28.0	28.0
Procurement	58	38.7	38.7	67.7
Distribution	15	10.0	10.0	77.7
Finance	33	22.0	22.0	98.7
IT	2	1.0	1.0	100

Total	150	100	100	
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Reliability analysis

To check the internal consistency of the research items we used the reliability test and the values of Cronbach’s Alpha.

Table 2 Reliability statistics

S.no	Construct	Cronbach's Alpha	N of Items
1	Delivery Due Dates	.646	3
2	Commitment to Quality	.766	4
3	Supplier’s Capacity	.748	4
4	Supplier’s Financial Stability	.740	3
5	Commitment to Continuous Improvement in Product and Services	.636	4
6	Procurement Performance	.648	9

Table 2 shows the values of Cronbach’s Alpha i.e. .646, .766, .748, .740, .636, 648 for supplier’s ability to meet delivery dates, commitment to quality, capacity, financial stability, continuous improvement in product and process and all the values are above .6 which shows that our items used for all the constructs are internally consistent.

Correlation Analysis

Table 3 Correlations

		DD	QC	SC	FS	CIP	PP
DD	Pearson Correlation	1	.151	.011	.154	.090	.316**
	Sig. (2-tailed)		.065	.890	.060	.272	.000
	N	150	150	150	150	150	150
QC	Pearson Correlation	.151	1	.148	.811**	.868**	.604**
	Sig. (2-tailed)	.065		.071	.000	.000	.000
	N	150	150	150	150	150	150

SC	Pearson Correlation	.011	.148	1	.258**	.089	.272**
	Sig. (2-tailed)	.890	.071		.001	.278	.001
	N	150	150	150	150	150	150
FS	Pearson Correlation	.154	.811**	.258**	1	.431**	.477**
	Sig. (2-tailed)	.060	.000	.001		.000	.000
	N	150	150	150	150	150	150
CIP	Pearson Correlation	.090	.868**	.089	.431**	1	.548**
	Sig. (2-tailed)	.272	.000	.278	.000		.000
	N	150	150	150	150	150	150
PP	Pearson Correlation	.316**	.604**	.272**	.477**	.548**	1
	Sig. (2-tailed)	.000	.000	.001	.000	.000	
	N	150	150	150	150	150	150

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

In table 3 the DD is found to have 31.6 percent positive relation with PP, significance shows to have at 0.01 levels. Hence PP moves in positive relation with DD. QC has found to have 81.1 percent positive relation with FS, significance shows to have at .01 levels. Hence FS moves in positive direction with QC. CIP have 86.8 percent positive relation with QC, significance shows to have at 0.01 levels, so they both moves in positive direction and both variables have strong co-movement with each other. QC is found to have 60.4 percent positive relation with PP and significance shows at .01 levels, hence PP moves in positive direction with QC.

In the above table the abbreviation of variables is as follows:

Independent variables	Dependent variable
DD = Delivery due dates	PP = Procurement performance
QC = Commitment to quality	
SC = Supplier's capacity	
FS = Financial stability of suppliers	

CIP = Commitment to continuous improvement in product and process	
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While SC found to have 25.8 percent positive relation with FS and signification shows to have at .01 levels, FS moves in a positive direction with SC. PP found to have positive relation of 27.2 percent with SC, significance shows to have at 0.01 levels, hence PP moves in positive direction with SC. CIP is found to have 43.1 percent positive relation with FS with the significance shows to have at 0.01 levels, hence CIP moves in positive direction with FS. PP found to have 47.7 percent positive relation with FS, significance shows to have at .01 levels, hence they both move in positive direction. PP is found to have 54.8 percent positive relation with CIP. Significance shows to have at .01 levels, hence CIP moves in positive direction with PP.

Regression analysis

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.677 ^a	.458	.439	1.30723

a. Predictors: (Constant), CIP, SC, DD, FS, QC

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	207.906	5	41.581	24.333	.000 ^b
	Residual	246.073	144	1.709		
	Total	453.979	149			

a. Dependent Variable: PP

b. Predictors: (Constant), CIP, SC, DD, FS, QC

Model summary producing the value of (R), (R²) and (Adjusted R²), these values describes the value of dependent variable caused by independent variables of the model. Results shoes that the value of R = 67.7 percent and value of R² = 45.8 percent. Value of adjusted R² = 43.9 percent. Here independent variables have around 46% impacts on dependent variable. Now the stability of overall model determined by the F statistics given in below table:

ANOVA table produces the existence of linear relationship which described with the validity and significance of F statistics value. Above table produces that F statistics value = (24.333) and value of Sig. = (.000). The overall regression model was significant, because sig value is 0.000 which is less than 0.05 so this indicates that R² (0.458) is significant and greater than 0.

Table 5 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.620	1.156		7.458	.000
	DD	.280	.073	.239	3.822	.000
	QC	.661	.845	.475	.782	.043
	SC	.245	.086	.200	2.841	.005
	FS	-.060	.438	-.046	-.137	.892
	CIP	.142	.479	.116	.296	.046

a. Dependent Variable: PP

Discussion

H01: Supplier’s ability to meet delivery dates has significant positive impact on procurement performance of pharmaceutical companies. From the findings in above table Independent variable DD (Delivery Due Dates) has positive impact on dependent variable PP (Procurement Performance). Table produced the value of B = (.280) unstandardized value of coefficient and beta = (.239) standardized value of coefficient, so the effect is statistically significance describing the 23 percent positive impact of DD on PP.

H02: Supplier’s commitment to quality has significant positive impact on procurement performance of pharmaceutical companies. From the findings in above table Independent variable QC (Supplier’s commitment to quality) has positive impact on dependent variable PP

(Procurement Performance). Table produced the value of $B = (.661)$ unstandardized value of coefficient and $\beta = (.47.5)$ standardized value of coefficient, so the effect is statistically significance describing the 47.5 percent positive impact of QC on PP.

H03: Supplier capacity has significant positive impact on procurement performance of pharmaceutical companies. From the findings in above table Independent variable SC (Supplier's Capacity) has positive impact on dependent variable PP (Procurement Performance). Table produced the value of $B = (.245)$ unstandardized value of coefficient and $\beta = (.200)$ standardized value of coefficient, so the effect is statistically significance describing the 24.5 percent positive impact of SC on PP.

H04: Supplier's financial stability has significant positive impact on procurement performance of pharmaceutical companies. From the findings in above table Independent variable FS (Supplier's Financial Stability) has minor impact on dependent variable PP (Procurement Performance). Table produced the value of $B = (-.060)$ unstandardized value of coefficient and $\beta = (-.046)$ standardized value of coefficient.

H05: Supplier's commitment to continuous improvement in product and processes has significant positive impact on procurement performance of pharmaceutical companies. From the findings in above table Independent variable CIP (Supplier's Commitment to Continuous improvement in Product and Processes) has positive impact on dependent variable PP (Procurement Performance). Table produced the value of $B = (.142)$ unstandardized value of coefficient and $\beta = (.116)$ standardized value of coefficient, so the effect is statistically significance describing the 16 percent positive impact of CIP on PP. From the above findings in the context of pharmaceutical industry Islamabad supplier's ability to meet delivery due dates, quality commitment, supplier's capacity and continuous improvement in product and services are positively correlated with the dependent variable PP (procurement performance). Whereas supplier's financial stability has no impact on procurement performance in plays secondary role for supplier selection process.

Conclusion

In this study I checked the impact of supplier selection process on procurement performance of pharmaceutical companies Islamabad. So it is concluded that all the variables are reliable and independent variable Quality Commitment (QC) have stable linear relationship with Procurement Performance (PP) of Pharmaceutical Industry Islamabad. While next independent variables Delivery Due Dates (DD) and Supplier's Capacity (SC) has also stable linear relationship with Procurement Performance of Pharmaceutical Industry Islamabad. The independent variable Continuous improvement in Product and Process (CIP) has low significant impact on Procurement Performance of Pharmaceutical Industry Islamabad. The independent variable Financial Stability (FS) of suppliers have no impact on dependent variable Procurement performance (PP) of Pharmaceutical Industry Islamabad. In the context of Pharmaceutical industry the commitment to quality and delivery due dates of the supplier are showing the maximum variation in dependent variable as compare to other variables. So according to research findings all hypothesis were accepted. Our study results resembles that of In the literature review According to Kitheka et al 2020, supplier's quality commitment have significant effect on a firm's performance it reduce the

flawlessness and increases customer's responsiveness, their loyalty and commitment. According to Mohammady, (2015) in the selection of suppliers some factors are very important like the quality, service, organization, relationship and the delivery time and they have great impact on procurement performance. The continuous improvement in quality of the products and services is important option that builds strong relations with the suppliers. According to Lockamy and McCormack (2014) Continuous process improvement serves as the power that sustain and proceeds development to next development level and it is important for procurement performance of a firm. So form the literature evidence and the results it is confirmed that supplier's delivery due dates, quality commitment, capacity and continuous improvement are important for procurement performance.

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