

# ESPOUSAL OF E-PROCUREMENT: A STUDY OF SELECT PHARMA COMPANIES IN ANDHRA PRADESH

ROHINY. A

Ph. D Research Scholar

Department of Business Administration

Annamalai University

Tamil Nadu, India

DR.P.CHINNADURAI

Associate Professor

Department of Business Administration

Annamalai University

Tamil Nadu, India

## ABSTRACT

*In today's competitive and dynamic environment, survival and upward growth has become one of the most challenging tasks of organization. Meeting such challenges, various organizations realized the importance of automating the business processes for effective and efficient integration leads to a better performance in results. E-procurement is not only just a system for making purchase online. It represents the concept of automation of purchasing process using electronic system that incorporate smart analytical tools like big data and data mining solutions. E-procurement is the way of using internet and web based system to make easier, faster and less expensive purchase and sale of service. A properly implemented system connects the suppliers with the organizations while managing all interactions between them. The pharmaceutical companies experienced changes in their international and local competitions, customer base, market demand and adoption of rapidly changing technologies. These changes shifted the pharmaceutical supply chain from the operational functions to a value added activities and long term sustainability. This realization led to the espousal of electronic procurement in pharmaceutical companies. This paper aims to examine the benefits and barriers of espousal and the critical success factors for the successful application of e-procurement in the procurement of selected pharmaceutical companies located in Andhra Pradesh.*

**Key words:** E-Procurement, Manufacturing Pharmaceutical, Supply chain management

## 1. INTRODUCTION

E-procurement is the web enables solutions designed at automating and streamlining the purchasing activities. E-procurement became a powerful tool to improve the effectiveness and efficiencies and thus it has been recently receiving much attention by its adopters. It is a deriving benefit attained from the technological enhancement rather than using traditional paper based method of operation. Implementation of E-procurement in

Pharmaceutical companies has been partial in some of the supply chain and in the second phase only. This is the strategic shift from the conventional way of procurement into e-procurement to streamline the process, to achieve the transparency, visibility, operational efficiency and cost efficiency in all facet of procurement including selecting, bidding, payment and inventory processes.

50% of global demand for various vaccines supplied by Indian pharmaceutical companies, 40% of generic demand for US and 25% for UK. India contributes the second largest share of pharmaceutical companies in the world. It ranks 3<sup>rd</sup> worldwide for pharmaceutical production by volume and 14<sup>th</sup> by value. The country established domestic industries with 3000 drug companies and approx. 10500 manufacturing units. The domestic market is expected to grow 3X in next 10 years and it is estimated at \$ 42 billion in 2021 and likely to reach \$ 65 billion by 2021 and further to \$ 120-130 billion by 2030. India is the 12<sup>th</sup> large exporter of the medical goods in the world, India supplied a total of 584.6 lakh of COVID-19 vaccines to 71 countries. Nearly 1 Lakh crore rupees to be funded under union budget of 2021-22 to boost the manufacturing of pharmaceutical ingredients domestically within the year 2023.

Pharmaceutical and health sectors are very unique which involve huge expenditures, range of stakeholders and people and also the dominance of Government and procurement policy implications to be considered (Alsac, 2007). E-procurement procedure in pharma industry are peculiar in nature and are highly influence by the nature of manufacturing process need, buying and selling of materials and other initiatives to handle the procurement cycle. This initiative helps to reduce the cost, lead time, fight competition and requirement planning become feasible.

The study has identified various key dimensions like Benefits, Barriers and Critical success factors which are contributing success of espousal of Pharmaceutical procurement and hence develops performance as well as competitive measures of manufacturers. This exploration was developed through literature reviews and consequently was verified by the process of data collection in the selected pharmaceutical companies located in Andhra Pradesh.

This study will explain how the espousal of e-procurement system as a part of IT enabled platform will streamline the procurement process and add value to the procurement activities by analyzing the benefits and barriers of espouse of e-procurement. Also prove the way forward by identifying the critical success factors for the successful espousal of e-procurement of selected pharmaceutical companies in Andhra Pradesh.

## 2. REVIEW OF LITERATURE

Moving towards the “future of procurement” it is necessary to understand the value of E-procurement which moves from bureaucratic model to virtual model is informal and electronic. E-procurement is very important and essential as it makes purchasing activities more effective in terms of both cost and time which in turn help the Indian Industries to grow and compete in the global area (Swamy (2014)). The quantifiable amount of return on investment made by the usage of electronic platform for the procurement of pharmaceuticals and medical devices in the government of Chile in terms of return of investment on the electronic platform (Raventos & Zolezzi (2009)). E-procurement not widely adopted due to the barriers like resource constraint, technology, legal and government environments. Efforts from all stakeholders including employees, vendors, system developer and government to overcome these barriers (Nazima & Vani (2017)). Green procurement adoption in public sector of Tanzania recommended to involve the all parties to get the true potential and benefits of e-procurement. This can be achieved through training and legal frameworks which govern the system and the benefits to the supplier and the government (Shatta, Shaya & Layaa (2020)). IT infra structure, managerial commitment, public procurement regulations and employee competencies had a significant impact on the successful completion of e procurement in procuring entities at the country level in Kenya (Beatrice (2015)). The benefits related with e-procurement are overpowering the risks and risks are diminished with the passage of time and more companies' implementation in future. Cost reduction was acknowledged as the most important benefits with e-procurement in the Swedish and Indian Firms (Vinit Parida (2008)).

Form the above literature reviews, it is evident that the espousal of e-procurement benefits to employees and organizations with limited risks involved, the risks are diminishing when year passes and by improving the critical success factors. 20% of the top 25 pharma companies are located in Andhra Pradesh in which almost all top most companies supply chain functions espoused with various e-procurement platforms. This study then sought to establish the benefits and barriers in the espousal of e-procurement and the critical success factors for the successful application of e-procurement of select pharmaceutical companies in Andhra Pradesh since the espousal of e-procurement in the pharmaceuticals industries are slowly increase in Andhra Pradesh pharma industries.

### 3. METHODOLOGY

#### 3.1 Research Design

This study technique used for data collection is descriptive cross sectional survey design using a structured questionnaire. The study has identified various key dimensions like Benefits, Barriers and Critical success factors which are contributing success of espousal of Pharmaceutical supply chain and hence develops performance as well as competitive measures of manufacturer. This exploration was developed through literature reviews and consequently was verified by the process of data collection in the selected pharmaceutical companies located in Andhra Pradesh.

#### 3.2 Various key dimensions development

Extensive literature survey was carried out to identify various key dimensions of the study. Even though it was difficult to find literature in Andhra Pradesh context since there has not been many research done in this area, the research done in north India and other countries were explored and they were used as the foundation to create the questionnaire.

The following key dimensions were extracted during the literature review,

The literature shows the general benefits can be achieved by espousal of E-procurement

1. Cost reduction in purchase of materials and services
2. Reduction in procurement cycle
3. Reduction in cost of delivery
4. Increase in number of order placement
5. Improved product reliability
6. Improved product/service quality
7. Reduction in transaction cost
8. Increase in process standardization
9. Increase in operational efficiency
10. Increase in sale growth
11. Increase in reach of new/alternate resources
12. Increase in transparency in negotiation
13. Enhanced buyer-supplier relationship
14. Increase in gain of competitive advantage
15. Increased resource availability
16. Reduced changes of errors
17. Improving in inventory management
18. Fairer process of doing business
19. Reduction in price pressures
20. Increased accuracy in decision making

The literature also shows the general barriers have to come across while e-procurement espousal, this includes the following

1. Increased implementation cost
2. Increase in integration and maintenance cost
3. Lack of interoperability
4. Lack of legal support
5. Lack of information security
6. Lack of skill and knowledge
7. Availability of IT skilled staff
8. IT infra structure
9. Change management – new technology adoption
10. Increase the potential for more transactions
11. Lack of supplier support
12. Increased price pressures

Moreover there are certain critical success factors that impact the performance of e-procurement. Literature shows that the following CSFs can impact the performance in the companies

1. Initial Training
2. Top management support
3. Business process reengineering
4. Adoption of process support
5. Supplier – client influence
6. Legal influence
7. Management of exceptions
8. E-procurement in other industries

The questionnaire was developed using the above parameters with the data collection as explained below

### 3.3 Collection of data

The study analyzed selected socio-demographic characteristics, their perspective and the level of satisfaction about the traditional and the espoused new e- procurement system for the supply chain.

A structured questionnaire was used to collect the data which was prepared in English as the background information confirmed that almost all selected employees were conversant with English Language. The questionnaire was prepared based on the information collected through literature survey and was prepared to gather information related to research objectives. The questionnaire mainly consist of closed ended questions, the response for majority of questions were in the “five-point” Linkert scale based on the impact of parameters derived from literature review as below

- 1 –Not at all
- 2 – Some Extent
- 3 – Moderate Extent
- 4- Large Extent
- 5- Very large Extent

### 3.4 Measures

The questionnaire consist of following main sections

- a. *Demographic information* – length of service, education, number of employees in the organization
- b. Participants level of agreement on the *Benefits* to be achieved on espousal of E-Procurement
- c. Participants level of agreement on the *Barriers* have to come across while E-Procurement espousal
- d. Participants level of agreement on the *Critical success factors* that impact the performance of E-procurement.

Collection of data was done by principal investigator.

## 4. RESULTS AND DISCUSSION

### 4.1 Analysis of data

The filled questionnaire were coded for the convenience of the data entry. The analysis of data was carried out by using Minitab 17 Statistical Software.

*Analytical method used in Demographic Information:* Descriptive analysis is the statistical method of representing the summary of the collected data in the study. Descriptive statistics used to extract the summaries from the data. Tools like frequency, percentage and cumulative percentage used to represent the data set and arriving the sensible conclusion. This analysis used in identifying the trend and a pattern in the collected data from the sample which represents the overall population

*Benefits on espousal of E-Procurement:* Descriptive analytics used for summarizing the data and the Analytical tool - Mean used for the benefit analysis and ranked according to their importance

*Barriers to the espousal of E-Procurement:* Descriptive analytics used for the summarizing the data, percentage analysis and then mean ranking tools used to find out the barriers to the successful espousal of e-procurement as per the respondents of the pharmaceutical companies

*Critical Success Factors:* Descriptive analytics used for the summarizing the data, percentage analysis and then mean ranking tools used to find out the critical success factors and to increase the strength of the CSRS to achieve the maximum benefits and the successful espousal of e-procurement espousal of the pharmaceutical companies.

Out of all the questionnaires (n=50), 50 responded to the questionnaire with response rate of 100%

#### 4.2 Demographic Information

The demographic information considered in the study are length of continuous service with the companies , level of education of respondent and number of employees in the company

##### 4.2.1 Length of continuous service in the company

The result shows that 54% of the respondents have worked in the pharmaceutical company for more than 10 years, 38% of the respondent have worked below 5 years in the company and 8% of the respondents have worked for a period between 5 year and 10 years of continuous service in the pharmaceutical company.

**Table 1: Length of continuous service in the company**

S.No	Category	Range for Service	Frequency	Percentage	Cumulative %
1	Length of Continuous Service in the company	Below 5 Years	19	38.0%	38.0%
2		5 - 10 Years	4	8.0%	46.0%
3		Above 10 Years	27	54.0%	100.0%

##### 4.2.2 Level of Education of the Employee

The result on the level of education of the employee shows that 64% of the respondent have attained graduation education attained the highest level, 18% of the respondent indicated that they had attained the post-graduation level, 14% of the respondents indicated that they attained doctorate level of education and 4% of the respondents attained their higher secondary school education or intermediate education level.

**Table 2: Level of education of the employee**

S. No	Category	Level of Education	Frequency	Percentage	Cumulative %
1	Level of Education of the Employee	HSC/Intermediate	2	4.0%	4.0%
2		Graduate	32	64.0%	68.0%
3		Post Graduate	9	18.0%	86.0%
4		Doctorate	7	14.0%	100.0%

##### 4.2.3 Number of employees of the Company

The results on the number of employees of the pharmaceutical company shows that 42% have employed below 200, 40% of the companies employed above 500 employees and 18% of the pharmaceutical companies employed between 200 and 500.

**Table 3: Number of employees of the company**

S. No	Category	Number of Employees	Frequency	Percentage	Cumulative %
1	Number of	Below 200	21	42.0%	42.0%

2	employees in the Company	200 – 500	9	18.0%	60.0%
3		Above 500	20	40.0%	100.0%

#### 4.3 Benefits on espousal of E-Procurement

The Benefits are ranked according to their importance provided by the respondents. The top 5 benefits as the result of the descriptive analytics based on the response from the employees of pharma companies are Cost reduction, transparency in negotiation, reduced errors, process standardization and operation efficiency increase.

**Table 4: Benefits of espousal of E-Procurement**

S.No	Benefits	Mean
1	Cost Reduction in purchase of materials and services	4.16
2	Increase in transparency in negotiation	4.16
3	Reduced chances of errors	4.14
4	Increase in process standardization	4.02
5	Increase in operational efficiency	3.98
6	Increased resource availability	3.96
7	Improving in Inventory management	3.96
8	Fairer process of doing business	3.96
9	Increased accuracy in decision making	3.92
10	Enhanced buyer-supplier relationship	3.82
11	Increase in gain of competitive advantage	3.78
12	Increase in number of order placement	3.72
13	Increase in reach of new/alternate resources	3.64
14	Reduction in procurement cycle time	3.60
15	Reduction in price pressures	3.60
16	Increase in sale growth	3.56
17	Reduction in transaction cost	3.48
18	Reduction in cost of delivery	3.46
19	Improved product reliability	3.24
20	Improved product/service quality	3.20

#### 4.4 Barriers to overcome during espousal of E-Procurement

Percentage analysis results on the barriers which impact the espousal of e-procurement as per the following table

*Increased Implementation cost:* 46% of the respondents agreed the impact of increased implementation cost impact the espousal of e-procurement in the pharmaceutical companies to some extent where as 28% of respondents agreed as impacted very large extent and 22% of respondents agreed as moderate extent and only 6% of the respondents agreed as large extent. However no respondent agreed that the increased implementation cost accepted the impact and felt that the increased implementation cost become a barrier.

*Increase in Integration and maintenance cost :* 52% of respondents felt that the integration and maintenance cost increase is moderately impact as a barrier for espousal of e-procurement, 28% of employees felt this cost become barrier for a large extent, 14% of respondent felt the same to some extent the integration and maintenance cost become the barrier, 4% of respondent felt as very large extent this become barrier and only 2% of the respondent felt as there is no impact of integration and maintenance cost become a barrier for espousal.

*Lack of Interoperability :* 34% of respondent agreed the lack of interoperability become a barrier to some extent, 28% of respondent agreed to large extent, 16% as moderate extent , 14% as very large extent and 8% of the respondent agreed that the interoperability is not at all a barrier for the espousal of e-procurement

**Table 5: Barriers to overcome during espousal of E-Procurement**

S.No	Barriers	Not at all	Some Extent	Moderate Extent	Large Extent	Very Large Extent
1	Increased Implementation cost	0%	46%	22%	6%	26%
2	Increase in Integration and maintenance cost	2%	14%	52%	28%	4%
3	Lack of interoperability	8%	34%	16%	28%	14%
4	Lack of legal support	28%	12%	32%	28%	0%
5	Lack of information security	10%	34%	14%	16%	26%
6	Lack of skill and knowledge	26%	6%	20%	48%	0%
7	Availability of IT skilled staff	6%	8%	36%	34%	16%
8	IT infra structure	0%	10%	48%	12%	30%
9	Change management -new technology adoption	4%	10%	24%	34%	28%
10	Increases the potential for more transactions	14%	6%	34%	32%	14%
11	Lack of supplier support	6%	26%	30%	22%	16%
12	Increased price pressure	10%	24%	26%	24%	16%

*Lack of legal support:*32% of the respondent agreed the extent of impact of legal support lacking become a barrier for the implementation of e-procurement as moderate and 28% of respondents felt it become barrier for large extent, but 28% of respondent felt the same as not at all a barrier, 12% of the respondent felt as barrier to some extent, however nobody felt as barrier for very large extent.

*Lack of Information Security :* 34% of the respondents agreed that the information security lacking become the barrier for espousal to some extent, 26% of respondent agreed to very large extent, 16% of respondent agreed to large extent, 14% of respondent to moderate extent, but 10% of the respondent felt that it will not at all a barrier for espousal

*Lack of skill and knowledge:*48% of the respondent felt that the lack of skill and knowledge on the electronic platform become a barrier to large extent, 26% of respondent felt as it is not a barrier to espouse, 20% of respondent felt that it moderately become barrier, 6% of respondent felt it as a barrier in moderately, but no body felt as a very large extent as a barrier for the espousal of e-procurement

*Availability of IT Skilled staff :* 36% and 34% of the respondents felt that availability of it skilled staff will become a barrier for moderate and large extent, 16% of respondent felt that as very large extent, 8% felt as become barrier to some extent and 6% of the respondent felt it is not a barrier for espousal

*IT infrastructure :* 48% of the respondent felt that the lack of IT infra structure become a barrier to moderate extent, 30% felt it to very large extent, 12% felt it to large extent and 10% of respondent felt to some extent, but no body felt as a barrier for the espousal of e-procurement

*Change Management as new technology adoption:* 34% of respondent felt that the change management as new technology adoption become a barrier to large extent. 28% and 24% of the respondent felt it become barrier to very large extent and moderate extent, 10% of the respondent felt it to some extent and 4% of the respondent felt it is not a barrier

*Increases the potential for more transaction:* 34% and 32% of the respondent felt that the espousal of e-procurement increases the potential for more transaction to them and become a barrier to moderate and large extent. 14% of the respondent felt it as very large extent and 14% felt it is not at all a barrier for espousal and 6% of the respondent felt it to some extent



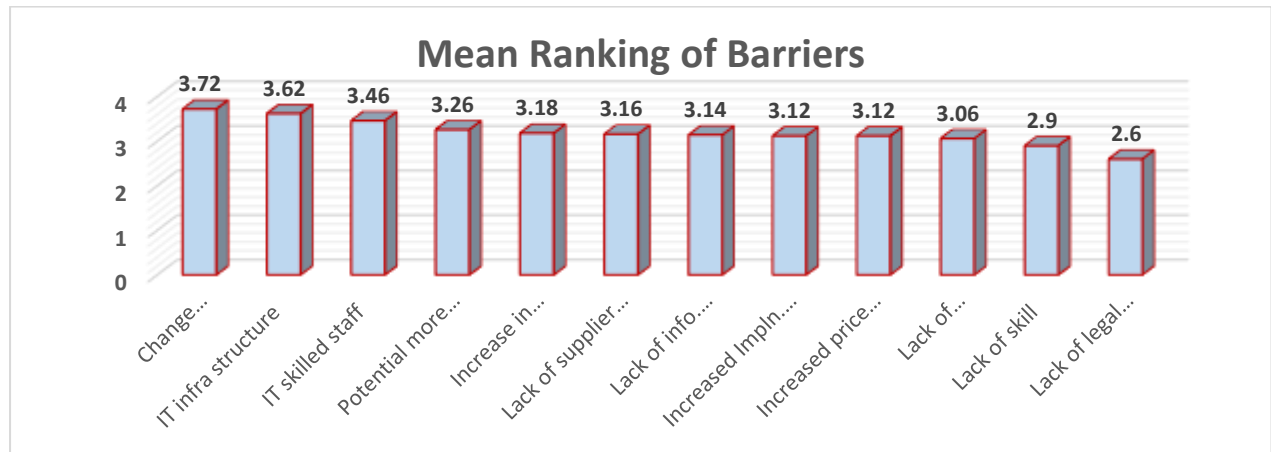
*Lack of supplier Support* : 30% of the respondent agreed the lack of supplier support become a barrier to moderate extent, 26% and 22% of respondent felt that it become barrier to some extent and large extent, 16% of respondent felt it up to very large extent, 6% of respondent felt it not a barrier for espousal

*Increased Price pressure*: 26% of the respondent felt price pressure increase become a barrier for the espousal of e-procurement, 24% of the respondent felt as some and very extent, 16% of the respondent felt it as very large extent and 10% of the respondent felt it is not a barrier for espousal

#### 4.5 Mean Ranking of the barriers

The above barriers were ranked in the order of extent to ascertain the major barriers and least barriers for e-procurement based on the mean rank scores

**Figure 1: Mean ranking of the Barriers**



#### 4.6 Critical Success Factors which determine the performance of espousal of E-Procurement

The impact of critical success factors studied with the response of the employees of pharmaceutical companies in this study using percentage analysis.

The respondent level of acceptance against each CSF is as per the below

*E-Procurement in other industries*: 42% of the respondent agreed that the extent and success of the e-procurement of other industries will impact the success of the same in their companies to large extent, 26% of the respondent agreed as some extent, 14% of the respondent agreed as moderate, 14% of the respondent agreed as there is no impact of the other industries espouse to their companies, but 4% of the respondent agreed as very large extent

*Management of exceptions*: The exception nature of the management to implement new technologies or internet based platforms to the organizations impact the success of the espousals. 46% of the respondent moderately agreed the same, 26% agreed to some extent, 24% agreed to large extent, but 2% of the respondent agreed that there is no relation between the success of espousal and 2% agreed to very large extent

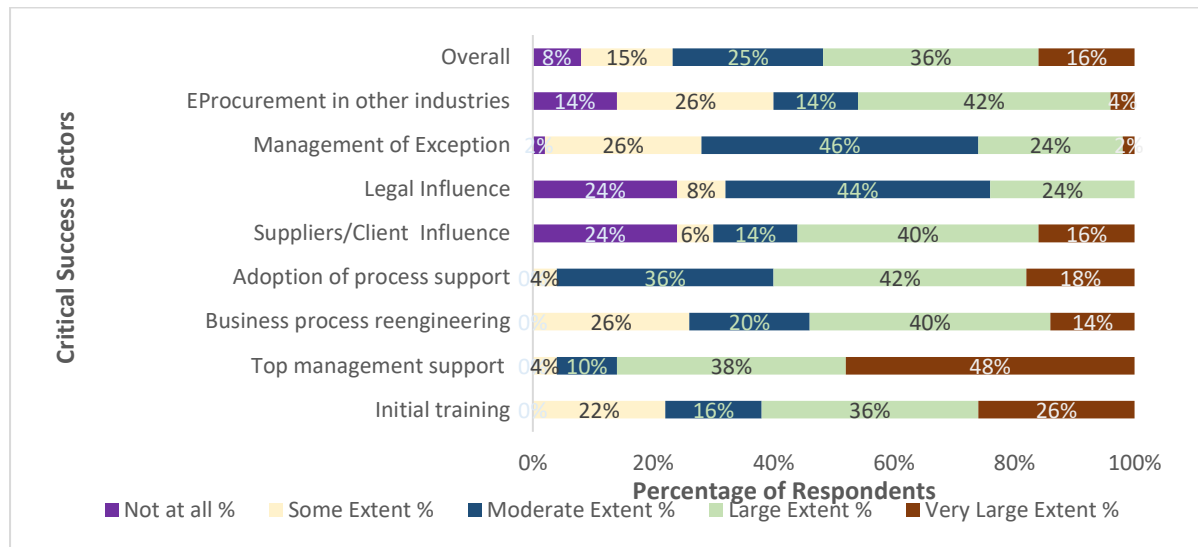
*Legal Influence*: The legal rules, laws of the Government and the policies, rules and standard operating procedure of the supply chain influence the success of the espousal of e-procurement. 44% of the respondent agreed the impact as moderate, 24% agreed as very high and 24% agreed there is no relation between the success and legal influence some extent, 8% of the respondent agreed to some extent, but no one agreed legal influences in the very large extent

*Supplier and Client Influence*: The client of the pharma companies and suppliers influence on the espousal impact the success of the espousal since their intervention and usage of our e-platforms to quote, follow up on logistics and deliveries and data entries updates. Their influence impact is very high as per the respondent of 40%. 24% of respondent not agreed for this relation, 16% of respondent agreed to very large extent, 14% of respondent agreed to some extent but 24% of the respondent not at all agreed on these relations

**Figure 2: Critical Success Factors**



*Adoption of process Support:* The process of procurement replicate the process of e-procurement during adoption to ease the work of the company employees and vendors/clients as well. 42% of the respondents largely agreed this, 36% of the respondents accepted to some extent, 18% accepted as very large extent, but nobody accepted that there is no relation on the process support during the espousal of e-procurement



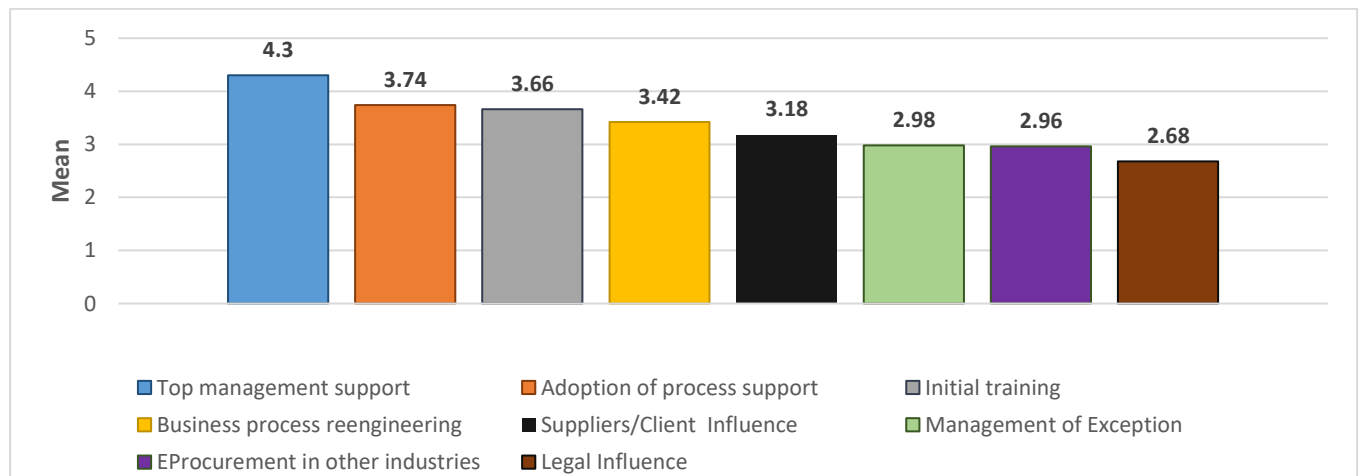
*Business Process reengineering:* The business process reengineering impact on the espousal of e-procurement studies as 40% of the respondent felt its impact as large extent, 26% of respondent felt as some extent, 20% felt as moderate extent, 14% of the respondent felt as very large extent, but nobody agreed that there is no relation between the business process reengineering does not impact on the espousal of e-procurement

*Top Management Support:*48% of the respondent agreed on the support by top management impacted in very large extent, 38% of respondent agreed the impact up to large extent, 10% up to moderate extent, only 4% agreed to some extent, but nobody agreed that there is no relation between the espousal and top management support

*Initial Training:*36% of the respondent agreed that the initial training on the e-procurement plant form will impact the success of the implementation. 26% of the respondent agree to very large extent, 22% of the respondent agreed to some extent and 16% of the respondent agreed for moderate impact. But nobody accepted that there is no impact on the espousal and initial training to the employees before espousal of e-procurement

**4.7 Mean Ranking of the Critical Success factors**

**Figure 3: Mean ranking of the Critical Success Factors**



The above critical success factors are analyzed through mean and ranking based on the highest impact to the lowest impact of the CSF to the success of the espousal of e-procurement in the pharma companies

So the pharmaceutical manufacturing companies should derive policies to improve the rate of impact of major CSFs to increase the success of espousal of e-procurement in their companies

### 3. DISCUSSION

Pharmaceutical purchases are very unique and peculiar which involve huge expenditures, range of stakeholders and people, also the dominance of Government and procurement policy implications to be considered and highly influenced by the nature of manufacturing process need, buying and selling of materials and other initiatives to handle the procurement cycle. This e-procurement initiative helps to reduce the cost, lead time, fight competition and requirement planning become feasible.

This study has identified various key dimensions like Benefits, Barriers and Critical success factors which are contributing success of espousal of Pharmaceutical procurement and hence develops performance as well as competitive measures of manufacturers. This exploration was developed through literature reviews and consequently was verified by the process of data collection in the selected pharmaceutical companies located in Andhra Pradesh. This study will explain how the espousal of e-procurement system as a part of IT enabled platform will streamline the procurement process and add value to the procurement activities by analyzing the benefits and barriers of espouse of e-procurement. Also prove the way forward by identifying the critical success factors for the successful espousal of e-procurement of selected pharmaceutical companies in Andhra Pradesh.

#### *5.1 Demographic information*

The result on the period of service of employees indicates that the majority of the respondents worked in the pharmaceutical companies for a long period of time and therefore they understand the espousal process of E-procurement in depth and have responded based on their experience on the benefits and barriers and the critical success factors. Also they understand the importance of the e-procurement practices as well in the pharmaceutical companies

The result on the educational qualification indicate that the majority of the respondents have attained university level of education and 96% of the respondent of the employees working in pharmaceutical companies had attained graduation and above. Therefore they have knowledge on the e-procurement process, practices, and benefits of practicing the e-procurement and have the knowledge on overcoming the barriers and improvement on the critical success factors.

The results indicate that the number of employees in the pharmaceutical companies varies and this can be attributed to the size of the companies and the extent of duration of the espousal of the e-procurement and the support on the critical success factors.

#### *5.2 Benefits on espousal of E-Procurement*

All of the employees of the pharma companies accepted that all the above benefits are achieved through espousal of e-procurement in their companies since the mean of all the benefits are more than 3.2 which means all are acceptance of the benefits to large extent and very large extent.

#### *5.3 Barriers to overcome during espousal of E-Procurement*

All the barriers are impacting the espousal of e-procurement in the pharmaceutical companies overall 30% up to moderate extent, 26% as large extent, 19% as some extent, 16% as very large extent and 10% felt it not at all. Change management new technology adoption, IT infra structure and It skilled staffs are the major barriers and Legal support and lack of skill and knowledges are the least barriers. The management of pharmaceutical companies to make strategic decisions to overcome the major barriers for the successful espousal of the e-procurement in their companies.

#### *5.4 Critical Success Factors which determine the performance of espousal of E-Procurement*

Majority of the respondents agreed these critical success factors impacted to large extent as 36%, 25% of the respondent agreed to moderate extent and 16% of the respondent agreed the impact to very large extent but only 8% of the respondent agreed that there is no impact of these CSF on the espousal of E-procurement in the pharma companies in Andhra Pradesh. Top management support, adoption of process, initial training and business process re-engineering are the factors that majorly impacted the success of the implementation of e-procurement and supplier influence, MOE, e-procurement in other industries and legal influence are impacted in

the lower rate. The companies to review and improve/strengthen the major CSFs to increase the success of the espousal.

## 6. CONCLUSIONS

The study revealed that many Pharmaceutical companies started implanting the adoption of e-procurement platform to increase their cost benefits in the function of supply chain, transparency in the purchasing process, to reduce the changes of errors, standardization of the process thus to increase the operation efficiency to get more cost benefits. The pharma companies which are using e-procurement platform achieved huge cost saving and other intangible benefits after espousal of e-procurement in their organizations to attract their clients. Even though the benefits are more in espousal of e-procurement platforms, still the companies are facing some barriers as challenges to espouse the same like acceptance of change management and new technology adoption into the existing system, infra structural development and its cost implication, IT skilled staffs to understand the relevance and difference of process and thus to provide the support to ease the employees to operate the new platform. The pharma companies has to derive the strategic policies and to develop some management commitment on the implementation of e-procurement

This study also found out the major critical success factors which influence/impact the success of the e-procurement espousal. Support from top management, process adoption support to the new platform, initial training and commitment of management on the new platform and process reengineering in the new platform impacted the success of the espousal. The total success of the espousal of the companies depends on the critical success factor strengthening to achieve the perceived benefits and to overcome the barriers over a period of time.

## 6. LIMITATIONS

Confidentiality was a major obstruction in gathering information relating to e-procurement barriers and Critical success factors in the pharmaceutical companies. The researcher to inform the respondents in advance that the purpose of the research was meant for academic purpose only and not for other investigations although the same was stipulated on the questionnaire.

The study was undertaken on e-procurement benefits, barriers and critical success factors for the successful implementation of e-procurement in selected pharma companies in Andhra Pradesh. The study recommends that a further study can be carried out to establish to other states of India and other countries as well. A further study should be carried out to conduct in other manufacturing industries.

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