ROLE OF ORGANISATIONAL FACTORS ON E-PROCUREMENT ADOPTION DECISIONS BY MEDIUM SCALE INDUSTRIES IN TAMILNADU

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ABSTRACT

Procurement is a largely data-driven function. It needs real-time visibility and an easy way of maintaining and managing a large volume of procurement data. Hence it is necessary to have a real-time procurement system (e-procurement). So, it is essential for any organisation to adopt e-procurement. There are many factors that affect the decisions of adoption of e-procurement. One such factor is organisational factors. This research empirically tests the role of organisational factors on e-procurement adoption decisions. Empirical survey of 432 samples was collected from the production executives of medium scale industries in the Tamilnadu using structured questionnaire. K-mean cluster analysis was performed to segment the medium scale industries into three groups: High, Moderate and Low influence of organisational factors on adoption decisions by industries. Among the organisational factors considered for this study, top management support plays a vital role in adoption of e-procurement. Results indicate that there is a moderate influence of organisational factors on adoption decisions by medium scale industries.

Keywords: E-procurement, Adoption Decisions, Role of Organisational Factors, Medium Scale Industries.

I. INTRODUCTION

To survive in today's global marketplace, businesses need to be able to deliver products on time, maintain market credibility and introduce new products and services faster than competitors. This is especially crucial to the Medium sized Enterprises. Since the emergence of the Internet, it has allowed them to compete effectively and efficiently in both domestic and international market. Unfortunately, such leverage is often impeded by the resistance and mismanagement of Medium sized Enterprises to adopt Electronic Procurement proficiently.

E-procurement is a technology solution that facilities corporate buying using the internet (W.D Presutti, 2003). E-procurement is the electronic integration and management of all procurement activities including purchase request, authorization, ordering, delivery and payment between a purchaser and a supplier (Chaffey, 2002).A technology designed to facilitate the acquisition of

goods by commercial or government organization over internet (L. Carabello, 2001). E-procurement's benefits include lower procurement costs, faster cycle times, reduce maverick or unauthorized buying well organized reporting information, and tighter integration of the procurement functions with key back-office systems (R. Kalakota & M. Robinson, 2001). A. Davila, M. Gupta & R.J Palmer (2003) and W.D Presutti (2003) enumerates the benefits of e-procurement as Cost savings, Process efficiency, Better information flow between buyers and supplier, Reduced Maverick spending, streamlined process and Better inventory level.

There are various factors that influence adoption of e-procurement by medium scale industries. One such factor is Organisational Factors. The organizational context describes the nature of organizational characteristics that may facilitate or inhibit adoption (DePietro et al., 1990).

II. REVIEW OF LITERATURE

Adoption can be facilitated in organizations that exhibit high degree of centralization of procurement activities (Yang et al., 2007; Jayasingam et al., 2010). A supporting organizational setting, including a skilled workforce, can be critical for successful innovation adoption (Lin, C. and Pervan, G., 2003). Kennedy and Deeter-Schmelz (2001) found that 'organizational characteristics and organizational influences' are significant motivators to the use of e-procurement. In other words, training and relative influence of the purchasing function are key factors influencing adoption of e-procurement. The greater the support from top management, the easier it will be for adopting organizations to overcome difficulties encountered during adoption (Premkumar and Ramamurthy, 1995; Silva et al., 2007). Centralized procurement activities, Organisational readiness and Top management support are critical organisational factor for the success of e-procurement adoption and diffusion.

A. Centralisation

Adoption of e-procurement can facilitate in organizations that exhibit high degree of centralization because top management can make adoption decisions irrespective of resistance from lower level managers or employees (Yang et al., 2007; Jayasingam et al., 2010). Moon (2005) shows that the empowerment of the central procurement unit is an important determinant of E-Procurement adoption. Organizational structure also has been considered as an important factor to technology adoption. However, an organization's culture and structure can either hasten or impede innovation adoption (Russell and Hoag, 2004). Lai etal (2007) and Gatingon and Robertson, (1989) found that there exists

relationship between centralization of procurement and adoptions of e-procurement. Russell and Hoag (2004) found that organizations with centralized structures were more likely to adopt new technologies.

B. Organizational Readiness

Organizational readiness is defined as 'An enterprise's availability of financial and human resources needed to adopt e-procurement' (Hsin-Lu Chang, 2010; Iacovou et al., 1995). An organization's readiness in terms of its people, its procurement process, and its technology will influence the E-procurement adoption success (Knudsen, 2003). E-procurement adoption requires organisation support. Organizational Readiness reflects organizational factors that lay the foundation for the successful adoption of E-Procurement. Organizations must have capabilities like Financial Resources or IT Sophistication before e-procurement is adopted (Iacovou. C et al., 1995). Organisational Readiness is in essence an organization's internal capability in accepting a new technology (Iacovou et al., 1995; Mehrtens et al., 2001).

C. Top Management Support

Top-management's commitment to technology is defined as 'the degree to which the values and perceptions of the management are in favour of and open to technology adoption' (Useem, 1993). Top management has overall responsibility for a firm beyond production management. The role of a firm's top management also includes management of external relations and continuous development and improvement of the firm (Carpenter et al., 2004).

The greater the support from top management, the easier it will be for adopting organizations to overcome difficulties encountered during adoption (Grover and Goslar, 1993; Katarina Arbin, 2008; Premkumar and Ramamurthy, 1995; Silva et al., 2007). Jeyaraj et al. (2006) found that top management support to be one of the best predictors of organisational adoption of IS innovations. Top management can stimulate change by communicating and reinforcing values through an articulated vision for the organisation (Thong 1999). Hence, the technology adoption level is expected to be higher in those firms with top management commitment to technology than in those without.

III. OBJECTIVE

The study has been conducted with the objective to ascertain the role of organisational factors on e-procurement adoption decisions by medium scale industries in Tamilnadu.

IV. RESEARCH METHODOLOGY

The research design of this research work is descriptive in nature. The research work is conducted mainly based on primary data, which is related to organisational factors that facilitates or hinders adoption of e-procurement. The primary data are collected from the executives in production department of Medium Scale Industries in Tamilnadu which are using e-procurement. The data collection instrument used for this research is a well-structured questionnaire. The sample population for this study consists of medium scale industries which are using e-procurement. From the list of those industries, samples were drawn at random using lottery method. Thus the sampling technique adopted in this research work is simple random sampling method. The sample size of the study has been determined using this formula: n = (z2s2) / e2, where 'n' is the sample size, 'z' is confidence limit, 's' is the standard deviation and 'e' is error. This calculation shows that the sample size should be minimum of 420. Nearly 500 questionnaires were sent. After receiving the filled-in questionnaires, 432 questionnaires were useful for analysis. Thus the sample size for this study is 432.

The variables needed for the questionnaire were generated through the literature review and pre-pilot study was conducted to test the content validity of the questionnaire by administering it to subject experts and necessary suggestions were incorporated. The Pilot study was conducted on 30 medium scale industries which are using e-procurement in Tamilnadu and the initial reliability of the questionnaire was tested using Cronbach's Alpha value. The Cronbach's Alpha value for pilot study is 0.857, which revealed a good reliability result.

The main survey was conducted using final questionnaire and the results are represented in tabular and figurative forms. The statistical tools used in this research work are Simple Mean, Cluster Analysis and Discriminant Analysis. Software package SPSS 16 is used to analyze above statistical tools.

V. RESULTS & DISCUSSION

This section presents descriptive and inferential statistical analysis of effect of organisational factors on e-procurement adoption using statistical tools namely simple mean analysis, cluster analysis, discriminant analysis and results are represented in tabular and figurative forms. The effect of organisational factors on e-procurement adoption by medium scale industries in Tamilnadu are studied with the help of variables such as

centralisation, Organizational Readiness and Top Management Support. Each variable and its nature of relevance with e-procurement adoption are described in detail in the forthcoming sections.

A. Organisations Profile

The following table I shows Organisation's Profile. 18.5 percent of organisations deal with belongs to electrical & electronics type of industry, 17.6 percent of organisations deal with belongs to automotive industry and 12.3 percent of organisations deal with belongs to Minerals & Metals. Maximum participation is from electrical & electronics type of industry and from Private Limited type of organisation contributing 51.9 percent participation. Major organisation participated in research deal with industrial goods (75.2 percent) running business over 11 to 15 years (40 percent) having about 100 to 200 employees (38.7 percent).

B. Priorities of Organisational Factors

The Organisational Factors influencing adoption of e-procurement are Centralisation, Organisational Readiness and Top Management Support. The extent of influence of these organisational factor in adoption of e-procurement are measured by five point Likert Scale with value 1 for 'Strongly Disagree', value 2 for 'Disagree', value 3 for 'Neither Agree nor Disagree', value 4 for 'Agree' and value 5 for 'Strongly Agree'. Table II shows the mean value of the various organisational factors (Kindly refer Table II).

Table II shows the priority of various organisational factors that influences adoption of e-procurement. Top Management is the first rank with the highest mean value of 3.49. This shows that the top management support influences more in adoption of e-procurement. The next priority is Centralisation of purchase activity in the organisation with the mean value of 3.36. The last is organisational support with mean value of 3.31.This reveals that organisational Readiness influences less in adoption of e-procurement.

C. Frequency Analysis of Organisational Factors

Based on the convenience, the five point scale of different organisational factors can be classified in to three groups for easy interpretations of data. Number of organisations falling under each category is shown in table III.

a. Centralisation

From the frequency analysis table (kindly refer table III), it is interpreted that 58 percent of organisations moderately agree that centralisation influences adoption of e-procurement. 34 percent of organisations strongly agree that centralisation influences adoption of e-procurement and 8 percent of organisations disagree that centralisation influences adoption of e-procurement. This illustrates that the centralisation moderately influences adoption of e-procurement.

b. Organisational Readiness

From the frequency analysis table (kindly refer table III), it is interpreted that 51 percent of organisations moderately agree that organisational readiness influences adoption of e-procurement. 33 percent of organisations strongly agree that organisational readiness influences adoption of e-procurement and 16 percent of organisations disagree that organisational readiness influences adoption of e-procurement. This illustrates that the organisational readiness moderately influences adoption of e-procurement.

c. Top Management Support

From the frequency analysis table (kindly refer table III), it is interpreted that 49 percent of organisations strongly agree that top management support influences adoption of e-procurement. 42 percent of organisations moderately agree that top management support influences adoption of e-procurement and 9 percent of organisations disagree that top management support influences adoption of e-procurement. This illustrates that the top management support is more in adoption of e-procurement.

D. Segmentation of Organisations

By using cluster analysis the organisations can be grouped based on the organisational factor influence on adoption of e-procurement. For the purpose of grouping, K-means cluster analysis is used (kindly refer table IV).

The Final Cluster Centers table IV depicts the mean values for the three clusters which reflect the attributes of each cluster. It is also noted that no particular factor is heavily loaded on any particular cluster. The rank of the clusters on every factor is shown in brackets. The F value indicates that there exists significant difference among all the three clusters. The significant value for all the three factors is 0.000. This means that all the three factors have significant contribution on dividing the organisations into three segments based on the organisational factor influence on adoption of e-procurement.

The first cluster group can be called as the High influence of organisational factor on adoption of e-procurement. The second cluster group can be called as Less Influence of organisational factor on adoption of e-procurement and the third cluster group as Moderate Influence of organisational factor on adoption of e-procurement. From the table IV it is clear that 32 percent of organisations say there is High influence of organisational factor, 52 percent of organisations say there is moderate influence of organisational factor and the remaining 16 percent of organisation say there is less influence of organisational factor on adoption of e-procurement. This leads to the conclusion that most of the organisation accepts that there is moderate influence of organisational factor on adoption of e-procurement.

E. Reliability of Classification

The organisation is classified into three clusters based on the influence of organisational factors in adoption of e-procurement. The three identified clusters are high influence, less influence and moderate influence of organisational factors on adoption of e-procurement. Discriminant analysis is used to test the reliability of classification of clusters. For that purpose three organisational factors are taken as independent variables and level of influence of organisational factors are taken as grouping variable (kindly refer table V).

The table V contains Wilks' lambda, the F statistic, its degrees of freedom and significance level. Wilks' lambda is the ratio of within-groups sum of squares to the total sum of squares. Wilks' lambda in this case ranges from 0.378 to 0.476. The small values of Wilks' lambda indicate that there is a strong group differences among mean values of three factors. Here top management support has low Wilks' lambda value. Mostly this organisational factor determines the classification of cluster. The F statistic is a ratio of between-groups variability to within-groups variability. The significance value is 0.000 for all the three factors which indicates that the group differences are significant.

The Eigen value is the ratio between-groups sum of squares to the within-groups sum of squares. The largest Eigen value corresponds to the maximum spread of the group means. Small Eigen accounts for very little of the total dispersion. Two Discriminant functions can be formed when there are three clusters. The Eigen value is high for first function which means that there is a good variability between the two functions (kindly refer table VI). The

canonical correlation measures the association between two functions and three factors. The co-efficient of canonical correlation is high for both the functions. This indicates that there exists high relation between two functions and the three factors.

The structure matrix (kindly refer table VII) contains within-group correlations of each predictor variable with the canonical function. This matrix provides another way to study the usefulness of each variable in the Discriminant function. In the table VII for each variable, an asterisk indicates its largest absolute correlation with one of the canonical functions. With each function, these marked variables are then ordered by the size of the correlation. The strongest correlations for all factors occur within the function 1 and there is no factor to have correlation with function 2. This means that the second function is not important and it is not possible. So the function may be

Z1 = 0.679 Centralisation + 0.573 Organisational Readiness + 0.555 Top Management Support

This function is significant Discriminant function that will explain the characteristics of organisation that has influence of organisational factors in adopting e-procurement. The group centroids diagram (kindly refer figure I) shows that all the three clusters are distinctive clusters having different group centroids and different mean values. The cluster members are aligned separately from other group members.

Table VIII shown below presents the extent of success of the classification on the basis of reasons. The number and percentage of cases classified correctly and wrongly classified are displayed in the table VIII. Here, 100 percent of less influence of organisational factors in adopting e-procurement is correctly classified. The table VIII shows 99.3 percent of high influence of organisational factors is correctly classified and 0.7 percent is wrongly classified as moderate influence of organisational factors. In the moderate influence of organisational factors segment 222 cases accounting for 98.2 percent are correctly classified and only 4 cases are included into high influence of organisational factors segment. Therefore, it can be inferred that the segmentation of organisations based on level of influence of organisational factor in adoption of e-procurement is correct by 98.8 percent.

F. Relationship between Organisational Factors and Demographic Variables

The levels of organisational factors influence are classified as high, moderate and less. Chi-square test is used to find out the association between each demographic variable with different levels of organisational factor influence. Chi- square values and its significance values are shown in table IX. From the table IX, it is inferred that demographic variables like number of years in business, number of employees working in the organisation, number of suppliers, time since the adoption of e-procurement and extent of e-procurement adoption have significant association with different influence levels of organisational factor.

The correspondence analysis (kindly refer figure II) reveals that the organisations doing business for 5 to 10 years have low influence of organisational factor, organisations doing business for 11 to 15 years have moderate influence of organisational factor and organisations doing business for 16 to 25 years have high influence of organisational factor. This reveals that the organisation doing business for more years have high influence of organisational factor in adopting e-procurement.

The correspondence analysis (kindly refer figure II)reveals that the organisations having employees between 100 to 200 have low influence of organisational factor, organisation having employees more than 600 have high influence of organisational factor whereas organisation having employees between 201 to 600 employees have moderate influence of organisational factor. This reveals that the organisation having high number of employees have high influence of organisational factor in adopting e-procurement.

The correspondence analysis (kindly refer figure III)reveals that the organisations having suppliers between 16 - 20 have low influence of organisational factor, organisation having less than 5 suppliers have moderate influence of organisational factor and 5 to 10 suppliers have high influence of organisational factor. This exposes that the organisation having less number of suppliers have moderate influence of organisational factor in adopting e-procurement.

The correspondence analysis (kindly refer figure IV) exposes that the organisations that has adopted e-procurement recently and 1 to 2 years have low influence of organisational factor, organisations that has adopted e-procurement from 3 to 4 years have moderate influence of organisational

factor and the organisations that has adopted e-procurement over 5 years have high influence of organisational factor. This exposes that the organisation having adopted much earlier have high influence of organisational factor.

The correspondence analysis (kindly refer figure IV) exposes that the organisations that have adopted e-procurement in limited deployment have moderate influence of organisational factor, the organisations that have adopted e-procurement in evaluation stage have low influence of organisational factor and the organisations that have adopted e-procurement in full deployment have high influence of organisational factor. This exposes that the organisation having adopted e-procurement under full deployment have high influence of organisational factor in adopting e-procurement.

G. Organisational Factors Influencing The Adoption of E-procurement

From the earlier analysis it is clear that number of years in business, number of employees working in the organisation, number of suppliers, time since the adoption of e-procurement and extent of e-procurement adoption have significant association with different influence levels of organisational factors. Now there is need to order of influence of those organisational factors. For this purpose canonical correlation is used. Canonical correlation is the examination of the relationship between two sets of variables. One set is the independent variables. The second consists of the criteria or the dependent variables. The first set contains three organisational factors such as centralisation (centr), Organisation Support (orgsup) and Top Management Support (topsup). The second set contains five significant chi-squared variables such as number of years in business (busyr), number of employees working in the organisation (Empno), number of suppliers (supno), time since the adoption of e-procurement (eptime) and extent of e-procurement adoption (epext). In order to know the set relationship between these two sets of variables, the Canonical Correlation is used (kindly refer table X & table XI).

Canonical correlation reveals that in unit one top management support as the reason for organisation factor influence because of the differences in extent of e-procurement adoption. It means extent of e-procurement adoption is the primary factor which differentiates organisations based on the organisational factors. Its Canonical correlation is 0.5296 which is the highest. The unit two of canonical correlation explains that centralisation as

the organisation factors that influences e-procurement adoption because of difference in number of years in business. Its Canonical correlation is 0.4215. The probability values for test of significance for all canonical correlation values indicate that all co-efficient are highly significant (kindly refer table X & table X1).

VI. CONCLUSION

The various organisation factors are centralisation, organisation support and top management support. Among these factors top management support influence more in adopting e-procurement. This leads to the conclusion that most of the organisation accepts that there is moderate influence of organisation factors on adoption of e-procurement. This reveals that the organisations should concentrate on organisational factors for the smoother adoption of e-procurement.

VII. POLICY RECOMMENDATION

This research shows the importance of top management support in adoption of e-procurement. This shows that top management commitment is a vital force in adoption process. Top Management can support adoption of e-procurement by allocating more funds, training employees, handling change management, eliminating fear of employees in adoption process, hire trainers and motivate employees.

VIII. REFERENCES

1. Chaffey, D., (2002). E-Business and E-Commerce Management. Financial Time Prentice-Hall, United Kingdom.
2. Davila. A, Gupta. M& Palmer. R. J, (2003). Moving procurement systems to the internet: the adoption and use of E-procurement technologies models. European management journal, vol. 21, no. 1. pp. 11-23
3. DePietro, R., Wiarda, E. and Fleischer, M. (1990). The context for change: organization, technology and environment. Lexington Books, Lexington, MA, pp. 151-75.
4. Gatignon, H. and Robertson, T. S. (1989). Technology Diffusion: An Empirical Test for Competitive Effects. Journal of Marketing, 53 (1): 35-49.
5. Grover, V. and Goslar, M. D. (1993). The Initiation, Adoption, and Implementation of Telecommunications Technologies in U.S

Organizations. Journal of Management Information Systems, 10 (1): 141-163.

6. Hsin-Lu Chang (2010). A roadmap to adopting emerging technology in e-business: an empirical study. Information System E-Business Management 8: pg 103–130
7. Iacovou, C, Benbasat. I, and Dexter (1995). Electronic Data Interchange and Small Organizations: Adoption and Impact of Technology. MIS Quarterly, vol. 19, Dec. 1995, pp. 465-485
8. Jayasingam, S., Ansari, M. and Jantan, M. (2010). Influencing knowledge workers: the power of top management. Industrial Management & Data Systems, Vol. 110 No. 1, pp. 134-51.
9. Jeyaraj, A., Rottman, J. W. and Lacity, M. C. (2006). A Review of the Predictors, Linkages, andBiases in IT Innovation Adoption Research. Journal of Information Technology (PalgraveMacmillan), 21 (1): 1-23.
10. Kalakota R. and Robinson M, (2001). E-Business: Roadmap for Success. Addison – Wesley, Canada.
11. Katarina Arbin (2008). The structure of determinants of individual adoption and use of e-ordering systems. Human Systems Management 27 143–159 143, DOI 10.3233/HSM-2008-0676
12. Kennedy, K. N., & Deeter-Schmelz, D. R. (2001). Descriptive and Predictive Analyses of Industrial Buyer's Use of Online Information for Purchasing. Journal of Personal Selling & Sales Management, 21 (4): 279-290.
13. Knudsen, D. (2003). Aligning corporate strategy, procurement strategy and e-procurement tools. International Journal of Physical Distribution & Logistics Management, 33(8), 720-734.
14. Lai, F., Wang, J., Hsieh, C.T. and Chen, J.C. (2007). On network externalities, e-business adoption and information asymmetry. Industrial Management & Data Systems, Vol. 107, pp. 728-46.
15. Lin, C. and Pervan, G. (2003). The practice of IS/IT benefits management in large Australian organizations. Information & Management, Vol. 41 No. 1, pp. 13-24.
16. Mehrtens, J., Cragg, P.B. and Mills, A.M. (2001). A model of internet adoption by SMEs. Information & Management, Vol. 39, pp. 165-76.

17. Moon, M.J.,(2005). E-procurement management in State Governments: diffusion of E-procurement practices and its determinants. Journal of Public Procurement5(1),54–72.
18. Premkumar, G. and Ramamurthy, K. (1995). The Role of Interorganizational and Organizational Factors on the Decision Mode for Adoption of Interorganizational Systems. Decision Sciences, 26 (3): 303-336.
19. Presutti. W. D, (2003). Supply management and e-procurement: creating value added in the supply chain. Industrial marketing management, vol. 32, no. 3.pp. 219-226
20. Russell, D.M. and Hoag, M.A. (2004). People and information technology in the supply chain social and organizational influences on adoption. International Journal of Physical Distribution & Logistics Management, Vol. 34 No. 2, pp. 102-22.
21. Thong, J. Y. L. (1999). An Integrated Model of Information Systems Adoption in Small Businesses. Journal of Management Information Systems, 15 (4): 187-214.
22. Useem, M. (1993). Management commitment and company policy on education and training. Human Resource Management, 32(4), 411-434.
23. Yang, K.H., Lee, S.M. and Lee, S.-G. (2007). Adoption of information and communication technology: impact of technology types, organizational resources and management style. Industrial Management & Data Systems, Vol. 107 No. 9, pp. 1257-75.

TABLES

Table I: Organisations Profile

Organisation's Profile	Options	Frequency	Percent
Industry Type	Automotive	76	17.6
	Chemical & Pharmaceuticals	33	7.6
	Construction (Building) Materials	16	3.7
	Electricals & Electronics	80	18.5
	Energy & Power	12	2.8
	Leather & Products	33	7.6

	Minerals & Metals	53	12.3
	Office Supplies	14	3.2
	Packaging & Paper	29	6.7
	Textiles & Garments	30	6.9
	Others	56	13.0
Organisation Type	Sole Proprietorship	84	19.4
	Partnership	104	24.1
	Private Limited	224	51.9
	Public Limited	20	4.6
Types of Good Produced	Industrial Goods	325	75.2
	Consumer Goods	30	6.9
	both	77	17.8
No. of Years in Business	Less than 5 years	12	2.8
	5 to 10 Years	76	17.6
	11 to 15 Years	173	40.0
	16 to 20 Years	108	25.0
	21 to 25 Years	36	8.3
	More than 25 Years	27	6.2
No. of Employees in Organisation	100 to 200	167	38.7
	201 to 400	120	27.8
	401 to 600	82	19.0
	601 to 800	39	9.0
	801 to 1000	15	3.5
	More than 1000	9	2.1
No. of Suppliers	Less than 5	76	17.6
	5-10	123	28.5
	11-15	141	32.6
	16-20	75	17.4
	More than 20	17	3.9
Time Since adoption of E-procurement	0-6 months	32	7.4
	6 to 12 months	96	22.2
	1 to 2 years	115	26.6
	3 to 4 years	105	24.3
	over 5 years	84	19.4

Extent of E-procurement adoption	Evaluation Stage	51	11.8
	Limited deployment	296	68.5
	Full deployment	85	19.7

Table II: Priorities of organisational factors

Organisational Factor	Mean Value	Rank
Centralisation	3.36	II
Organisational Readiness	3.31	III
Top Management Support	3.49	I

Table III: Frequency Analysis of organisational factors

Scale	1 – 2.5		2.5 – 3.5		3.5 - 5	
Factors	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Centralisation	32	8	252	58	148	34
Organisational Readiness	68	16	219	51	145	33
Top Management Support	38	9	180	42	214	49

Table IV: Final Cluster Centers and ANOVA

Organisational Factors	Cluster			F	Sig.
	1	2	3		
Centralisation	4.06 (I)	2.59 (III)	3.16 (II)	235.976	.000
Organisational Readiness	3.95 (I)	2.48 (III)	3.16 (II)	244.741	.000
Top Management Support	4.06 (I)	2.37 (III)	3.47 (II)	353.516	.000
Mean	4.02	2.48	3.26		
No. of cases in each cluster	138	68	226		
Total Percentage	32	16	52		

Table V: Tests of Equality of Group Means

Organisational Factors	Wilks' Lambda	F	df1	df2	Sig.
Centralisation	.476	235.976	2	429	.000

Organisational Readiness	.467	244.741	2	429	.000
Top Management Support	.378	353.516	2	429	.000

Table VI: Eigen values

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	3.442[a]	95.4	95.4	.880
2	.167[a]	4.6	100.0	.613

Table VII: Structure Matrix

Organisational Factors	Function	
	1	2
Centralisation	.679*	-.607
Organisational Readiness	.573*	.234
Top Management Support	.555*	.496

Table VIII: Extent of Correct Classification

Cluster		Predicted Group Membership			Total
		High Influence	Less Influence	Moderate Influence	
Count	High Influence	137	0	1	138
	Less Influence	0	68	0	68
	Moderate Influence	4	0	222	226
%	High Influence	99.3	.0	.7	100.0
	Less Influence	.0	100.0	.0	100.0
	Moderate Influence	1.8	.0	98.2	100.0

98.8% of original grouped cases correctly classified.

Table IX: Relationship between organisational factors and demographic variables

S. No	Demographic Variables	Chi-Square Value	Sig.
1	Type of industry	11.549	.931
2	Type of Organisation	5.944	.430
3	Type of Goods Produced	5.953	.203
4	No. of years in business	40.256	.000
5	No. of Employees working in the organisation	47.070	.000
6	Annual procurement expenditure	5.899	.435
7	No. of Suppliers	24.485	.002
8	Time Since adoption of E-procurement	81.645	.000
9	Extent of E-procurement adoption	109.6	.000

Table X: Canonical correlation of Market related Factors

Linear combinations for canonical correlations Number of observations = 432

Variable		Coefficient	Error	T	P > t	95 % Confidence Interval	
u1	centr	-.378628	.1488656	-2.54	0.011	-.6712209	-.086035
	topsup	1.676132	.1583886	10.58	0.000	1.364822	1.987442
v1	empno	.2548656	.0702101	3.63	0.000	.1168689	.3928624
	supno	-.3383353	.0726081	-4.66	0.000	-.4810453	-.1956253
	epext	1.408126	.1434335	9.82	0.000	1.12621	1.690043
u2	centr	1.684666	.1999613	8.42	0.000	1.291645	2.077686
	orgsup	.4334103	.1817505	2.38	0.018	.0761827	.790638
	topsup	-1.123207	.2127528	-5.28	0.000	-1.541369	-.7050449
v2	busyr	.6151518	.0928682	6.62	0.000	.432621	.7976826
	empno	.5525954	.0943085	5.86	0.000	.3672336	.7379572
	epext	-.6658151	.1926647	-3.46	0.001	-1.044494	-.2871359

Table XI: Tests of significance of all canonical correlations

	Statistic	df1	df2	F	Prob > F
Wilks' lambda	.58828	15	1170.88	16.5407	0.0000 a
Pillai's trace	.463932	15	1278	15.5859	0.0000 a
Lawley-Hotelling trace	.611617	15	1268	17.2340	0.0000 a
Roy's largest root	.389709	5	426	33.2032	0.0000 u

e = exact, a= approximate, u= upper bound on F

FIGURES

Figure I: Group Centroids for organisational factor Clusters

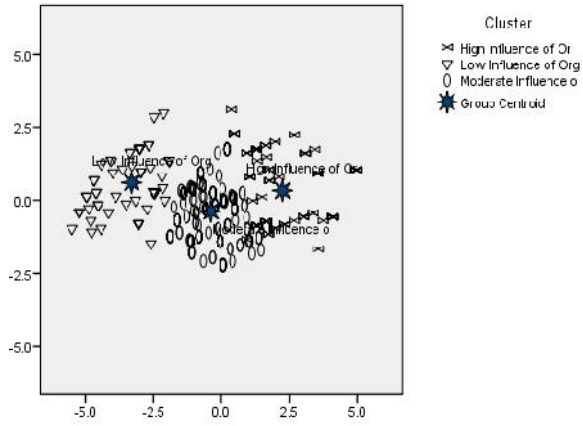


Figure II: Correspondence analysis for Number of Years in Business and number employees with organisational factors

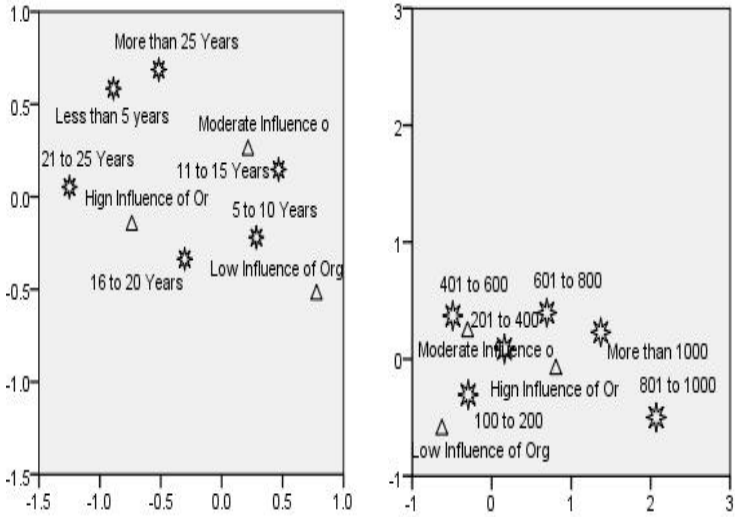


Figure III: Correspondence analysis for Number of Suppliers with organisational factors

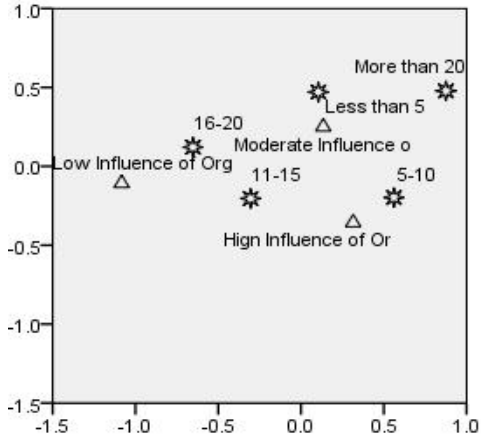
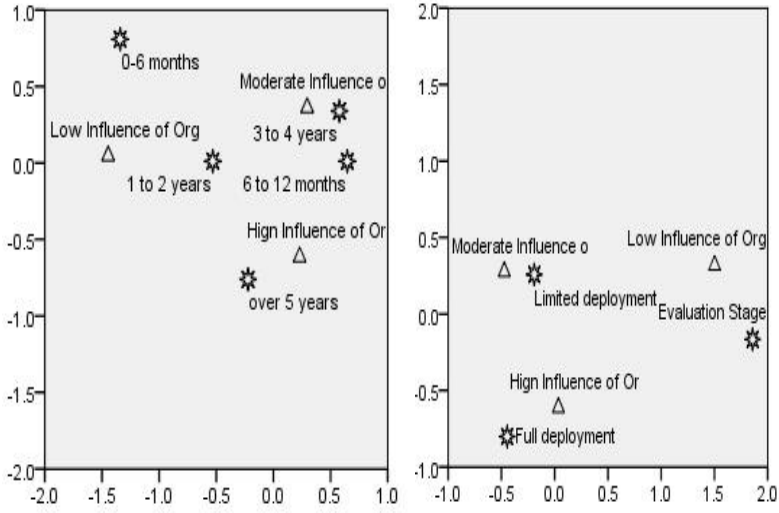


Figure IV: Correspondence analysis for Time Since adoption of E-procurement and Extent of E-procurement adoption with organisational factors



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