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The Effect of Benefits and Risks On E-procurement Implementation: An Exploratory Study of Swedish and Indian Firms*

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Abstract:

E-procurement is constantly receiving lot of attention from industries, and government agencies. Analysts believe that utilization of e-procurement can lead to enormous cost saving and efficiency in procurement process. Though, e-procurement has benefited the global business tremendously, its expected growth rate has been moving downwards. The present study explores how the benefits and risks associated to e-procurement affect the e-procurement implementation. The differences and similarities among firms in different setting are also investigated. By using Swedish and Indian firms, the results show that cost benefit is the main driver for companies to implement e-procurement. The problems of implementation and integration of existing infrastructure are holding back companies from implementing e-procurement. But benefits are overpowering risks and companies are moving toward more aggressive strategic approach of implementing e-procurement. Finally, e-procurement is typically used for buying indirect material and the buyer side model is most dominated in industry.

Keywords: e-procurement, adoption, implementation, Sweden, India, case study, business to business (B2B).

1. Introduction

In the past decade, the impact of web-based technology has added velocity to all activities and avenues of business. In today's dynamic global business competition scenario, the ability to provide customers with cost-effective total solutions and life-cycle costs for sustainable value have become vital. Business organizations are now under a tremendous pressure to improve their responsiveness and efficiency in terms of product development, operations and resource utilization with transparency. In this, lead times needs to be reduced to their extreme extent to meet the changing demands of customers in different regions of the world. With the emerging application of Internet technologies, companies are forced to shift their operation from conventional way to a virtual e-business, e-procurement and e-supply chain

philosophy. These philosophies transform companies from a local business automation to a global enterprise and business automation (11)

One such technological application which has promised firms possibility of higher profitability is e-procurement. Use of e-procurement not only lowers the cost of procurement but also provides better coordination between suppliers, quicker transaction time, and increases process efficiency (18, 23). Although the benefits of using e-procurement are huge but still its adoption has been at a lowered rate. Some reasons for this occurrence is due problems associated with people within the organizations lack of ability to adopt the system, overheads associated with implementation, and problem with persuading suppliers to implement e-procurement (21, 14). E-procurement systems are mostly used for purchasing and selling MRO (maintenance, repair, and operation) goods as it can easily be transformed into e-catalogue. There is also possibility of using e-procurement for purchasing and selling direct goods but there is still lack of acceptance in the industry towards this from of transition (16). Most of the firms are inclined towards wait and see approach, which makes them much careful and more observant (7).

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Thus, the purpose of this paper is to (1) understand how the e-procurement implementation is influenced by benefits and risks associated to e-procurement, and (2) to explore if the differences and similarities exist among firms in different setting.

The article is organized as follows. The next section provides theoretical background in developing an analytical framework for the study. Then, the research methodology is described in section 3 while findings and analysis are presented in section 4. Next, section 5 deals with discussion follows by conclusion. Limitations and suggestions for future research are also provided.

2. Conceptual framework

2.1 Definition of e-procurement

The terms procurement and purchasing has been quite often mixed with each other or used interchangeably. In fact, they differ significantly in their scope. Kalakota and Robinson (10) assert that purchasing refers to buying materials and all activities associated with the buying process. Electronic purchasing addresses only one relatively minor aspect of the procurement problems faced by companies. On the other hand, procurement is broadly defined to include a company's requisitioning, purchasing, transportation, warehousing, and in-bound receiving processes. From this point, it could be argued that purchasing represent a subset of the entire process of procurement.

As the use of Internet technology is increasing worldwide, electronic procurement is replacing traditional procurement in many countries (4). Generally speaking, e-procurement system has two essential components; internal processing which is corporate intranet and external communication processing which is Internet-based platforms (5). The main function of e-procurement system is that it allows individual employees to order goods directly from their personal computers through the web on a real-time basis. Requests and orders are channelled through various forms of hubs or database. It also allows individual employees to search for items, checks availability, place and track orders and initiate payment of delivery (12). In the present study, the definition of

e-procurement is in line with the study of Wu et al. (23, 576), whom define e-procurement as "use of information technology to facilitate business to business purchase transaction for a materials and services".

2.2 Benefits of e-procurement

Previous studies have identified a number of benefits of implementing e-procurement system (2, 3, 7, 8, 10, 13, 17, 20). The benefits of e-procurement could be viewed as a positive driving force pushing a firm to implement e-procurement. The present study reviews benefits of e-procurement identified in previous studies and proposes the main benefits commonly referred in literatures.

Cost savings – Cost reduction and negotiation are the reason for transaction costs fall so precipitously with e-procurement (12). Reductions in labour costs in the purchasing process, increase in purchase volume, leads to better price from supplier and better negotiation i.e. suppliers are ready to reduced the price as they get the assurance of transaction from the buying company. Davila et al. (7) suggest that cost per transaction using e-procurement can be reduced by 65% compared to traditional procurement transaction.

Process efficiency – e-procurement system is expected to provide major improvements in the entire procurement process. The management of the firm should be given tools for making the right decision from e-procurement system. Those tools include spend analysis, transaction analysis, market analysis, and other features relating to strategic activities. By properly utilizing these tools would eventually lead to the increasing of the process efficiency.

Better information flow between a firm and suppliers – implementing e-procurement solution does not always require additional technology, dedicated personnel or staffing resources. Rather, existing technology infrastructure including equipment and computers with Internet connectivity, which are common equipments used in most companies nowadays, is sufficient (15). The Internet network allows a firm and suppliers to share information in

real time which allows both parties to respond to each other immediately.

Reduced maverick spending – insecurity and uncertainty always occur when a firm purchases goods from suppliers whom a firm does not have formal relationship with. Even nobody wants to have those feeling but it happens sometime in procurement process. E-procurement system utilizes the advantages of Internet technology that allows the firm to minimize the maverick spending.

Streamlined process – The e-procurement system helps removing inefficient intermediaries out of supply chain (23). This has a significant impact on the revenue generation potential for the firms because the operation is short and smooth allowing the firm to pay more attention on necessary and important jobs.

Better inventory level – by implementing e-procurement, it is anticipated that there is no problems like stock outs, wrong material ordered, and late delivery. The inventory control is improved from implementing e-procurement.

2.3 Risks associated with e-procurement

Dai and Kauffman (6) argue that Internet-based e-procurement systems and B2B electronic market solutions need to be compatible to the greatest possible extent with the existing technologies, to have a reasonable chance to be widely adopted in the marketplace. Even e-procurement system provides numerous benefits to the firms, there is a certain amount of risks associated with e-procurement implementation. These risks could be views as negative driving force affecting the e-procurement implementation. Four categories of risk are identified within the literature related with e-procurement.

Internal business risks – Companies are uncertain about having the appropriate resources to successfully implement an e-procurement solution. Implementing an e-procurement solution not only requires that the system itself successfully performs the purchasing process, but it integrates with the existing information infrastructure (21).

External business risks – E-procurement solutions need not interact with internal information systems, but also need to collaborate with external constituencies; mainly customers and suppliers. External constituencies need to develop internal systems that facilitate the communication through electronic means, an issue that demands technology investments as well as incentives for these constituencies. For e-procurement technologies to succeed, suppliers must be accessible via the Internet and must provide sufficient catalogue choices to satisfy the requirements of their customers. Suppliers, especially in low margin industries, may be hesitant or even unable to meet such demands without guarantees of future revenue streams (7).

Technology risks – Companies also fear the lack of a widely accepted standard and a clear understanding of which e-procurement technologies best suit the needs of each company. The significance of this risk factor seems to suggest the need for clear and open standards that would facilitate inter-organization e-procurement technologies. Without widely accepted standards for coding, technical, and process specifications, e-procurement technology adoption will be slow and fail to deliver the benefits as expected (7).

E-procurement process risks – Another set of risks has to do with the security and control of the e-procurement process itself. Organizations must be confident, for example, that unauthorized actions will not disrupt production or other supply chain activities when committing to e-procurement technologies. But according to Samaniego et al (18), large firms are not concerned with security issues related with e-procurement.

2.4 E-procurement implementation

The studies relating to e-procurement implementation are conducted in several perspectives. Some look at how the firms use the system while others focus on the strategy of implementing the system. Furthermore, the software architecture is also given a considerable attention in literatures. The present study emphasizes the e-procurement implementation in three dimensions; strategy, practice, and software model.

The details of each dimension are described in the following.

2.4.1 E-procurement Strategies

The E-procurement market is still evolving with the development of technology and new models to serve the needs of the market. There are various strategies that companies adopt towards e-procurement technologies. The study conducted by Davila et al (7) suggests three different approaches in implementing e-procurement; *wait-and-see*, *passive*, and *aggressive approach*.

Based on their study, the companies in *wait-and-see* group are aware of the developments but either not committing resources yet or investing selectively until the best e-procurement model can be identified. These companies do not perceive the current state of development merits shifting their established procurement process to the e-world. Nevertheless, they are active in experiments and widespread. The strategy reflects active experimentation but no sizeable investment until the best e-procurement model is defined.

For *passive* group, the adequacy (and risk) will depend on how quickly organisational learning can be absorbed without creating the absorptive capacities that the *wait-and-see* companies seem to be developing. The logic behind this approach is that a firm wants to declare that they are investing significantly to gain a competitive lead or moving fast into e-procurement solutions. This strategy, however, is defined as riskier in the absence of any well defined solution and companies may end up betting on the wrong technology. Lastly, the companies who use *aggressive* approach believe that their competitors are implementing e-procurement system and that forcing them to pursue an *aggressive* approach.

2.4.2 E-procurement Practices

In the procurement circle, the line is often drawn between *direct* and *indirect materials*. Indirect materials constitute what are typically referred to as maintenance, repair, and operation (MRO) goods, where direct materials are those that are closely linked

to production or service delivery. It is common to find a large order of direct materials because it is aimed at external customers (14). The order for indirect materials is typically small because it is aimed at internal use. More and more companies are purchasing either direct or indirect materials on the Internet. For instance, the research done by Institute of Supply Management (9) indicates a consistent growth in the adoption of Web-based methods for indirect purchases. Much of this is due to the fact that firms both in the services and manufacturing sectors are increasingly making routine purchase for operating and office supplies through online sites, either independently or as part of hosted catalogs. But overall it is more difficult to implement e-procurement for direct material as it requires lot "back end integration" and complex procedures (16).

2.4.3 E-procurement Models

According to Wilson (22), e-procurement is the amalgamation of sales and purchasing business models and calls for differentiation based on application and functions. The first application is the *buy-side procurement* which refers to an organization using electronic systems to purchase goods, such as office stationary, from contracted suppliers. These suppliers are also using e-procurement systems for management of all processes relating to purchase. This is simply coalescing of the corporate procurement portals and business to employees (B2E) applications. In short, this model is generally driven by the specific requirements of the buying organizations than other models.

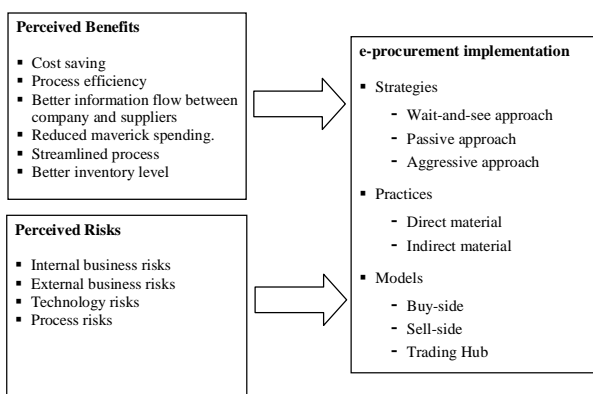
The second application is *sell-side procurement*. This model is used to describe how one supplier sells to a number of buying organizations using electronic systems such as, using e-procurement systems and e-commerce technology. Sell-side procurement model is often used extensively in B2C (business to consumers). Well designed sell-side solution is usually offering a higher level of customizations for each buyer than their B2C retail counterparts. This type of model attracts big supplier firms that have a stronger position in relationship with their buyers.

The last application is *e-marketplace and trading hubs* which is a combination of industry consortium and the trading exchanges. The marketplace model brings together many different buying and selling organizations in one trading community. The most popular e-marketplace function is auction used for variety of product category. This type of model often helps to increase collaboration between companies in a single industry sector or providing the opportunity of e-procurement to companies, who would normally be too small to benefit

2.5 Analytical framework

The analytical framework is drawn to visualize the association among benefits, risks, and e-procurement implementation. It is expected that the way e-procurement is implemented is more or less influenced by a firm's perceived benefits and risks. The e-procurement implementation consists of three dimensions; strategy, practice, and model. These three dimensions are assessed to see what makes a firm to employ a particular strategy, practice, and model. Figure 1 shows the analytical framework for the present study.

Figure 1 Analytical framework



3. Methodology

3.1 Research Design

The present study is an exploratory research aiming to see if the differences or similarities exist among firms in different setting. The study is an initial phase of a large research project. An in-depth qualitative multiple case study approach was employed. Multiple cases

help in developing a wide perspective of different possible situations, thus giving the ability to partially generalise conclusions (1, 24). It is suggested that the case study can be very worthwhile way of exploring existing theory. Furthermore, a well-constructed case study can enable researchers to challenge an existing theory and also provide a source of new research questions (19). This research approach provides a great insight of the current phenomenon being investigated which will be useful for designing a larger study in subsequent research phase.

A purposive sampling technique was used in the study. Two Swedish companies and Indian companies were selected. The sample criteria was based on companies that have implemented e-procurement solutions or/ and those who help to provide e-procurement solution to other companies. The reason for taking these two perspectives is that, when a company has implemented e-procurement, it is easy to get in-depth information. And when a company is providing e-procurement solutions, it is easier to get wider information about its customers (companies) issues and challenges related with adoption of e-procurement. These two perspectives were further used to compare the views between Swedish and Indian companies.

3.2 Data collection

Total of four companies were selected for the study from Sweden (company A & B) and India (company C & D). Only well established company's were selected for the study and the criteria for that was either they are using or providing e-procurement services for at least 3 year or more. This criterion secured a higher possibility for better information regarding the research area. The companies approached for the study were first contacted via mail and telephone. Regarding e-procurement solution provider from Sweden (A) and from India (C) which qualify under these criteria; both companies were founded around the year 2000. Also, both are leading e-procurement service provider in their respective country.

While selecting users of e-procurement, it was purposeful that the user company should be related with the service provider company. So, a banking company (B) was selected for Sweden as company A provides the e-procurement solution to company B and company B is a share holder of company A. Further from India, Steel manufacturing company (D) was selected as company C provides e-procurement solution to them and company D also has a share in company C. Another reason for selecting these companies was due to their involvement in the B2B sector. In addition, it was purposefully tried to take not only companies from different countries, but also, different industry as this widens the scope of the study for a better understanding of the e-procurement phenomena.

Data collection was done using interview and documentation. Interview was conducted personally or via telephone with follow-up e-mails. Websites of each company was used as an important source for documentation and information. It was difficult to find the right person within each company and especially within the uses company's of e-procurement. Thus, no specific positioned person was selected from each company but rather the most appropriate person with the answers was sought within the companies. All four interviewees were at managerial level and were the responsible person for the operations of e-procurement systems. Before the interview, a brief description of the research was provided which include, objective of the study, and the guideline regarding the contribution expected from the interviewees. Finally, interviewees were confirmed about the confidentiality of sensitive data. During the interview notes were taken and the conversation was recorded for higher reliability. For data analysis within and cross-case analysis was performed, which will be presented in the next section.

4. Findings and analysis

4.1 Findings from Swedish cases (Company A and B)

4.1.1 Perceived benefits

Cost saving is recognized in accord with the findings presented by different authors. In company B, high

purchase volume helps in getting better price and higher savings from supplier. Company A also confirmed the literatures and identified *cost saving* as the main factor for company to adopt e-procurement. Moreover e-procurement assures the suppliers and buyers making negotiation more natural. Company B partially allied with the concept relating to *Process efficiency*. It helps in getting market overview, transparency throughout the company and reduction in the overall purchasing. They also associated process efficiency with reduction in numbers of suppliers, i.e. in invoicing and other information from suppliers. Similar view was shared by company A, establishing that process efficiency enables better business control, professionalism in work and clears up other processes within the company. Further, both firms suggested time convenience as a vital benefit, users can utilize their time at work rather than purchasing.

Regarding *better information flow between buyers and suppliers*, company B agreed with the concept completely whereas, company A partially agreed. They explained that e-procurement solutions enable end-users to search for products to create requisitions and to place orders with supplier. But, the employees\buyers may not always know the supplier. Thus no direct relationship may come to exist and information flow might be restricted. Both company A and B fully approved *reduction in maverick spending* due to e-procurement. They acknowledged contract compliance, i.e. purchase only from suppliers with whom they already have some relationship, which leads to reduced maverick spending. Similarly regarding *streamlined process* both company felt that e-procurement connects employees with a single process making it smoother, information flow effortless, easier to handle and the whole process is streamlined. This leads to automating requisitions, minimizing data errors, routing all documentation. With reference to *better inventory control*, company A agreed with this benefit while company B believes it is not the only major benefit of e-procurement since it deals in indirect material. Finally, the most important benefit of e-procurement for company B was cost savings as non-cost savings are rather intangible.

Whereas, company A did acknowledge non-cost benefits to be not existing and better price to be the main motivator. It also rates contract compliance and process savings as important benefits.

4.1.2 Perceived risks

Company B partially related *internal risks* with the implementation of e-procurement, as suppliers have shown interest in integrating e-procurement but found it to be very expensive to integrate with their existing system. The company had to provide training and educate its employees on proper usage of e-procurement. However, there was no problem with the integration and uncertainty of its current IT solution. For company A, internal risks did not exist; this was due to technological advancements, training the employees and other services. The company revealed something new and interesting to be added to the literature; identifying other internal risks like lack of managerial commitment, and need for change in behavior and management. Company A did not support the concept of *external risks* the only visible external risk was that the suppliers did not want to join the system (mostly a risk for smaller companies rather than large companies) while other risks related to the suppliers were taken care of before any transaction. Companies B believed there can be risk while dealing with new suppliers as they may not be interested in a marketplace that is expensive. It is seen as extra burden for suppliers for delivery which might discourage suppliers. On the other hand, buyers may get confused who to choose from the large supply base. *Technological risks* were not of great concern to both company A and B as e-procurement technology standard has been commonly and widely accepted. Hence, this risk is obsolete. Nonetheless, both companies were more or less threatened by *process risks*. Company B gave high priority to security which should not be neglected. It has a separate security and audit department. As the information is vital, it should not be visible to competitors. Despite the security, measures good communication between all players in the marketplace is essential. In Contrast, company A rated risks linked to security and control issues very low.

4.1.3 E-procurement implementation

Company A diverged from the concept. The company believed *Wait and see approach* was quite common one year back in the industry. But now a different approach is adopted by companies regarding implementing e-procurement. It is somewhere between *passive and aggressive* approaches like a moderate approach. Company A considered several business case studies and analysis before making decision to implement e-procurement system. Nevertheless, the company was positively implementing e-procurement system. The company felt that the transformation was due to change in company's overview regarding e-procurement, as it was not just a new software solution. Risks have significantly reduced and the communication of e-procurement has become easier than before.

Company B followed wait and see approach when it first implemented e-procurement system. The company ran a test pilot with just 25 users with few suppliers in 2001. It did not take the company long to understand the benefits associated with e-procurement and the initial risks conquered. The users got compatible with the system and within a year the company changed its strategy to aggressive approach. The company widely implemented the solution by June 2002 and added 600 users; across all branches in Sweden. By November 2002, all the employees of company B in Sweden were able to use e-procurement solution.

Although the current use of e-procurement is for *indirect material*, there is a rise in the purchase of *direct material*. It can be seen that in the near future more transaction of direct material will be done. The acceptance of e-procurement solutions has got suppliers more interested to get involved. Company B supported the argument as its current e-procurement technology was used only for indirect material due to the needs of their business process.

Company A provides *buy side* e-procurement model as it is e-procurement vendor. The company explained that it is easy to motivate suppliers, if you have big companies as buyers (e.g. Ericsson, SEB, Novo Nordisk, and etc). Suppliers were assured that the

adoption of e-procurement will yield them better relations with their customers leading them to earn more money. This model is easier to sell as compared to *sell side or trading hubs*. The model adopted by company B is a *buy side* model and the reason for choosing this specific model is influenced by the need for more specific solution for company B. *Sell side or trading* models is not considered because both did not satisfy the need of the company's procurement needs.

4.2 Findings from Indian cases (Company C and D)

4.2.1 Perceived benefits

Both companies C and D, partially concurred with the concept, *cost savings* is recognized, other related benefits were suggested including volume buying is made easy, more options are available, and negotiation for a suitable price is easily done. Further, reduction is recognized in fixed cost, man power cost, variable cost through technological intervention. Company C recommended interesting point to the literature regarding *process efficiency*, the company stressed on the value of visibility and transparency across the entire process and knowledge management as the imperative benefits along with cost benefits. For company D, it believed that *process efficiency* led to substantial reduction in lead time for purchasing of materials, simplifying paper work and procedures. Regarding better relationship between buyer-supplier both companies agreed and stressed on *better buyer-suppliers relationships*, which contributes to maintaining better relationship, savings from investments and generation of revenue. This leads to standardization of best practices, increased responsiveness to customer's demands and selling. *Maverick spending* was a benefit recognized by both companies, as transactions are made easy and profitable by using large qualified supplier's base. Company D has *streamlined* the entire purchasing system and suppliers, by higher utilization of e-procurement in centralized purchasing. Company C realized benefits like reducing procurement cycle which streamlined the inventory or workflow integrating new technology to the existing process to

avoid duplication within the company. Company C recognized increase in optimal *inventory level* as benefit of e-procurement. Company D identified real time exchanges through electronic invoicing, lower prices and better inventory control. The whole process used to take two months before and now can be done in two hours, leading to time saving, higher profitability and productivity. Finally, company C recognized cost saving as the most beneficial, while for company D acknowledged cost saving, sales relationship with its customers both internal and external as most beneficial.

4.2.2 Perceived risks

Company C and D both partially agreed with concept. *Internal risk* relates mostly to the early phases of adopting a new technology. This could be due to non-acceptance to change, which made the scope of the risk very limited. The vital risk identified was responsiveness to e-procurement, the need to develop a strategy for adoption, and integration of technologically advance process. Regarding *external risks*, company C did not perceived this risk. For company D, the decision to adopt was directly related to investments and suppliers, which was an important consideration as most of its suppliers were still new to adoption of e-procurement and situated in remote areas.

Both companies again correlated to the concept regarding *technological risks*, as there is lack of acceptance of technological standards in India during the time the interview was conducted. It was agreed that with training employees and operational flexibility across organization, technical efficiency can be achieved. Also, large unorganized sectors, lack of infrastructure makes quality and delivery capabilities a far-fetched inspiration. Finally concerning *process risks*, it was not mainly issue by company D as the roles were clearly defined within the organization. For company C, it acknowledged that process risks may arise during the initial stages which led to transparency and visibility that delegated control all across the organization.

4.2.3 E-procurement implementation

According to company C, company has moved on from the early scenario of *wait and see and passive approach*. Even most companies were not ready to take risk, company C was sure about the e-procurement solution.. Company D's adoption strategy was *aggressive* as they wanted to expand the first mover advantage in the industry. The company identified the need to accept new technology and gain competitive edge. It successfully convinced company D to acquire resources, save money and achieve higher efficiency. The adoption of e-procurement within company D started with only one department and in time was adopted across the organization. It was a deliberate and strategic attempt to take on the *aggressive* approach rather than *wait and see* or *passive* approach.

Company C mentioned that most Indian companies who consider *direct material* purchasing take longer cycle and longer wait before the result can be judged and benefits can be identified, while with *indirect material* results can be viewed immediately. There was a shift in the market towards direct material. However it was quite slow due to lack of technological and low acceptance by buyers and suppliers. Company D is among a few companies in India that has implemented e-procurement for both direct and indirect material. Most of its procurement takes place for direct material (raw material like steel) but its slowly moving towards indirect material (MRO materials). This has led to better buyer supplier relationships and improved long term associations.

According to company C, *trading hubs* were most widely used by companies before. But due to diverse market segmentation, the buyers and suppliers communication could not be brought on a single platform. Now most companies are adopting a *buy side* model which allows the companies to purchase goods from contracted suppliers, while the *sell side model* is not so popular due to the fewer adoption capacities of the suppliers. Company D adopted the *buy side* model which complements the needs of the organization and better price. In the initial stages *trading hubs* where also considered as an option.

This was quickly rejected due to the lack of technical development and supplier's willingness to adopt the technology while still striving to build sustainable competitive advantage.

5. Discussion

The findings of the present study reveal several interesting issues. It could be argued that benefits are the drivers for companies to implement e-procurement solution. Although the risks are presented throughout the process, the benefits clearly over power them. In particular, *cost saving* is identified by all four companies as the main motivator for them to implement e-procurement. It is easy to speak about cost benefits compared to other benefits as its effect is easily noticeable on the company's balance sheet.

According to the Swedish firms, *process efficiency* is not just about less paper work and fewer mistakes, but also reduction of suppliers used for the procurement process before implementation of e-procurement solution. It is stressed that e-procurement leads to professionalism in work, better business control and cleans up the processes within the company. The study confirms prior researches indicating that there is an association between the benefit of *better information flow between buyers and suppliers* and e-procurement implementation. Some of the main points worth mentioning are increase in number of transactions, transparency in process, standardization of best practice and increases in responsiveness to customers. This benefit eventually leads to the firm's saving from investments and increasing of revenue.

A consensus between the companies is documented regarding the *reduced maverick spending*. They all confirm using a recognized supplier for purchasing products leading to better control and regulate spending. Moreover, a transaction is easier and less expensive for a company. Same trend are recognized in reduction of maverick spending with benefit from *streamlined process*. Some points worth mentioning are: single process makes the process smoother and effortless information flow, minimizing data errors, automating requisitions, and reduction of procurement cycle.

Another related effect in integrating new technology to the existing process is to avoid duplication within the company. Indian and Swedish companies have different views regarding *inventory level*. They recognize that real time exchange helps in reduction of problems like stock out and delivery problem thus leading to *time saving*. But this benefit is not that valuable as it has become an accepted norm. It is acknowledged that specific benefit of inventory level is mostly related with companies using e-procurement for direct material purchase. For companies that are using e-procurement system for purchasing indirect material, it is not that beneficial. Cost benefit is mostly recognized as important and essential benefit of e-procurement. In specific, company A stresses on contract compliance and process saving while Indian companies identify relationships with both internal and external customers to be beneficial. Consolidation of purchasing practices leads to greater discounts and better service from suppliers.

Furthermore, the risks associated with e-procurement are perceived. Some firms also suggest additional risks which can be added to the knowledge in this research field. Regarding *internal risks* companies identify the need to provide proper training at all levels for better understanding and collaboration across the organization. Investigation of the Sweden based e-procurement provider enlightens the lack of managerial commitment constraining the adoption of e-procurement. Hence the need to change the overall behaviour and management is acknowledged. The findings suggest that *external risks* associates with e-procurement should be given attention as well. There are risks of dealing with new customers with no previous records, lack of integration between the system used by the suppliers and the companies and connectivity.

Adoption of e-procurement is slow and results are delayed mostly due to lack of technological standards. A similar view is shared by both Swedish and Indian companies. But the technology seems to be standard in Sweden while it is not in India. Regarding to security and control, they seem to differ to each other. Based on the finding, both Sweden and India it can be

understood that these risks are more fundamental during the initial phases of implementation of e-procurement, but once the roles get defined it becomes part of a system or process.

Regarding the adoption strategy, it could be stated that companies change their *strategic approach* to suit their needs. Although they recognise the three different strategic approach regarding e-procurement. But company's don't necessarily have to choose one strategic approach and stick with it rather one could starts with one approach and changes to another later on to convene its current requirements. Also some company's in Sweden were aiming towards a moderate approach which is a combination of passive and aggressive approach. These company's recognised benefits of e-procurement and were in the process of implementing the service. For the e-procurement *practices*, both direct and indirect materials are purchased from the e-procurement solution. Prior researches suggest that indirect materials are more likely purchased by e-procurement solutions (16). However there is a rapid change in the market scenario in both countries towards direct material purchase. The findings of this study also confirm the finding in previous researches. In other words, companies recognise all three models in the adoption of e-procurement but the buy side procurement model is mostly implemented. This could be explained that a specific requirement of the buying organisations is met by this model as compared to other models. Other factors that help in influencing this decision are large customer base for suppliers, and big players assure suppliers of better revenue and relations.

6. Conclusion

We started this research with the purpose to understand risks, benefits and implementation process of e-procurement. It can clearly been seen that benefits related with e-procurement are overpowering the risks and the risks are diminished with the passage time and number of companies will be implementing e-procurement in near future.. Cost reduction was acknowledged as the most important benefit with e-procurement. Intangible benefits were hard to

observe but still they had significant influence on company's using or providing e-procurement services. Commitment of top management could drastically hinder implementation of e-procurement. Companies did not regard technological and security as a risk with e-procurement. This can be due to the development of more standardized e-procurement services and acceptance within the industries.

Both Swedish and Indian company's identified all three strategic approaches within their industries. But they also recognized that company's had moved from one approach to another and currently had more positive outlook towards implementing e-procurement services. Although, in past the trend had been towards purchasing mainly indirect material using e-procurement, company's were also understanding benefits with purchasing direct material with this medium. Finally, buyer side model were most dominate in both countries. This might be influenced by the scenarios under study as both company B and D were powerful buyers. Overall, we would like to conclude that we have been able to achieve the purpose of the study and hopefully provided some interesting insights towards the research domain of e-procurement.

7. Limitations and suggestions for future research

There are some limitations in this study. First, since the study is exploratory research, the sample used is not intended to be representative for Swedish and Indian firms. The selectivity of banking and manufacturing firm is relatively limited to research generalization. However, as a case study base, the sample is sufficient to contribute the knowledge to the research community. More samples are needed in future research to generalize the findings. Second, the differences and similarities found in the study are based on qualitative data. The future research might employ quantitative data to validate the outcome of this study. Lastly, the study only emphasizes in Sweden and India. It would be interesting to include other countries into the future research. A comparative

research is needed to consolidate the knowledge to the research community. Consequently, the results presented here should be interpreted in light of these limitations.

References

1. Bartezzaghi, E. and Rochi, S. (2003) 'Internet supporting the procurement process: Lessons from four case studies', *Integrated Manufacturing System, Vol. 14, No. 8, pp 632-641.*
2. Boer, L.De., Harink, J. and Heijboer, G. (2002) 'A conceptual model for assessing the impact of electronic procurement', *European Journal of Purchasing and Supply Chain Management, Vol. 8, No.1, pp. 25-33.*
3. Carabello, L. (2001) 'E-procurement can reduce expenses', *Healthcare Financial Management, Vol. 55, No. 12, pp. 82-83.*
4. Chong, P.P., Chen, E.T. and Chen, J-C.H. (2002) 'E-procurement in Taiwan: Issue and viewpoints', *Review of Pacific Basin Financial Markets and Policies, Vol. 5, No.4, pp. 521-531.*
5. Crooms, S. and Johnston, R. (2003) 'E-service: enhancing internal customer service through customer through E-procurement', *International Journal of Service Industry Management, Vol. 14, No. 5. pp. 539-555.*
6. Dai, Q. and Kauffman, R.J. (2001) 'Business models for Internet-based E-Procurement systems and B2B electronic markets: An exploratory assessment', *Proceedings of the 34th Hawaii International Conference on Systems Science, pp.10-20.*
7. Davila, A., Gupta, M. and 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.*

8. Dhillon, G. and Caldeira, M. (2000) 'Interpreting the adoption and use of EDI in the Portuguese clothing and textile industry', *Information Management & Computer Security*, Vol. 8, No. 4, pp.184-188.
9. Institute for supply management (2002), *ISM/Forrester research reports on e-business*.
10. Kalakota, R. and Robinson, M. (2001) 'e-business 2.0: roadmap for success', Addison-Wesley, Boston.
11. Lee, J., Ni, J. and Koc, N. (2001) 'Draft report NSF workshop on Teether free technology for e-manufacturing, e-maintenance and e-service, organized', NFS industry/University Co-operation Research Center, Wisconsin, USA.
12. Ovans, A. (2000) 'E-procurement at Schlumberger', *Harvard Business Review*, Vol. 78, No. 3, pp. 20-21.
13. 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.
14. Puschmann, T. and Alt, R. (2005) 'Successful use of e-procurement in supply chains', *Supply Chain Management: an International Journal*, Vol. 10, No. 2, pp. 122-133.
15. Quayle, T. (2005) 'The (real) Management implications of e-procurement', *Journal of General Management*, Vol. 31, No. 1, pp. 23-39.
16. Rajkumar, T.M. (2001) 'e-procurement: business and technical issues', *Information System Management*, Vol. 18, No. 4, pp. 52-61.
17. Rasheed, H.S. and Scott, W.G. (2001) 'Determinants of governance structure for the electronic value chain: Resource dependency and transaction costs perspectives', *Journal of Business Strategies*, Vol.18, No. 2, pp. 159-176.
18. Samaniego, M.J.G., Arranz, A.M.G. and Cabezudo, R.S.J. (2006) 'Determinants of Internet use in the purchasing process', *Journal of Business & Industrial Marketing*, Vol 21, No. 3, pp-164-174.
19. Saunders, M., Lewis, P. and Thornhill, A. (2007), *Research Methods for Business Students*, 4th eds, Pearson Education, Essex, England.
20. Stadler, C.A. (2002) 'Success Guide for e-Procurement', *Info-Tech Research Group (ITRG)*, Ontario.
21. Talluri, S., Chung, W. and Narasimhan, R. (2006) 'An optimization model for phased supplier integration into e-procurement system', *IIE Transactions*, Vol. 38, No. 5, pp. 389-399.
22. Wilson, C.L. (2002) 'E-procurement and energy', *Power Economics*, Vol. 6, No. 11, pp. 12.
23. Wu, F., Zsidisin, G.A. and Ross, A.D. (2007) 'Antecedents and outcomes of e-procurement adoption: an integrative model', *IEEE Transactions on Engineering Management*, Vol. 54, No. 3, pp. 576-586.
- Yin, R.K. (2003) *Case study Research: Design and Methods*, Sage Publications, California.