

THE STATE OF E-BUSINESS ON THE GERMAN ELECTRONIC CONSUMER GOODS INDUSTRY

Eulalio G. Campelo F., Wolffried Stucky

Institute of Applied Informatics and Formal Description Methods, University of Karlsruhe, Englerstrasse 11, 78214, Karlsruhe, Germany

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Abstract: B2B electronic commerce is an increasing important component of company's strategy as it provides key support for the business processes and transactions. Therefore, e-business applications were expected to have a high cumulative growth and be widely applied by companies in different sectors of the global economy.

This paper outlines the state of e-business on one of the most dynamic sectors in the area of B2B electronic commerce, the electronic consumer goods industry in the highly competitive German market. The intention is to develop a better understanding of the level of information technology application to support business relations as well as the reasons and the course of e-business initiatives in this sector.

1 INTRODUCTION

Since the term e-business was introduced by IBM in 1998 numerous researches have been done about different aspects of this concept that have influenced radically the way that companies interact with each other. E-business is characterized by rapid exchange of information within a virtual network of customers and suppliers working together to create value-added processes (Ticoll, Lowry, and Kalakota, 1998,).

The adoption of information technology to support business transactions applying the internet was and is still being one of the main faces of the internet revolution. After the euphoria of the internet booming years, the market of e-business technologies has achieved a new stage on its market curve, where companies from different sizes are re-starting to invest on their B2B e-commerce strategies in order to gain competitive advantage and cope with their dynamic business environment.

The reasons to adopt an e-business strategy are still quite the same as before e.g. reduced maverick buying, reduced procurement process and costs, decrease of inventory levels, obtain lower price from suppliers, improved customer service and support, improved company communication and networking through better access to relevant information.

This number of relevant benefits that e-business provides to organisations has made research

institutes and consultants believe that a rapid adoption of electronic processes and transactions would occur. Unfortunately, the high growth rate that was forecasted in the beginning of this decade could not be achieved and current studies suggest that the deployment of B2B e-commerce applications is happening much slower than expected.

This paper reports a survey that addresses the current state of e-business technologies on the German electronic consumer goods industry.

The intention is to provide a better picture of the utilisation of the information technology to improve the interaction processes between business partners in this economic sector that is alluded as one of the most dynamic sectors in the area of e-business applications.

The survey analyses some key factors on the field of e-business to develop a better understanding of the German electronic consumer goods industry in this area.

- The exchange of electronic product information;
- The main applications deployed to manage electronic information;
- The internal processes that are currently covered electronically;
- The medium used to acquire and distribute business information.

2 METHODOLOGY

A questionnaire was chosen to investigate the research questions. To design the questionnaire a careful literature review was made with special attention on the electronic management of product information.

In order to test the questionnaire some experts in the area of e-business were contacted to give their input to the formulation of the questionnaire. The new version was then applied to another group with a limited knowledge of information technology to avoid too technical questions that could make the questionnaire not understandable to some respondents.

The final version of the questionnaire was applied between July and September of 2005 on a group of 200 companies from the German electronic consumer goods sector. These companies range from large organisations with annual revenues of over 500 million euros to smaller organisations with an annual turnover of less than 10 million euros, deriving from different positions on the supply chain i.e. manufacture, wholesale, retail.

The response rate was around 20%, a relative good quote, if compared with other researches, which apply the same research methodology. A reason for this result may be the support of telephone calls to localise the appropriate managers and the availability of two mediums to answer the questionnaire i.e. fax and on-line questionnaire.

3 WHY COMPANIES SHOULD MOVE TOWARDS ELETRONIC BUSINESS?

In the traditional world, the purchasing and sales functions are a work intensive process, where a great number of employees are involved and often realise repetitive activities that take time and often do not require specialized skills.

These intensive and repetitive tasks leave space for errors, delays and high organisational costs, what can lead to inefficiencies and managerial problems.

The utilisation of information technology can improve these processes, while reducing their costs. A study made by Aberdeen Group (2004) shows that by the utilisation of e-procurement technology, companies have on average:

- Reduced off-contract (“maverick”) spending by 64%.
- Reduced prices by 7.3% for spend brought back onto contract.

- Reduced requisition-to-order cycles by 66%.
- Reduced requisition-to-order costs by 58%.
- Increased total spend under management of procurement group by 20%. Each new dollar brought under management can yield 5% to 20% cost reductions.

On the other side of the supply chain, company’s customers have more and more different requirements that organisations would have difficulties to attend properly, in a reasonable time-frame, when applying the so called traditional tools.

In this scenario, the goal of the information technology is not restricted just to the improvement and the cost reduction of the processes, instead it seeks also to develop and maintain long-term dependencies and relationships between firms and their customers. Indeed, it seeks for creating loyalty among profitable customers of a firm (Fayerman, 2002).

A number of other arguments could be listed to justify the deployment of information technology to support business transactions: from the improvement of the time management that may be applied in other strategic activities to the management of the increasing number of channels that organisations use to communicate with their customers and suppliers.

Nonetheless, because of the deception with the early adopters results, companies have slowed their speed of e-business systems deployment. Therefore, the investment on e-business technologies are done now only after a precise analysis of company’s supply chain environment and the readiness of their buyers and suppliers to engage in electronic interactions, which (Barua, 2001) refers as one of the main success factors to e-business initiatives.

The following survey results analyse the implications of this phenomenon in the German electronic consumer good industry as well as the way that those enterprises are facing this relative new business scenario, where although the deception with the internet bubble, companies are more and more required to apply information technology to effectively and efficiently attend their business partners.

4 SURVEY RESULTS

This section analyses the information collected at the research on the state of e-business on the German electronic consumer goods industry.

In order to get a better understanding of the companies that participated in the survey, the first part of the questionnaire has gathered information

about the profile of the participants, which consist in terms of the number of employees mainly by big organisations (75%) with more than 250 employees; the number of SMEs respondents was around 25% of the total (see figure 1).

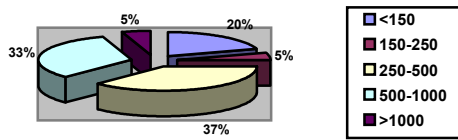


Figure 1: Number of employees.

Regarding the annual revenue, which is another main criterion to classify the size of an organisation, the sample is formed as demonstrated at figure 2 by enterprises with less than 10 million euros of annual revenues (15%), firms with an annual turnover between 10 and 50 million euros (25%), 44% of the organisations with an annual turnover between 50 and 100 millions, 13% of companies between 100 and 500 million euros of annual revenues and 3% of companies with an annual turnover greater than 500 million euros.

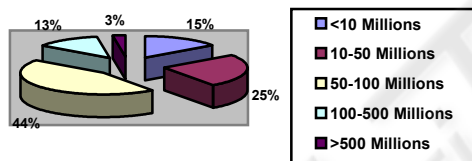


Figure 2: Annual turnover.

The distinction between the different hierarchies of the companies on the supply chain is provided to draw a better picture of the whole electronic consumer goods sector, at the same time that allows the analysis of the state of the organisations localized at each position of the supply chain.

Figure 3 shows that most of the participating companies come from the manufacturing sector (57%), followed by retailers with 18%, wholesalers with 17% of the participants and others representing 8% of the total participating organisations.

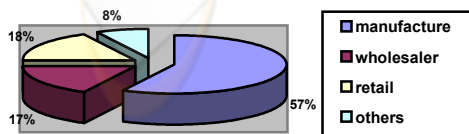


Figure 3: Supply Chain hierarchy.

The second part of the survey focuses on the state of the German electronic consumer goods industry regarding the adoption of e-business/e-procurement applications and the reason to apply those systems.

The analysis made on this research is done based on the definition of e-procurement made by (Möhrstädt, Bogner and Paxian, 2001), who say that electronic procurement is denoted by a strong customer orientation, based on an organised electronic purchasing process with the goal to provide and supply in the most efficient way products and services to organisations.

However, prior to a closer examination of the ways that companies realise their e-business activities, information about the actual level of the exchange of electronic product information is required.

The survey found that around 90% of the participants deploy already some kind of IT-system to manage their business information, and between the companies that still not doing so, most of them are planning to apply information systems to support their interaction processes within the next three years (see figure 4).

This result is in accordance with other similar studies made in other European countries e.g. UK, Italy and Spain, where the electronic consumer goods sector also places on the top position between the sectors that apply B2B e-commerce technology to communicate with their customers and suppliers (Mainetti and Perego, 2004, Telefonica, 2004).

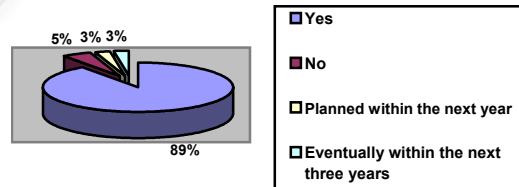


Figure 4: Exchange of electronic product information.

In order to realise business-to-business electronic commerce companies are required to link different information management systems e.g. CRM, eCatalog, ERP, SCM with other systems from independent organisations, what allows the exchange of product and service information and its respective transaction data between the parties.

Concerning the systems, which the participating enterprises apply to support the exchange of product information, figure 5 demonstrates that eCatalog systems are the most applied systems to acquire and distribute product information with 25% of the responses.

A reason for this result may be the focus of eCatalog systems on competences that provide to their end users the functions, scalability and flexibility that they require to act in the e-commerce environment.

ERP systems was mentioned as the second most applied system to manage product information with 20% of the participants, followed by CRM, which is mainly applied to sell products electronically, and SRM, which is mainly to purchase products electronically, both with 5% of the total responses .

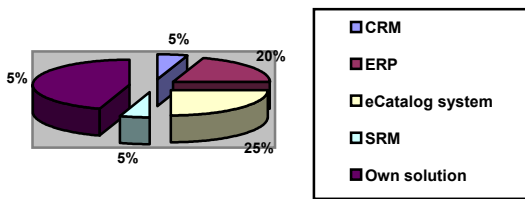


Figure 5: Systems applied.

A not expected quote was given to the option own solution, but this quote can be partially explained by the understanding from some participants that consider e-mail as an own solution system.

In addition, companies are required to acquire and distribute business information in both sides of the supply chain: either sell-side, while interacting with their customers; or buy-side, while dealing with their suppliers, what characterise the so called extended enterprise.

The medium that the participating companies apply to communicate with their business partners in both sides of the supply chain are basically the same i.e. CD-ROM, eCatalog, e-mail, e-procurement, paper catalog.

However, there is a slide difference in the application level of this medium, while comparing the communication between companies and their suppliers and these enterprises and their customers.

Figures 6 and 7 compare these two scenarios, showing that the utilisation of electronic format to distribute and receive product information has almost become so widely spread as the traditional format i.e. paper catalog.

It can be said that the level of the medium application follows a historic path, being the most applied medium paper catalog, followed by CD-ROM, which was introduced in the mid-eighties and eCatalog, which has its origins in the nineties with the utilisation of the internet to do business.

Nonetheless, it should be noted that companies apply normally more than one medium to support

their product data distribution and acquisition, thus suggesting that the total volume of electronic data applied could be actually greater than the paper-based content used to communicate with business partners.

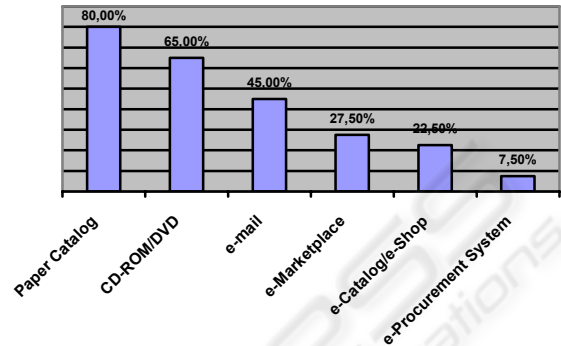


Figure 6: Medium applied with suppliers.

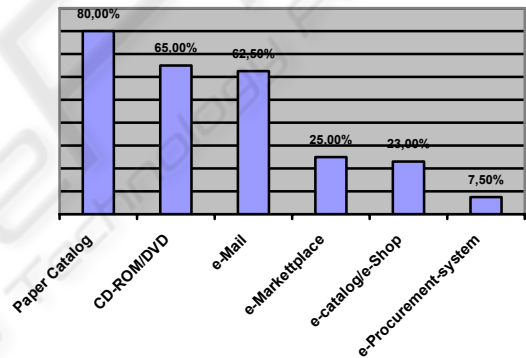


Figure 7: Medium applied with customers.

After having analysed the results of the survey, it is clear that the participants exchange different type of product information through the above mentioned mediums with their customers and suppliers.

In figure 8 is shown that the two most applied sort of product information in the German electronic consumer goods sector are basic information e.g. price, quantity, product number and technical information with more than 82% of the participants applying them, followed by logistic information with around 47%, marketing with 35% and multimedia data with around 22%.

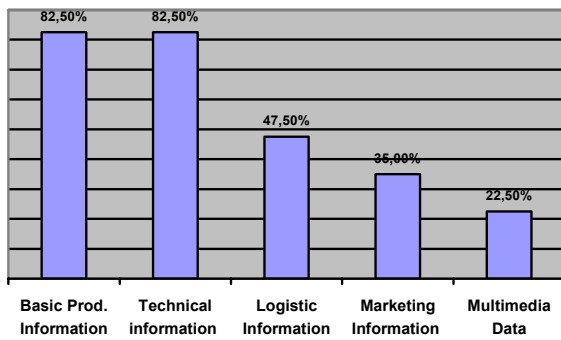


Figure 8: Sort of information acquired/distributed.

A possible explanation to this result is that the sales process, which is the most electronically supported process between the participating companies as can be seen in figure 9, is highly dependent on basic and technical information. In addition, the vast utilisation of e-mail to distribute and acquire business information has contributed to this result.

Furthermore, as already mentioned, the responses on the processes that are currently supported electronically show that the marketing and sales processes are the most electronically based of all processes done by the participating companies (52,5%), followed by the internal product control and development coming up both to 45% of the total responses (see figure 9).

The purchasing process is the less electronically based process with around 32,5% of the participating companies applying it. This might be a result of the average size of the participants, which in average have an annual revenue of fewer than 100 million euros per year, thus not allowing an optimal scenario to take the best advantage of electronic purchasing and all benefits that these systems bring.

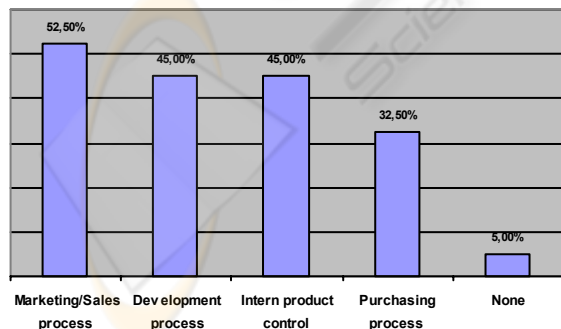


Figure 9: Processes electronically supported.

Regarding the reasons to apply electronic processes the opinion of the participating organisations are in line with the vast literature on

this topic, which refer the cost reduction as the main single factor to introduce electronic processes with around 75%, followed by higher quality and control of product data with 63%, improvement of performance with 55% and support of sales activities with around 38%, other reasons were mentioned in 23% of the cases, however without further specifications (see figure 10).

The customer satisfaction is listed as the less relevant reason to apply electronic processes, with less than 13% of the responses. This result demonstrates that the main reasons to apply information systems are still basically cost related issues and/or internal driving reasons, leaving the customer satisfaction to a second plan, what have been proved by early adopters experiences a wrong path to follow.

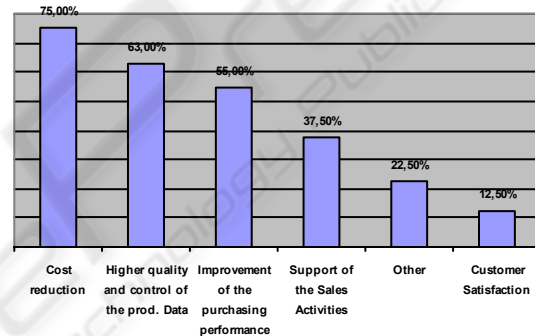


Figure 10: Reason to apply e-business.

5 CONCLUSION

The application of e-business on the German electronic consumer goods industry, although the deception of the first experiences is widely spread, leading to a situation where around 90% of the organisations in this sector apply some kind of IT-solution to communicate with their business partners.

The survey shows that in this sector the question is no longer: Why should companies move toward electronic Business? But, how and by which means should companies realise their electronic business activities, in order to best profit from the relationship with their customers and suppliers.

Nonetheless, organisations should constantly reassess their reasons, strategies and tactics to achieve the best results from their virtual activities and be placed in a competitive position in this dynamic sector of the German economy.

The result of this survey suggests that although some improvements on the state of e-business have been done, there are still some issues that should be further addressed.

An interesting field for further researches on this area would be to research the specific success factors of e-business in this sector and how their influence the overall company's performance.

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