

Application of eCommerce for Small and Medium-Sized Enterprises

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Abstract

The formation of NAFTA and EU is the sign of the economic globalization. Although SMEs traditionally focused on domestic markets with the introduction of Internet-based electronic business they have started to reach global markets easily. The internationally active SMEs are generally growing faster than the ones that are only targeting domestic markets. However the globalization requires an effective use of information technologies. Some of the barriers of the use of information technologies are complexity of electronic operations, the employment cost of experts, high initial investment and the foreign language.

In order to overcome these barriers one solution is to form clusters for the use of information technology. A group of SMEs come together and pool the resources and share the costs of training, marketing and research.

In this study we outline the conceptual model of this togetherness and try to show the solutions to the problems, which might occur in the process.

Keywords: eCommerce, Internet, Small and Medium-sized Enterprises (SMEs).

1 Introduction:

SMEs play an important role in the economy of developed and developing countries with their flexibility and ability to adapt new business practices [1, 2]. They contribute significantly to a country's progress, promoting economic growth, increasing productivity, and advocating technological improvement. These in turn create new employment opportunities.

Although industrial revolution economizes consolidation among small firms, advancement in technology and globalization highlights the importance of SMEs in the business market. The low cost and the low technological barriers [3], in the process of eCommerce place it up front as the new opportunities for SMEs. The technology of eCommerce provides not only a solution to the problems faced by SMEs but also provides a cutting edge for SMEs over the rivals of big corporations [4, 5, 6, 7]. This stems mainly from the fact that all the sites on the Internet are equal and share the same opportunities [8].

Traditionally SMEs cater to the needs of the domestic market and many probably will continue to do so (SMEs in the EU: <http://www.waleseic.org.uk/euronews>). But eCommerce opens an almost free door to conduct business with access to all the markets all over the world. The management of SMEs is controlled by the experience, knowledge and talent of the entrepreneurs. Hence their success depends on the commitment of the individuals. A few unhealthy practices exist in SMEs. For SMEs to take a strong stand in the international market they must overcome the below cited mal practices:

- Ad-hoc decisions.
- Constant change in execution of the business plan
- Poor documentation and verbalization in the business processes.
- Hierarchical violations in the management.

Why are SMEs unable to organize themselves with a professional and competitive customer relation management structure? The reason lying behind this short-come is the economical constraints confronted when trying to establish conventional customer care department. But SMEs can no longer rely on excuses any more because there is a proven technology available at low cost which is the answer: eCommerce [9, 7].

Since most SMEs are generally known to be formed by entrepreneur individuals, they hesitate to take part in joint ventures with others. This venture, with the joint capital management, provides advantages in order to open up to international marketing [10]. The use of new technology can lead SMEs competition at the global market (www.foreigntrade.gov.tr/ead/DTDERGI/nisan98/kobi.htm). If we question why SMEs are unable to organize themselves in joint-venture projects; here are a few excuses:

- Transparency of transactions
- Maintenance of documentation
- Communication among the business partners
- Geographical location of business partners

For all these and other excuses, the only answer is again eCommerce [10, 6].

Companies concentrate on doing much more than keeping customers satisfied, simply retention of the customers is extremely important. In order to maintain high customer retention ration we need to be able to "model" their thinking and behavior to ensure that we appeal to what really matters to them [11]. Not only we need to "read" these styles, but also we need to have the flexibility to respond to them.

2. A Survey Study

This survey has been done to realize the facts about the exporting business of SME's. For the survey sample, 98 SMEs of all sectors in Adapazari city (a city with 400 thousand of population), were selected.

These companies are also members of Adapazari Chamber of Commerce. In the preparation period of the survey, 12 companies have been deeply interviewed one by one and then the survey has been prepared. Then for 7 companies trial application has been completed and after the necessary revisions, the survey forms were sent to all others. Out of 98 companies 32 companies responded back which means that the return rate of survey is around 32 percent.

Among the companies that have joined the survey 84 % of them have been approved of not exporting. The 62 % of them lacked knowledge about how to export.

	Frequency	Percent
Not important	6	18.8
Undecided	6	18,8
Important	15	46,9
Very Important	5	15,6
Total	32	100,0

Table 1: Is lack of knowledge about how to export important and does it hinder exportation?

During the period of interview, researchers have found out that lack of knowledge and experience in exporting goods is the major drawback in carrying out a successful export/import business. When SME owners or managers were asked if they were willing to cover this handicap by hiring knowledgeable and experienced employees, as the results of the survey show in table 2 below ascertained SMEs found it difficult to employ professionals since they require high salaries.

	Yes	%	No	%
Difficulty in finding experienced staff	9	28.1	23	71.9
Experienced staff's demand for high salary	19	59.4	13	40.6
Experienced staff not prefers SME's	10	31.3	22	68.8

Table 2: Reasons for not being able to hire experienced staff

Table 3 shows the problems that arise from the management style and organizational structure that hinder export. From this table we can depict that almost 62 % of companies believe that management style and organizational structure is the barrier for hindering exportation.

	Frequency	Percent
Not important	10	31.3
Undecided	2	6,3
Important	14	43,8
Very Important	6	18,8
Total	32	100,0

Table 3: Problems that arise from the management style and organizational structure

The researchers are expecting the major problem of preventing SMEs from exportation is originating from the manufacturing. However the survey results have proven it to be the opposite. Almost 53 % of the companies find problems originating from the manufacturing are unimportant on export business of SMEs.

	Frequency	Percent
Not important	17	53,1
Undecided	3	9,4
Important	6	18,8
Very Important	6	18,8
Total	32	100,0

Table 4: The importance of problems originating from the manufacturing.

As shown in table 5 below, 60 % of the companies believed that the major obstacles in executing export and taking big strides in this direction is finance.

	Frequency	Percent
Not important	10	31,2
Undecided	3	9,4
Important	13	40,6
Very Important	6	18,8
Total	32	100,0

Table 5: The problems originating from the finance.

Another factor which has a negative impact on export business is the bureaucracy and paper work that SMEs face. The results as shown in table 6 manifested that more than 50 % of SME owners/managers believe that bureaucracy and paper work is another factor hindering smooth business export operations.

	Frequency	Percent
Not important	4	12,5
Undecided	11	34,4
Important	10	31,3
Very Important	7	21,9
Total	32	100,0

Table 6: The problems originating from the bureaucratic obstacles

3. Proposed Togetherness

The obstacles that SMEs face while their struggle to take their place in the global market were mentioned above. Since we know the problems, solutions to overcome these problems must be generated. In this study we are proposing an establishment of a service company that gathers a group of SMEs. In this way, costs will be divided, leading to an increase in the revenue received from the same amount of investment.

In this type of togetherness number of establisher/member firms should be roughly in between 5 and 15 as appropriate. Below 5 members the advantage of dividing the cost cannot be given. Above 15 members may lead to a decrease in the co-ordination and effectiveness. Due to firms working like the marketing department as increase in the working members leads to a decrease in effectiveness. Although being in the same type of industry will be an advantage there should be no limitation on that.

It was mentioned before that SMEs face financial obstacles in hiring qualified, professional personnel; this is eradicated with the togetherness proposed. Since the SMEs work together, then experienced and qualified members can work in the common service company. Hence, one group of experts with highly proficient skills and in command of the foreign language with strong communication skills will meet the requirements of all the joint firms.

One of the ways to open up to the global market is partaking in exhibitions, arranging overseas business trips, to introduce their products and having showrooms. These marketing strategies are highly costly. The proposed low cost alternative is to have these tasks carried out by the service company rather than each firm doing it individually. Furthermore, the service company can also follow up on the various financial supports that can be secured from the government to encourage export business.

The established service company will be able to hire the required qualified and experienced personnel who are experts in information technology and eCommerce. The infrastructure investment costs for: computers, high-speed Internet connections, software needs and so on would be shared and so minimized by the proposed togetherness.

As the survey results show one of the obstacles that make export business difficult for SMEs is the bureaucracy and paper work that must be handled. The service company would assist in overcoming these obstacles and even perform the necessary procedures on their behalf. Furthermore it can hire legal consultants if necessary.

Members should meet once a week to examine the activities, to determine the ways of working together and to exchange information. These meetings are very important for motivation since international business is not easy and demands, time and patience.

Besides these the below listed can be also planned & put into application by the established service company.

- A common research and development department can be established for the use of member companies.
- Computer integrated manufacturing (CIM) tools could be bought collectively and could serve the members.
- High cost enterprise resource planning (ERP) software can be purchased for the use of members.

4. Creating the Web Site

In order to be successful, the challenges of the new economy require fundamental sound business practices that are built on strategic Information Technology plans that incorporate proven tactical decisions and provisioning, both in the trusted partners who execute them. There are two issues we consider in this paper: Design issue and security issue.

4.1 Design issue

Having a beautiful Web site with all the latest sales technology won't help the business of SMEs if visitors can't find their way around. But how can you fix navigation problems when exploring the Web sites of SMEs? It seems to be as confusing as tracing a single strand in a plate of spaghetti.

Collective decision: This paper concentrates on a business, which is involved by 5 - 15 SMEs. In these cases, usability experts gather a representative from each SME in a room to observe their activities on the site. The representatives of SMEs are given assignments representative of tasks that would typically be performed on a site, such as placing an order or looking up some information. Then, the experts observe how quickly the representatives of respective SMEs are able to perform the tasks. The business objectives and the future goals of SMEs also are interviewed. Then a collective decision on the design of site is taken.

Height of the site: Our research indicates that deep sites are better for major corporations whereas shallow sites are more appropriate for SMEs. This is because most of the users and the customers of SMEs are unregistered browsers. There are hundreds of similar products in front of them. The customers have less time to spare on a single site. The deep sites are also better for training, taking users step-by-step through a process. The e-commerce site is a tree structure. The recommendation here is to keep the height of the tree is small as possible.

4.2 Security issue

Regarding the security issues, the SMEs are more vulnerable than the major corporation units. The big companies have standard customers with the well-defined long-term business agreement. The mode of transaction is a part of the business agreement. The SMEs have unknown customers. Most of the transactions are through the Internet, which involves a certain degrees of risks. Apart from financial transactions, there are other potential risks such as (1) destruction of information (2) unauthorized availability of information. Here we analyze those issues and concerns:

- Confidentiality
- Integrity
- Availability
- Authenticity / Non-reputability
- Audit ability

Confidentiality: information should be protected and the content should be transformed in such a way that it is not decipherable by anyone who does not know the transformations algorithm.

Integrity: On retrieval or receipt at the other end of a communication network, the information should appear exactly as was stored or sent.

Availability: The information that is being stored or transmitted across communication networks should be available whenever required and to whatever extent as desired within pre-established time constraints.

Authenticity: When a message is received it should be possible to verify whether it has indeed been sent by the person or object claiming to be the originator. In the same way, it should also be possible to ensure that the message is sent to the person or object for which it is meant.

Non-Reputability: After sending / authorizing a message, the sender should not be able to, at a later date, deny having done so. Similarly, the recipient of a message should not be able to deny receipt at a later date.

Auditability: Audit data must be recorded in such a way that all specified confidentiality and integrity requirements are met.

Implementing security: Implementing a security solution in an eCommerce environment therefore necessitates a risk analysis of the SME scenario. In some SME units, confidentiality might be an extremely critical issue whereas in other cases it may only be data integrity that is of paramount importance. All possible threats should be considered and a security requirements policy drawn out for the organization based on a combination of some or all of the services listed above.

5. An Example from Turkey

SIMEKS is a service company that was founded by 10 firms producing spare parts for the automotive sector in July 2000 in Adapazari, Turkey. The number of people working vary from 15 to 100 in these member companies. The companies' capitals varies between USD 500.000 –700.000. Except for the two of these companies none have export relations enough personnel nor enough knowledge & experience or aim for such preparations. Most of these companies supply goods to big companies with which they have made agreements.

SIMEKS has been founded with small capital and has not brought financial burden upon its members. The members should pay a monthly fee. This monthly cost is lower than the amount a company would have to pay a regular employee they would hire. The 2 % service commission that is charged from the exports is the main source of the finance for many activities. The common objective when SIMEKS was founded was to reach global markets and to decrease the cost of needed marketing activities by sharing.

Right after SIMEKS was founded they established a marketing department. The marketing department consist of employees with good experience in foreign trade and foreign language. They also hire employees with knowledge of information technology and eCommerce. The member companies were introduced to these workers & all the necessary information about their products were given to them. Studies were performed about the objectives of the member companies. As a result, of these studies catalogues, and advertisements, were prepared and the common website for the eCommerce also developed. While these were being prepared all the needed addresses around the world were scanned and a data base was thus formed.

The showroom which was a problem for the member companies was also solved by SIMEKS. SIMEKS' showroom was now a place for the member companies as well as the other companies to exhibit their products.

Shortly after the foundation of Simeks, there was an increase in various business proposals. At the end of 6 months after it's establishment, January 2001:

- 15 – 20 proposals were received per month thorough website.
- The catalogues, brochures were mailed to 25 companies per month
- 32 proposals have reached to final negotiations.
- A proposal of 4 million \$ was received by the leading automotive companies in Germany.
- Volvo, an international company proposed to work together.
- Many activities like exhibitions was participated mainly in Germany, Hungary, Portugal, South Africa Republic, Iran, Egypt, New Zealand, Bulgaria, Malaysia

In 2004, out of 10 companies, 8 of them were exporting through SIMEKS.

6. Conclusion

This paper concentrated on highlighting the barriers that SMEs face when they attempt to take their place in the global markets. We studied the problems and finally reached the sound resolution which opened a new, fast and easy gateway to SMEs opening up to the global market. Study of the opportunities

eCommerce offers us led us to see that eCommerce not only helps to overcome these barriers , but also provides a cutting edge over other competitors!

SMEs normally target a small number of customers. Hence, how to identify, classify and understand the customers of SMEs were studied and discussed, and produced a study of how the layout of the eCommerce was to be designed to eliminate the risk of targeting a limited number of customers. Further for SMEs to stand strong with all the necessary services available at minimum cost, we proposed unification of services: in the form of a service company which helped gather a group of SMEs. We also discussed how security requirements can be tailor made by SMEs without delving deep into the level of technical complications. Our proposed solution is a key to assist all SMEs to stand firm on their established base and open up to the world market.

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