A FRAMEWORK FOR BEST PRACTICES IN ELECTRONIC COMMERCE AWARENESS CREATION

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Abstract

The rapid growth of electronic commerce technologies and practices has created a tremendous need for awareness creation for organisations such as Small and Medium Size Enterprises who seem to lack the necessary information about technology, business practices, investment cost and human capital. Often, the professional organisers of awareness activities are also uncertain about best practice in electronic commerce awareness creation. Thus, although a number of initiatives have taken place in Europe they have failed to produce the expected results. In this paper we describe how a project funded by the European Commission (WeCAN[*]) defined and evaluated a number of awareness models in electronic commerce in order to support organisations involved in awareness creation such as chambers of commerce, consulting companies and higher educational institutes.

Keywords: Electronic commerce, Innovation, Awareness, Best Practices, SMEs

Word count: 4385

1. INTRODUCTION

Electronic commerce is a powerful new way of conducting business and one that presents many opportunities for companies and consumers. Yet, despite the advantages that its technologies and practices offer, it has not been adopted as anticipated and has not reached its full potential. Several country-specific barriers and factors have slowed down the wide acceptance of electronic commerce. Small and Medium Size Enterprises (SMEs), in particular, hesitate to adopt it for reasons that include resistance to change, lack of education about the potential of electronic commerce and lack of trust in the security of electronic commerce transactions.

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[*] WeCAN (Wide ElectroniC Awareness Network) was a European Commission (DG III F6) funded project under the Esprit programme.

(OECD, 1998) reports that lack of awareness is one of the most frequently reported barriers in the adoption of electronic commerce by these companies today, as they do not seem to realise the business opportunities offered by electronic commerce. According to a more recent report Internet uptake is lower in smaller firms than in larger firms ((OECD, 2000), while reports from various OECD counties confirm that there is a correlation between the rate of adoption of the Internet and the firm size. More specifically, according to national statistical resources from Australia, Denmark, Finland, Japan and Holland (OECD, 1999) while the Internet penetration in large firms in 1999 was between 80% and 86% and for firms with 20 employees and more ranged from 61% to 95%, for small and very small firms this number falls to a range between 19% and 57%.

As SMEs constitute a significant part of the European economy (e.g.(OECD, 1997)), the full potential of electronic commerce in this region will not be achieved until use of the various technologies is more widely accepted within the SME community. To meet this objective appropriate awareness models must be used to reach different SME audiences and encourage electronic commerce adoption. It is important to note that when we use the term awareness creation we don't refer only to the initial stage where companies are totally unaware of electronic commerce and need basic information in order to take a decision towards its adoption. We also refer to the provision of information and consultancy to companies that are at the decision and/or implementation phase.

The paper presents a multiple case study that conducted in 8 European counties and aimed at the definition and testing of best practice models, addressing electronic commerce awareness creation for SMEs. The case study included the implementation of 14 awareness activities for the investigation of 7 awareness models. The research recognised the importance of "policy intermediaries" (Papazafeiropoulou & Pouloudi, 2000), such as chambers of commerce, trade associations and professional education institutes. More specifically, these organisations were seen as an important target group of the proposed models. By raising the awareness of these professional bodies, the research envisaged to help them improve and enhance the awareness activities that they would organise in turn for the benefit of the broader SMEs community. The paper is structured as follows. In the next section we describe the importance of awareness creation for the diffusion of electronic commerce. In section 3, we present the

WeCAN project an initiative funded by the European Commission for the definition of the best awareness models in the European region. In section 4 we present the findings of the project and in section 5 we draw some conclusions about the future of awareness creation about electronic commerce in Europe and present areas for further research.

2. AWARENESS CREATION: AN IMPORTANT PROCESS FOR ELECTRONIC COMMERCE DIFFUSION

According to (Rogers, 1995), d*iffusion* is the process by which an innovation is communicated through certain channels over time among the members of a social system (p. 5). All stages of the innovation diffusion process (i.e., knowledge, persuasion, decision, implementation, and confirmation) are related to the need for information that the users of the innovation have in order to move from one stage to another. Thus, awareness creation and information provision are considered as very important elements for the adoption of an innovation.

Electronic commerce can be viewed as a technological and business innovation since it introduces new methods in

- communications (e.g.,(Chellappa, Barua, & Whinston, 1996)
- business transactions (e.g.,(Bryntse, 1998; Crocker, 1996; Currie, 1999; de Kare-Silver, 1998; Henning, 1998)
- market structure (e.g.,(Fong, Chin, Fowler, & Swatman, 1997; Giaglis, Klein, & O'Keefe, 1999)
- education (e.g., (Daniel, 1999; Murison-Bowie, 1999))
- work (e.g.,(Doukidis, Poulymenakou, Terpsidis, Themisticleous, & Miliotis, 1998; HCWD, 2000)

At the moment, awareness in electronic commerce is problematic, especially for Small and Medium Size Enterprises (SMEs). (OECD, 1998) reports that lack of awareness is one of the most frequently reported barriers in the adoption of electronic commerce by these companies today, as they do not seem to realise the business opportunities offered by electronic commerce. They also find it difficult to access information about cost, human resources and specific industry sector needs. Additionally, lack of trust in electronic transactions (e.g.,(Hart & Saunders, 1997; Wilson, 1997), which is also reported as one of the main reasons for the relatively low electronic commerce adoption, can be attributed in part to the lack of

awareness about the possible risks and corresponding preventive measures. Thus, awareness is considered to be a fundamental element of electronic commerce diffusion.

Governments in Europe and U.S.A. have realised the need for awareness creation in the business community as well as the public in general. Thus, they support the effort to enhance the awareness and confidence of citizens and companies in electronic commerce and the development of relevant skills and IT literacy (EU-US, 1997). However the efforts made by public and private organisations to promote electronic commerce have not produced the expected results. The Wide ElectroniC Awareness Network (WeCAN) project was initiated to examine why this may be the case and on the basis of empirical evidence in the European region suggested a framework for good practice in electronic commerce awareness creation. The rational for the project is presented in the next section.

3. WeCAN: RATIONALE AND DESCRIPTION

The WeCAN (Wide ElectroniC Awareness Network) project was proposed to investigate the existing awareness models in electronic commerce that were being used across Europe by considering examples of best practice in various countries. The project lasted 13 months (September 1998 to September 1999) with the participation of 8 European Union (EU) countries. The organisations that constituted the consortium of the project were active in the field of electronic commerce awareness creation in their local markets. Three types of organisations were involved: chambers of commerce and industry, private consultants and higher educational institutes (see table 1).

Table 1: WeCAN project consortium

Type of organisation	Country	Name
Private consultants	Austria	ODE
	Italy	CE Consulting
	The Netherlands	EDI-FORUM
	Spain	CETEMMSA
Higher educational institutes	Greece	Athens University of Economics and Business
	UK	Cardiff University

Chambers of commerce and industry	France	Paris Chamber of Commerce and Industry
	Germany	DIHT (Deutscher Industrie-und Handelstag)

All the organisations involved in the project had long experience in awareness creation and were in direct contact with managers of SMEs. The partners evaluated a number of models within the existing awareness programmes in the European region. For each model, a framework was developed, setting out the pre-requisites for success. The defined awareness models were distributed to a wide audience, targeting in particular professional organisers of electronic commerce awareness activities.

Due to the originality of the project and the lack of existing methodologies in the field, the methodology that was finally used was a mixture of various methods and practices. More specifically, 3 main processes were followed (figure 1):
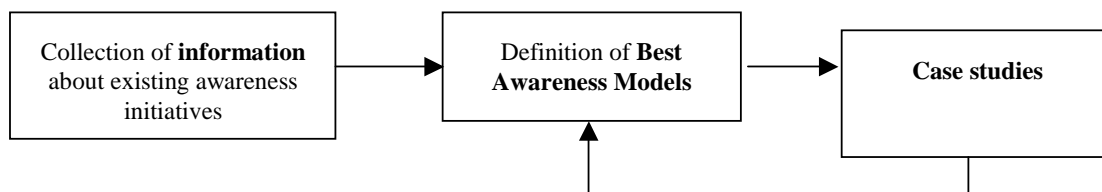

Figure 1: Project methodology

- **Collection of Information about existing awareness initiatives**

During the first phase of the project the partners collected existing information about awareness initiates that were taking place in Europe, at the time. For this purpose a web-based database was built and the partners had to register any known activities implemented within their organisation or in their country in general. Apart from recording the partners' activities, the project team encouraged organisations from other European countries to register their activities in the database. The incentive for this action was free delivery of the project's results to these organisations. At the end of this phase the database contained more than 150 entries with records form all EU member states.

- **Definition of Best awareness models**

After the collection of a large volume of information about electronic commerce awareness activities in Europe the extraction of the best of those models took place. The technique that was used was SWOT (Strengths Weaknesses Opportunities Threats) analysis. Every entry of the database was (SWOT) analysed in terms of: medium, target audience, focus and scope of activity, best practice examples, evaluation approach, marketing and PR and supplementary information. This analysis was useful for the grouping of similar activities under the same category. For example, a very large number of entries referred to awareness items such as leaflets, booklets, promotional web sites etc. All these entries were grouped in an "awareness material" model. The result of this analysis was the definition of 13 best practice awareness models that were grouped in 3 categories (see section 4). The definition of these 13 models was enhanced after the execution of the case studies where the partners gained experience about the application of the models.

- **Case studies**

After the definition of the best awareness models, the consortium implemented these models in different European business environments in order to validate their selection and make improvements in their description. The method used at this stage was case study. According to Yin (Yin, 1984) exploratory case studies are useful when the researcher is not testing an existing theory but explores an innovative problem. In the case of the WeCAN project the issue under investigation (awareness creation about electronic commerce) was an innovative idea while the consortium was in direct involvement awareness creation activities. These facts lead to the selection of an exploratory, multiple case study (14 cases) with the objective to explore the implementation of various models in different national and organisational settings. More specifically, 7 models were implemented with the members of the consortium taking the role of the organisers of the activities. The case studies lasted 4 months and included the implementation of 14 case studies in 8 countries.

An evaluation procedure took place subsequently on the sites with the distribution of questionnaires to the participants of the event (SME managers in their majority) as well as the organisers. The organisers were interviewed in order to get their feedback on organisational, financial and technical issues. The participants were asked to evaluate the activity as a whole. The evaluation procedure resulted in the models' enhancement according to the experience

gained from the case studies results. This enhancement included information such as: success factors for funding, attracting participants and marketing, risks to be considered and how to be avoided, limitations and best budget allocation. For example the low audience participation in a case could help the organisers to give suggestions about the need for enhanced marketing for the event beforehand.

4. PROJECT RESULTS

The main output of the project was a guide with a full description of the best practice models and implementation guidelines for those. The target group for this guide was professional organisers of electronic commerce awareness activities and its purpose was to offer practical support for their work.

The awareness models in their final form have been grouped in 3 categories. These were:

Category 1: General awareness activities

- **Awareness material**. This model covers all types of activity that rely on using awareness material to encourage SMEs to adopt electronic commerce. Typical examples of the material are: books, newsletters, brochures, CD-ROMs, magazines, articles, videotapes, web sites, presentations, roadmaps, guidelines and case studies.

- **Prize award**. This model is based on increasing awareness through the public recognition of exceptional work undertaken by selected SMEs in respect of their use of electronic commerce. Different award categories could include web site design originality and creativity, good web based marketing strategy, well presented and useful web site content, innovative on-line business processes etc.

- **Road show.** This model is focused on the provision of best practice examples and information on electronic commerce to SMEs located in rural areas. The participants of such events are usually unaware of the advantages of electronic commerce but they are willing to learn about new ways of doing business or even have immediate plans to invest in electronic commerce.

- **Seminars and workshops.** This model is one of the most widely used and aims at raising initial awareness for SMEs and motivating them in order to invest on electronic commerce. Through this model SMEs gain the necessary information that will help them describe on the possible suitability of electronic commerce to their business.

- **Showroom and exhibition.** This model is based on the concept of an exhibition centre for new technologies that includes electronic commerce applications. The centre is organised into various specialist areas, where different live presentations take place. There are separated stands and visitors can move freely between them.

Category 2: Intermediaries oriented activities

- **Intermediaries Networking.** This model describes how a network can be organised amongst intermediaries in order to create a favourable environment for increasing electronic commerce activities. A "virtual" centre linking together all intermediaries can be created at a local, regional, national or even international level.

- **Training the trainers.** This model is aimed at educating intermediaries who in turn will raise awareness and provide support within the SME community. Through the use of this model local intermediaries can get the necessary know-how and skills to help SMEs in the field of electronic commerce without the need for outside support.

- **Trust and confidence.** This model covers the activities of intermediary bodies positioned as "trusted third parties" (TTPs), guaranteeing and/or validating the content of an on-line information, offer or transaction. The model can cover simple awareness raising for the need for trust and confidence tools or support awareness among intermediary bodies to help them position themselves as TTPs and help create the necessary co-operative consortia to develop these activities.

Category 3: Focused SMEs support

- **Community networking.** This model consists of bringing together SMEs from a specific industry sector or geographical location, providing them with appropriate awareness and subsequently implementing various electronic commerce solutions, which meet the needs of the group. The group can then promote electronic commerce to other SMEs.

- **Customised support.** This model is based on providing SMEs with customised advice that meets individual companies' specific requirements. It provides an informed and impartial sounding board for different groups of SMEs, typically those who need extra help and support before taking a new step in electronic commerce.

- **Hands-on trials.** The model is based on the concept that SMEs awareness activities can be significantly improved by the use of relevant best practice examples. These can gain even more credibility if they are related to local or regional companies. This model consists of working with groups of SMEs, typically 15-20, in a defined area in order to develop the experience and knowledge that can subsequently become best practice examples.

- **Tools assessment.** This model is aimed at helping to increase the uptake and integration of electronic commerce tools within user-companies. It could include dissemination of tools test results, demonstrations of new tools and negotiations for special offers to SMEs with tool providers.

- **Training courses.** This model is aimed at increasing the awareness of SMEs about electronic commerce and training them in a range of specific topics. As a result SMEs should acquire the necessary know-how and skills to start planing and implementing electronic commerce application themselves. This model is useful for a more mature audience and companies that have a basic understanding about electronic commerce and need further guidance in their effort to implement it.

Each one of these models was presented in terms of description, goals, target groups, and success/failure factors. The description of the models was enhanced after the finalisation of the case studies where a section called "implementation guide" was added. This section included specific information on practical implementation issues such as: framework, search

for partners and sponsors, time frame, requirements, marketing and promotion, costs/financial aspects and evaluation.

Furthermore, a matrix was constructed in order to assist the target audience to select the most appropriate models according to their specific needs. In this matrix the main criteria for selecting a suitable model were described. These were target audience, type of activity, scope, awareness level, duration and cost of the foreseen activity (see table 2).

Table 2 Model selection matrix

PARAMETER / MODEL	Business Functions Focus	Geographical coverage	Target audience awareness	Effectiveness & potential	Potential reach	Time & Resources	Comments
Category 1 – General awareness activities							
Awareness Material	Specific	Local to National	Any	Low	High	Low to Medium	Easy deployment. Appropriate for support to other models
Prize Award	Specific	Local to national	Not aware	Low	High	Low to Medium	Excellent for wide media coverage
Roadshow	Wide	Local to national	Not aware Willing to implement	Low	High	High	Appropriate for large unaware audiences
Seminars and Workshops	Wide	Local	Any	Low	Medium	Medium	A starting point to establish relationships with SMEs
Showroom and Exhibition	Wide	Local to international	Full range	Low	Medium	Medium to High	Ideal for demonstrating e-Commerce to a wide range of users
Category 2 – Intermediaries oriented activities							
Intermediaries Networking	Wide	National to International	Aware	Medium	High	Medium	Support measure for transfer of experience and knowledge
Training the Trainers	Wide	Local to Regional	Aware	Medium	High	Medium	Increases reach and effectiveness of e-Commerce awareness activities
Trust and Confidence	Specific	National to International	Looking for implementation support	Medium	High	High	Informed recommendation: Encouraging and facilitating implementation
Category 3 – Focused SME support							
Community Networking	Specific	Local	Willing to implement	High	Low	Medium	Improves uptake by exchanging information between SMEs
Customised Support	Specific	Local	Looking for implementation support	High	Low	Medium	Strongly increases the probability and efficiency of implementation

Hands on Trials	Specific	Local	Looking for implementation support	High	Low	High	Provides excellent knowledge base for further activities
Tools Assessment	Wide	Local		High	Medium	Medium	Ideal to test new tools inside SMEs
Training Courses	Specific	Local	Looking for implementation support	High	Medium	Low to medium	Effective in covering both technical and business issues

PARAMETER / VALUE	Effectiveness (% SMEs actually implementing after action)	Potential Reach (no. of SMEs)	Time & resources (Cost)
Low	< 5%	<50	< Euro 20K
Medium	5% to 30%	50 to 300	Euro 20 to 200K
High	> 30%	>300	> Euro 200K

Table 2 is a practical guide that helps organisers of awareness activities to select the model that best suits their needs. After selecting the appropriate model, the organisers can refer to the implementation guidelines of the model in order to get a detailed description of the best practices for the application of the model. The compact format of this matrix makes it useful also for considering combinations of complimentary models. For example, all models that addressed to local or regional levels can be considered for the organisation of an activity with local character. The selection of the parameters that are analysed in this matrix is the result of feedback taken from organisers of awareness events when they were asked about what issues they consider more important when they organise an activity. This guidelines and the matrix has been printed in the format of a booklet in ten thousand copies. Four thousand copies were distributed by the European Commission, while the remaining six thousand by the project consortium.

5. CONCLUSIONS

Awareness creation is an essential element in each phase of dissemination of technology and business innovation like electronic commerce. It is reported that Small and Medium Size Enterprises seem to lack the necessary information in terms of technology, human resources, business practices and cost in order to proceed to full electronic commerce adoption. In this paper we presented an initiative (sponsored by the European Commission) in electronic commerce awareness creation in the European region. The initiative aimed at supporting professional organisers (policy intermediaries) in implementing appropriate electronic commerce awareness activities. To this end, a number of best practice awareness models were defined and specific implementation guidelines were produced.

Some interesting observations were made during the life span of the project. For example it was observed that in the European region (especially in members-states of the European Union) where electronic commerce is by now widely known, there is a need for a shift of focus from general awareness activities to the more advanced ones. More specifically, direct contact with intermediaries and SMEs indicated that these companies are now more in need of customised and focused support. As a result, models in category 1 (general awareness

activities) should be substituted more and more by the ones in categories 2 (intermediary-oriented activities) and 3 (focused SMEs support). This is not the case for countries where electronic commerce is still in its infancy. The focus in these cases should still be on general awareness creation.

Further research in the filed could include further analysis of the case study results. A comparison of the models' implementation by various types of organisations in various settings can give interesting results. For example we could observe how an educational institute would organise a seminar differently from a private consultant or how similar organisations in different countries approach awareness creation. Additionally, it would be worth testing the models in European countries that are not members of the European Union, examining the correlation between the "technological maturity" of the country with the implementation of the specific models. The South Eastern Europe, for example, is a region with very different characteristics in terms of maturity in the use of technology and offer useful insights for the application of the awareness creation models in different national and business contexts.

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