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The MTO-Framework for Implementation of E-Business Models

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Abstract

Venture capitalists typically require that you can explain the business model in the time it takes the lift to get to the tenth floor. Implementation typically takes years. There is a disproportionate large amount of focus on what constitutes an innovative new business model compared to implementation since most e-business failures are attributed to failures in implementation. Obviously, there is a significant lack of knowledge of factors leading to successful implementation among those responsible for practical implementation of e-business models. E-business models or IT-systems for inter-organizational purposes cannot be implemented exclusively following the traditional guidelines in the IS/IT literature. Development methods are very different from earlier, there are many more stakeholders, and the environment is much more dynamic.

The paper suggests a framework highlighting important implementation factors derived from four different disciplines; venture capitalist experiences, business process reengineering, diffusion theory and system development.

The contribution of the paper is a classification of implementation factors in a framework that identifies the technological, the organizational, and the market related factors relevant for implementation of e-business models.

1. Introduction

The purpose of the paper is to develop an integrated approach for implementation of eBusiness models based on a taxonomy including four very different approaches to eBusiness implementation/adoption. These approaches are:

➢ Traditional IS/IT implementation insights especially as these was conceived until the late 80'ies.
➢ Business process reengineering guidelines for implementation dating from the early to mid 90'ies.
➢ Technology diffusion and adoption theory starting with the earlier work of Rogers, but updated in the late 90'ies with Rogers (1995), Grover et al. (1995) and Gottschalk (1999).
➢ Venture capital guidelines for eBusiness ventures.

It is quite clear that these approaches are very different.

There is also evidence that none of them is sufficient to secure a successful implementation. But it is our contention that each of them holds a piece of the truth.

Accordingly, the paper will contrast the four bodies of knowledge and develop a multi-perspective taxonomy for implementation of eBusiness. This will provide a basis for the development of an integrated approach in later research.

Earlier research on IT implementation is used to identify a coherent framework for eBusiness implementation factors. A number of researchers (Riggins and Mukhopadhyay, 1999; Galliers, 1999; Walsham, 2001) have pointed at the appropriateness of using past experiences from other technologies in the process of understanding new technological and managerial concepts such as eBusiness. That is especially the case for those technologies that are transferable from one environment to another (Riggins & Mukhopadhyay 1999). From a technological point of view the lessons learned from implementation of IT demonstrate similarities in relation to those challenges managers face when implementing eBusiness models in an organization. The humans inhabiting the organization do typically not change as fast as technologies and managerial concepts (Walsham 2001). The lessons learned from other research disciplines might therefore offer valuable insights to similar phenomena.

In order to present a holistic approach to implementation research, a cross-disciplinary approach is taken to illustrate those factors that have been found to influence implementation of IT in organizations.

The specific research questions that are investigated in this paper are:

➢ What are the key IT implementation factors in the different perspectives?
➢ How could the key IT implementation factors be classified in order to provide a coherent framework for eBusiness Model implementation?

The delimitation of this research is that the number of perspectives investigated are limited focusing on four specific schools of thought, and that the research takes an organizational perspective.

The organization of the paper is as follows. In Section 2 definitions of the two key terms, eBusiness models and implementation, are presented. Section 3 presents our design approach for the implementation framework. Section 4 outlines the key implementation factors derived from reviews of literature from venture capitalist sources, BPR, diffusion theory, and finally

system development. Section 5 presents our implementation framework for eBusiness models. Section 6 provides an illustrative case related to eBusiness model implementation. Section 7 is a discussion of the validity and applicability of the eBusiness implementation framework. Section 8 presents the conclusion and recommendations for future research.

2. Basic Definitions

This section presents our basic understanding of eBusiness models and implementation.

2.1 e-Business Models

Whether the company is a new venture or an established player, a good business model is essential to every successful organization (Magretta 2002). Although, a business model is regarded differently by different groups of researchers and practitioners, e.g. Mahadevan (2000), Amit & Zott (2001), Afuah & Tucci (2001), Applegate (2001), Weill & Vitale (2001), and Elliot (2002); most people regard a business model as a description of the business system identifying all essential business processes, products, services and information related to these. Moreover, a business model describes the actors contributing to the value creation of the product to the end user or customer and identifies roles and responsibilities, relationships, interactions and transactions of and between the value network actors.

In this paper we adopt the following definition of an eBusiness model: "An architecture of product, service, and information flows, including a description of the various business actors and their roles; as well as a description of the potential benefits for the various business actors, and a description of the sources of revenues", cf. Timmers (1998:4). This definition frames the discussion of implementation factors and initiatives.

An underlying assumption of this paper is that the characteristics of eBusiness models call for research on the rethinking of the basis of implementation. Compared to earlier information systems, there are a number of reasons why traditional implementation models, theories, and methodologies do not hold any longer and a multi-perspective is called for:

➢ **New stakeholders.** Venture capitalists rather than internal business management make decisions about new systems, and their decisions are based on very different criteria from the traditional business unit manager due to limited knowledge of market, wish for fast exit strategies, etc.

➢ **Interorganizational nature of eBusiness.** eBusiness systems are inter-organizational covering multiple organizations where there are no ultimate decision maker. This requires much more

comprehensive analyses of competition, markets, value chains and networks, collaboration etc. It is not enough to have the commitment of a dedicated member of top-management.

➢ **Time compression.** Traditionally it could take years to develop IS/IT systems. Today many eBusiness systems are developed in time-slots of weeks or months.

➢ **Interative systems development.** Waterfall and modified versions of waterfall models have given way to much more iterative systems development relying a lot on prototyping, testing and continuous development.

An illustration of the need for multi-perspective business analysis and that more stakeholders may influence the decision making of the implementation process is presented in the figure below.
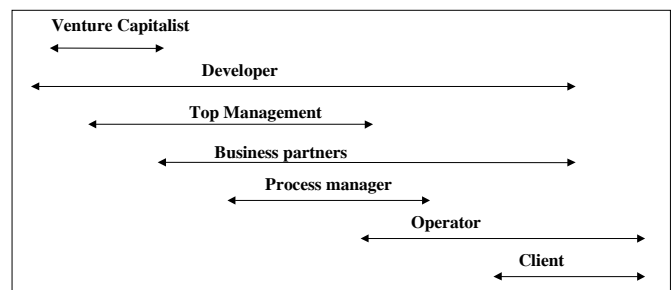

Figure 1: Overview of implementation actors during the life-cycle of an eBusiness system

Assuming that the horizontal axis represents a time scale, the figure also illustrates that the different actors in principle have different and/or overlapping time-periods in which they are actively involved in the design and implementation process.

2.2 Definition of Implementation

Rogers (1995) argues that the implementation stage ends when the new idea becomes an institutionalized and regularized part of the adopters ongoing operations. Any systems development project may be seen as consisting on three rather different sets of activities, requirement specifications, design and implementation. But implementation is not a particular stage occurring after a design stage. Instead we subscribe to the view that implementation is a set of activities starting almost at the very beginning of any eBusiness project and continues as Rogers suggests above, until the solution has been adopted and fully integrated not just in the target organization developing the eBusiness solution, but also for everybody else in the value network related to and affected by the solution. This is illustrated in the figure below.
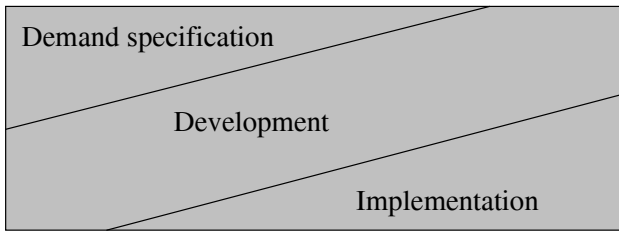
Figure 2. The Process of Organizational Implementation

The horizontal axis represents development in time, whereas the vertical axis represents the amount of efforts dedicated to particular activities, ie. demand specification, development and implementation.

Common for almost all conceptualizations of the term implementation is that some degree of organizational action has taken place. This requires different degrees of commitment and large variety actions until the intended benefits are being realized as a successful implementation (Gottschalk, 1999).

Inherently we assume that the outcome of implementation is successful (for a thorough literature review on implementation success measures see Linton, 2002) and that it is possible to identify dependent variables for successful implementation as frequently done in the requirement specification stage. DeLone and McLean (1992) found that the most common IS implementation success factors were system usage and user satisfaction, but these are clearly too limited when considering eBusiness systems, where adoption by other organizations in the value network is of key importance. Indicators like number of visits to web-sites, revenue, execution etc. are other key performance indicators crucial to implementation success in relation to eBusiness models.

Linton (2002) found in his review of ten years of implementation literature that implementation success could be traced back to five factors: organizational structure, technology, project management, divisibility, and social interactions. The interaction perspective is especially important and has been center stage for many implementation researchers. For example Tornatzky and Fleischer (1990) claim that implementation success can be assessed by the degree of interaction with other technologies within the organization. That is especially the case when considering implementation of eBusiness models in existing organizations where the integration of eBusiness models with existing ERP-systems are of great importance if organization are to derive benefit from their eBusiness solutions. Furthermore, the integration with systems in other organizations and between organizational units in the different organizations is absolutely necessary for the success of an eBusiness.

3. Methodology for developing the implementation framework

The purpose of this section is to present how factors are derived from literature, how the factors are selected and clustered, and finally how the framework is constructed.

The overall research task of this paper is, as previously mentioned, a cross-disciplinary analysis of implementation factors. The relevant implementation factors are derived through a literature review of the four influential areas of expertise/research: Venture capitalists experiences, business process reengineering (BPR), diffusion theory, and systems development. From articles within these four areas, the individual implementation factors are selected if they have been suggested as normative implementation characteristics, and are cited within the body of knowledge of the specific expertise/research area.

The implementation factors are then compared across the four areas and identical factors are eliminated and only presented once. All factors are then clustered into groups of factors with similar characteristics in order to provide an overview.

Hence, the factors are presented in a matrix presenting the various expertise/research areas. This matrix provides the basis for the resulting implementation framework where technological, organizational and market clusters represent our clustering of the factors. This framework is provided in Section 5 and show the four reference disciplines side by side and structured according to the three clusters.

4. Contributions of implementation factors from the literature review

This section investigates literature and practice that provides evaluation aspects of eBusiness models.

4.1 Contributions of implementation factors from venture capitalists experiences

The contribution from venture capitalists to eBusiness projects has flourished especially during the dot-com period and have increased dramatically in numbers during the last 5 years. Venture capitalists (VC) have always belonged as an integrated part of the financial sector which is reflected in the implementation factors they emphasize.

Little research literature prescribe the prerequisites demanded from the venture capitalists, although general guidelines on what incubators and venture capitalists may offer of services is found in literature, cf. Hansen et al. (2000). Hence, insight from venture capitalists are found from alternative sources.

A typical example of a VC inspired insight was provided by T. Forcht Dagi (2001), MD of Cordova Ventures and professor at The Georgia Institute of Technology who shared a seminar at the Global e-Management MBA Program. The main focus of this was management, other investors, and the board. In addition to this, products/services, the market, the revenue model, the sustainable competitive advantage, the organizational structure, and the exit potential opportunities influenced this decision to invest.

Mr. Dagi argued that the pitfalls that led many start-up

companies to fail were numerous and caused by wrong interpretations and insufficient planning and analysis of the eBusiness model. Among others the true costs of starting and running business were not understood, especially since the eBusiness market suffered from weak barriers to entry. The Internet does not per se provide any sustainable competitive advantage, and customers may to a large extent be reluctant to purchase due to security issues, over-exposure, and the non-pleasant customer experience. Furthermore, revenue models were often flawed, cash flow from financing eclipsed cash flow from operations, and business plans had poor strategic vision. Hence, the success factors of an eBusiness plan promising a successful implementation are that the basic principles of business do not change, since:

> Cash flow determines survival management
> Strategy and vision are key attributes
> Growth is to be obtained organically or by acquisition
> A solid understanding of what really drives customer value is necessary
> A rational revenue model is required.

Noble (1999) suggests a model that divides an implementation into four stages. The stages are pre-implementation, organizing the implementation effort, managing the implementation process, and maximizing cross-functional performance. The focus of the model is on cross-functional issues and dynamics. This is why it is relevant to consider in relation to implementation of eBusiness models, which contain the same characteristics. The research of Noble (1999) provides critical success factors (CSF's) for each implementation stage from a managerial point of view. The "managerial levers", cf. Noble (1999:25), as the CSF's are named, provide insight from a research conducted through executive interviews and middle manager surveys with respect to goals, organisational structure, leadership, communications, and incentives. The learning point of the framework provided is that the management of these factors changes through the implementation stages.

Lazer & Livnat (2001) suggest a five-step evaluation process of eBusiness models that is materialised in specific questions regarding the economic viability of the eBusiness model. These are:

> What market failures and transaction costs are addressed by the business model?
> How effective can the e-commerce firm be in reducing the market failures or transaction costs?
> Will the e-commerce company be able to expropriate benefits from customers?
> What are the necessary resources to conduct the business?
> Can competitors erode profits?

The transaction costs address in particular seller's transactions costs of order taking costs, recording costs, display costs, mailing costs, and marketing costs; buyer's transactions costs of transportation costs, timing of transactions, information gathering costs, information processing costs; and other benefits as personalization, price transparency, market making, and network externalities.

De et al. (2001) suggest a micro economic perspective on evaluating eBusiness models emphasizing traditional areas as transaction costs, switching costs, network externalities and product versioning. In addition to this the authors suggest that successes and failures of eBusiness models also need to be evaluated based on infrastructure investment models, user experience models, and models for revenue generation in order to reveal the inherent complexity of conducting electronic business.

4.2 Contributions of implementation factors from BPR

The concept of Business Process Reengineering (BPR) was originally coined by Hammer (1990). The focus here was very radical emphasizing radical organizational changes through obliteration of activities instead of (or before) automating the activities. The approach was later softened and changed focus form radical redesign to process focus as the driving force in reengineering projects, cf. (Hammer 1996, Hammer 1999). The reengineering activities have during the early years primarily addressed intra-organizational initiatives, cf. e.g. Hammer & Stanton (1995) and Keen (1997), but has later extended the scope to network redesign by focusing on inter-organizational redesign projects, e.g. Keen & McDonald (2000) and Hammer (2001).

One of the key issues in implementing BPR projects according to Hammer & Champy (1993) is that reengineering success depends on getting all the way around the business system diamond (Hammer & Champy 1993; Champy 1995) meaning that not only design decisions must be taken, but also that deployment must be conducted. The business system diamond identifies the relationship between business processes, jobs and structures, management and measurement systems, and values and beliefs. When restructuring the business process, the content of jobs and of organisational structures changes for all employees. Changing jobs and structures require changes in management principles and performance measurement systems. These new management principles and performance measurement systems induce change in values and beliefs, which in turn enable the new business processes. Consequently, reengineering is not complete until all elements of the business system diamond have been changed and aligned (e.g. Larsen & Leinsdorff 1998), which is a process that may be undertaken iteratively in order to gain the buy-in, acceptance and appreciation from the employees involved (Larsen & Bjørn-Andersen 2001)

Moreover, alignment of the business processes with the business strategy is considered important (Tinnilä 1995;

Clemons et al. 1995; Sarkis et al. 1997; Lockamy & Smith 1997) as well as alignment with the information technology strategy. Hence, recruitment of the necessary skill-base and training are vital for BPR-project success, cf. Bashein et al. (1994) and Martinez (1995). In addition to this, scopeing the BPR-projects (Hall et al 1993) and assuring learning processes (Galliers 1997) and shared values (Grover et al. 1995) are crucial for obtaining radical results. Finally, change management emphasizing communication and training and handling of political controversies are important in order to maneuver in a highly political landscape which a BPR project often turns into, are recommendations from researchers as well as practitioners (McElrath-Slade 1994; Taylor 1995; Davenport 1995; Homa 1995). Finally, most authors agree that all BPR efforts are unlikely to reach success unless the top management is committed, supported and engaged in the activities (e.g. Davenport & Short 1990; Bashein et al. 1994; Willcocks & Smith 1995).

4.3 Contributions of implementation factors from diffusion theory

The traditional diffusion of innovations theory as represented by Rogers (1995) assumes that implementation is the final destination of a sequential process departing from initiation of a given idea. The IT diffusion process is characterized by different behaviors. Whereas the adoption stage is claimed to represent rational behaviors, the implementation stage is argued to reflect social learning and political behaviors (Cooper & Zmud, 1990). The final stage in the implementation process is routinizing. This routinizing is characterized by a combination of individual and organizational learning where individual insights and skills become embodied in organizational routines (Attewell, 1992).

The diffusion theory is not specifically targeted at adoption, implementation, and diffusion of IT. The theory is relevant to any technological innovation, which is implemented among individuals and organizations. Researchers within MIS (e.g. Premkumar et al., 1994; Ramamurthy et al., 1999; Ramamurthy & Premkumar, 1995; Cooper & Zmud 1990) have however often used the perspective when defining normative guidelines for successful implementation of IT. These sources are used as guidance for description of the key factors influencing successful IT implementation in organizations from a diffusion perspective.

According the diffusion school of thought implementation is when a new practice is put into use (Marble, 2000). Implementation therefore involves behavior change in the organization (Rogers, 1995). A more specific definition targeting organizational IT implementation is given by Kwon and Zmud who claim that organizational IT implementation is "the managerial concerns focusing on the effective diffusion of information technologies into organizations, business units, and work groups" (Kwon & Zmud, 1987). Cooper and Zmud (1990) defined IT implementation as "an organizational effort directed toward diffusing appropriate information technology within a user community." The means for "the diffusion of information technology" according to this line of thought are presented in the following.

The factors influencing implementation represent a broad variety of themes. Researchers within diffusion theory have presented useful classifications of the numerous factors (e.g. Kwon & Zmud, 1987; Tornatzky & Fleischer 1990; Premkumar & Ramamurthy, 1995). In this context the Kwon and Zmud (1987) taxonomy is used as a classification scheme. The reason for using this particular classification of contextual factors influencing implementation is that a broad scope of factors influencing organizational implementation is included. Five types of factors are identified in the Kwon and Zmud taxonomy: 1) Characteristics of the user community influencing implementation, e.g., commitment to change, education, social approval, degree of understanding of the technology. 2) Characteristics of the organization influencing implementation, e.g., organizational structures, management support, organizational compatibility. 3) Characteristics of the technology influencing implementation, e.g., degree of complexity, compatibility, standards. 4) Characteristics of the task to which technology is applied influencing implementation, e.g., task uncertainty, responsibility, task variety. 5) Characteristics of the organizational environment, e.g., uncertainty, dependence, and power.

4.4 Contributions of implementation factors from system development

The system development perspective sees implementation as the last step in the development life cycle. It is "the conversion and installation of newly developed systems" (Marble 2000). From the system development perspective systems success can be measured by four parameters (Coe, 1996): Use of the system measured by intended or actual use of the system; Favorable attitudes toward the system on part of users; Degree to which the system accomplishes its original objective, and; Payoff to the organization. These measures are closely related to successful implementation. However, as pointed out by Coe (1996) numerous implementation efforts related to information systems are technical successes but at the same time organizational failures.

In the systems development perspective the development process is the focal point rather than the outcome and ultimately an organizational implementation success. However, at the end of the day "[Computer professionals] develop and maintain computer systems for others to use" (Dahlbom & Mathiassen, 2000). In this context we are more interested in the use than the development and maintenance of the eBusiness applications. Therefore, focus is on those factors which systems development literature identifies as important parameters for use and/ or implementation.

An organizational oriented view on systems development is put forward by Eason (1988) and by

Tornatzky and Fleischer (1990). According to them focus is on the organizational change caused by information technology. The organizational perspective to system development suggests that issues such as: testing and validating the technical system; organizational change; acceptance of change; integration with other systems and, training and support are crucial in implementing IT in organizations. These aspects indicate that implementation of IT is an organizational adaptation and learning process where the significance of technology is de-emphasized in favor of human/ organizational aspects. This is in line with suggestions from other researchers, e.g. Attewell (1992). Regardless of the six steps an implementation strategy has to be considered. Basically the implementation strategy ranges from revolution to evolution (Eason, 1988). Eason argues that adaptation tends to be more difficult the less evolutionary the implementation strategy is.

Another view on implementation from a system development perspective, which is more focused on the system, is presented by (Dahlbom & Mathiassen 2000). Dahlbom and Mathiassen suggest that a set of quality parameters concerning the fulfillment of users objectives are necessary for implementation. These parameters include: Correctness, reliability, efficiency, integrity, and usability. This view of system efficiency as a parameter for successful implementation is also suggested by (Coe 1996) who argues that system failure can be avoided by observance of five efficiency measures related to systems delivery; implementation process owner, training, front line support, explication of efficiency measures, and effective communications. Finally, Iversen et al. (2001) advocate the importance of risk management during the implementation process.

5. Construction of the implementation framework

This section describes how the factors of the different perspectives are clustered and the basis for this clustering.

Based on the literature reviews of the four reference disciplines all factors were individually put on a blackboard in order to get an overview. Then identical factors within the same reference discipline were eliminated. A clustering of the factors were then undertaken through a iterative process of trying to identify a common denominator of the clusters. The final clustering process resulted in three clusters, i.e. Technological factors, Market factors and factors Organizational – in short the TMO-framework. The table below is the result of the clustering process.

As illustrated in Table 1 do all four disciplines have strong emphasis on organizational factors. Some of these factors which are represented in all four disciplines is management support and organizational structure, directly related to commitment to change. The diffusion theory and systems development literatures do not focus on marked factors in particular. This has been source to recent criticism (Lyytinen & Damsgaard, 2001; Kurnia & Johnston, 2000) since it narrows the scope of diffusion

theory in relation to IOS. The technological cluster is represented in all four disciplines. However, focus is very different depending on the school of thought. Whereas diffusion theory and system development literature focus on manifest attributes of the technological artifact, VC and BPR focuses on more abstract characteristics related to the capabilities of the technology.

Implementation factors from the four perspectives are clustered or related to technology, market, or organization – see appendix.

6. The HABURI.COM case

The case presentation of HABURI.COM is provided to illustrate the broad range of implementation issues businesses are confronted with when applying an eBusiness model in their business practices. The presentation of HABURI.COM is mainly based on Bjorn-Andersen (2002).

HABURI.COM is a virtual factory outlet mall for fashion clothing and accessories on the Internet. The HABURI site was first launched by April 2000 and by the end of year 2000 the company was present in fifteen European countries. Before the launch of the virtual factory outlet mall the three founders investigated the characteristics of physical factory outlets. They found that the virtual outlets had a number of advantages compared to the physical outlets. These advantages included elimination of distance to outlet for customers and critical mass among customers due to a general increase in the number of factory outlets. Taking the critical situation at that time into consideration HABURI was fortunate to get the necessary financial support when they searched for investment capital in beginning of year 2000. It took the founders 180 days from the strategy formulation and till the web-site was launched. The founders reason this successful entry by their professional preparations, operations and well-stated business plan.

Prior to the launch of the web-site the three founders of the company made a rough draft of HABURI's business strategy. Part of the business strategy was to meet the customers' expectations rather than to present the ultimate eBusiness solution from day one. The strategy for the web-site was to create a web-site without any complex user-intrusive technologies. Next, part of the business plan was, as explicitly pronounced in the firm's mission statement, to stick to one of the old business virtues: Placing the customer in focus. Another strategic consideration was to differentiate HABURI from traditional online retailing shops. Two features distinguish HABURI from traditional online retailing shops. Firstly, HABURI sells the most exquisite brands on the market through their web-site. By year 2000 DKNY, Calvin Klein, Cerrutti, and Valentino were some of the organizations supplying products to the HABURI web-site. The online retailing clothing store thereby differentiates it from for example landsend.com or dressforless.com. Secondly, instead of selling from stock as the traditional online clothing shops HABURI decided to prosper from their

competitors' failure in estimating demand. The primary approach is to clear the its suppliers' stock. It is traditionally critical for producers of exclusive brands to sell their stock trough clearance sales in the traditional channels since those customers, which bought their clothing do not like to see their luxury goods being offered in less exclusive environments.

HABURI did from day one decide to outsource several activities. Though the three founders had business backgrounds and experiences in the Internet environment they realized it was crucial to obtain expert knowledge in different areas. McKinsey & Company contributed with knowledge in the pre-launch phase by giving input to the business strategy. IBM Denmark and ProActive A/S delivered the technical eBusiness platform to the web-site. Proffice Communication Center A/S designed and composed the HABURI web-site. It was made as customized as possible in order to increase the customer service level. Proffice Communication Center A/S was also in charge of the call-center functions and information services. Finally, did the SAS Institute provide a business intelligence system, Balanced Scorecard, which was implemented in order to assist the decision-makers in establishing strategic decisions. The Balanced Scorecard solution was used to prepare distribution, logistics and customer contact.

It was HABURI's strategy to create a reintermediating link in the supply chain. This strategy has far proven to be successful. Downstream in the supply chain HABURI has created a window of opportunities for customers to make a good bargain on exclusive clothing and accessories. Upstream in the supply chain HABURI has created a safe market-place for the exquisite brand names to clear their stock. HABURI is as such an example of a successful implementation of an eBusiness model.

7. Discussion

The validity and applicability of a framework is of particular importance as it is suggested to serve as recommendations and guidelines for future ventures implementing eBusiness models either as click-and-mortar or pure-e-play initiatives. Hence, the robustness of the proposed framework is discussed in the following.

Depending on the choice of eBusiness model definition, variations of relevant factors may change. However, as the majority of the definitions refereed to in the eBusiness model section are comparable with the selected definition of Timmers (1998), the likely variations in the proposed framework are expected to be moderate. Similarly, the choice of relevance criteria for selecting implementation factors may provide some variation in the final outcome of the framework.

Literature, either providing prescriptive recommendations or descriptive experiences, suggests a huge number of factors that likely may affect implementation of information systems and eBusiness models in particular. In our presentation of relevant factors we have aimed at selecting factors the commonly were

agreed as important, although this selection process may be influence by subjective opinions. We did find that an implementation model for eBusiness models should include three clusters of factors: technology, market, and organization – the TMO-model. Depending on the theoretical perspective emphasis varied on the three dimensions. However, given our multi-disciplinary approach it is concluded that a feasible model for eBusiness model implementation should embrace the three dimensions.

The framework may have leveraged other categorization schemes, which could have altered the final presentation of the implementation framework. E.g. Earle & Keen (2000) identify six value drivers that are crucial for long-term profitability of eBusiness models. The value drivers that are derived from field research and the authors' experience in companies (as president of Hewlett-Packard E-Services Solutions and Chairman of Keen Innovations) are logistics, relationships, channels, branding, capital and cost structures, and intermediation. Through these drivers the authors claim that the primary goal of any business, which is to create customer value and generate profits over the long term, may be obtained.

As mentioned in Section 3, this work is considered to be conceptual in nature. Based on a review of four relevant research disciplines we have outlined a theoretical framework, which we find broadly applicable for eBusiness model implementation. One way of validating a theoretical framework is to validate the strength of the theoretical contribution. Whetten (1989) has outlined four guidelines for assessment of theoretical contributions: 1) A description of which elements logically should be considered as part of the explanation of the social or individual phenomena of interest; 2) A description of the relationship between the elements; 3) An explanation of the underlying psychological, economic, or social dynamics that justify the selection of elements and the proposed causal relationships, and; 4) A description of the range of the theory. These four "building blocks" will be discussed to demonstrate the strength of eBusiness model implementation framework.

The first building block defined by Whetten reflects the factors, which are part of a given model. In our TMO-model we argue that technology, market, and organization are the factors which should be considered as parts of the phenomena. Our phenomenon, which is to be embraced by the TMO-model is eBusiness model implementation success. The just described example of HABURI.COM illustrates the validity and applicability of the model. The three founders paid interest to the development of the web-site and the technical platform. They argued that technology had to be efficient and user friendly. The founders also paid attention to market factors. HABURI.COM focused on customers and they did at the same time provide an optimal solution for their suppliers by creating a reliable outlet for their potential suppliers. The organizational factors are indirectly represented in the HABURI.COM case. It is evident that the management supported the adoption and implementation of the

eBusiness model since they were the designers of the concept. It is also evident that there would be no resistance to change in the organization since no rigid structures had been established in the start-up venture. However, aspects related to e.g. organizational learning and competence building did get attention from the founders. HABURI.com did explicitly engage Prooffice Communication Centre A/S to manage these tasks.

The second building block, which focuses on the relation between the elements, is also well illustrated in the HABURI.COM case. The founders integrated the three dimensions technology, market, and organization in their business-strategy. Whetten suggests that some causality should be probable from the relationships between the included dimensions of the model. The founders of HABURI.COM realized that the technological dimension had to include certain attributes in order to support their market relations and at the same time support organizational structures.

The third building block is concerned with the underlying logic of the model. As described in Section 2.1 do we find that eBusiness models are characterized by attributes, which go beyond the organization. Value is created in networks and the market dimension is therefore an important aspect, which has to get attention when outlining normative guidelines for implementation. Inherent in eBusiness models is technology (Timmers, 1998). It is therefore inevitable to include the technological dimension in a framework, which aims at supporting successful implementation of eBusiness models.

The fourth building block, which can be used to assess the validity of the theoretical contribution, is concerned with the range of the theory. Those eBusiness models which are based on business-to-business relations and market structures (versus hierarchical structures) make a natural scope of the model.

8. Conclusions and Future Research

The paper argues that the prerequisites for implementation of eBusiness models compared with traditional information systems are changed due to causes as new stakeholders, need for multi-perspective business analysis, time compression of development time and changed development methods. Hence, it is relevant to suggest a framework highlighting important implementation factors derived from various relevant disciplines.

The specific research questions investigated in this paper are: What are the key IT implementation factors in different perspectives? And: How should the key IT implementation factors be classified in order to provide a coherent framework for eBusiness Model implementation?

The key IT implementation factors of each of four influential areas of expertise/research, i.e. venture capitalists experiences, BPR, diffusion theory, and systems development, were presented based on a literature review.

The implementation factors were classified in a framework – the TMO-model - that identified the technological, the organizational, and the market related factors relevant for implementation of eBusiness models.

The framework may be extended in various ways. More perspectives may be investigated and searched for contributing eBusiness model implementation factors. Also development direction of the research is that the framework may be tested under different conditions. For example, case studies may be performed using the framework as a diagnostic tool or surveys covering a larger number of business models may be conducted. All initiatives will add to the development and robustness of the framework by increasing the validity of the framework. Moreover, research will be conducted in development of assessment criteria for evaluation of eBusiness models, systems and application in order to assure the implementation process. Empirical testing of the framework is optimally performed on a sample of eBusiness models from different organizations that will provide statistically validated results. However, at the research is in its embryonic stage such a high validation level have not been possible to reach.

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Appendix

Table 1: Implementation Factors from the Four Perspectives clustered or related to Technology, Market, or Organization.

	Venture Capitalists	BPR	Diffusion Theory	System Development
Technological factors	• Focus on technology suppliers and partners • Focus on incubating environments for basic ICT-support.	• Focus on information technology in support of business process effectiveness • Recognise the potential of IT • Inductive thinking instead of deductive thinking • Out-of-the-box thinking • Experience with IT • Understanding existing data, applications and databases • IT capability • Information gain instead of technology costs • Collect data from source • Managing IT is culturally dependent	• Complexity • Accurate data • Integration • Interaction • Compatibility • Standards • IS infrastructure • Extensive project definition and planning • IT design	• Efficiency • Maintaining the integrity of throughput • Reliability • Correctness • Integrity • Integration • Usability
Market factors	• Other investors • Market analysis • Sustainable competitive advantage • Exit opportunities • Barriers to entry • Customer experiences • Strategic vision	• Alignment of business processes and strategy • Customer focus • Customer value definition • Definition of customer performance measures	N.A.	N.A.

Organizational factors	• Management • The board • Products and/or services • Revenue model • Organizational structure • True costs of starting and running the business • Growth is obtained organically or by acquisition. • Focus on goals • Leadership • Communication • Incentives	• Top management commitment • Process orientation • Scoping of BPR projects • Clean sheet principle • Holistic redesign of business system • Performance based incentive structure • Skill-base and training • Definition of (non) value adding activities • Performance measurement • Learning • Shared values • Communication • Training • Handling of political controversies	• Job tenure • Education • Resistance to change • Appropriate user-designer interaction and understanding • Commitment to change • Recognition and management of diverse vested interests of IT stakeholders • Social approval • Communicability • Individual learning • Organizational learning • Innovation champion • Specialization • Centralization • Formalization • Top management support • Compatibility with organizational tasks • Relative advantage • Cost • Profitability • Divisibility • Trialability • Observability • Internal need	• Acceptance of change • Training and support • Job redesign • Organizational change • Organizational redesign • Plan implementation process • Human resource development • Understand innovation • Measure effectiveness