A STRATEGY FOR ACTUALIZING THE VALUE OF E-COMMERCE SYSTEMS

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Abstract

Actualizing the value of e-Commerce systems is one of the most important determinants of an organization's survivor in today's rapidly changing and fiercely competitive business environment. The goal of this paper is to describe a strategy to help management of organizations in this regard.

1. Introduction

Actualizing the value of e-Commerce systems is currently one of the most important determinants of an organization's survivor in today's knowledge-based and highly competitive work environment. Realizing the full potential of e-Commerce systems is not an easy to accomplish task both in terms of conceptualization and, more importantly, in terms of implementation.

Conventional wisdom contends that in order for an organization to achieve a specific goal, regardless of its level of sophistication, it has to follow certain incremental steps, whether recursive or otherwise, to fulfill its mission. The same intuitive logic applies to an organization planning to actualize the value of its e-Commerce systems.

However, the literature is very thin when it comes to providing guidelines on how organizations can realize the value of e-Commerce systems. Most of the existing work is confined to the area of systems quality metrics. The absence of such guidelines will only leave organizations with the hope without actually having a logical process to achieve their goals.

The objective of this paper is to describe a managerial strategy for actualizing the value of e-Commerce systems.

2. e-Commerce Systems Value: The Broad Picture

The general issue of e-Commerce systems value in the literature has been that of a down stream nature. The focus of researchers and practitioners interest in the systems value phenomenon has been on issues like code efficiency or quality. Therefore, it is not a surprise to find that e-Commerce quality is repeatedly associated with some sort of a metric. Typically, such a measure is employed either to evaluate the system itself (technically) or its output.

The value of the e-Commerce system is usually assessed by such metrics as speed, reliability, availability, maintainability, and so on and so forth. The engineering focus of this stream of research contradicts the socio-technical theory, which highlights the importance of the social system for providing the epistemological basis for organizational concepts such as e-Commerce quality. Table 1 summarizes some of the metrics used by technical quality research.

Table 1: Sample Metrics Used by Technical Quality Research

Sample Metrics	Sample Citations
Broadcast services; search facilities; anonymity; availability; valid links; reliability; browser sniffing; personalization or customization; speedy page loading; interactivity; ease of access; multi-language support; protected content; bookmark facility, etc.	Liu and Arnett [8]; Dempsey and Sussman [3]; Gehrke and Turban [5]; Hager, Kibler, and Zack [6]; Levin [7]; Olsina et al. [11]; Rose et al. [12]; Tarasewich [15]; Dysart [4];

The quality of the output is another route that was followed by researchers to value the quality of e-Commerce systems. The quality of the output is usually measured using such measures as: information accuracy, currency, timeliness, completeness, format, relevance, and son on and so forth. As it is evident from the type of used measures, the quality of the e-Commerce output concept does not consider how to develop and sustain value for the organization as a whole. Table 2 summarizes some of the metrics used by output quality research.

Table 2 Sample Metrics Used by Output Quality Research

Sample Metrics	Sample Citations
Usefulness of content; completeness of content; clarity of content; uniqueness of content; broadness of content; originality of content; currency of content; conciseness of content; accuracy of content, etc.	Liu and Arnett [8]; Longwell [9]; Misic and Johnson [10]; Rowell [13]; Schubert and Selz [14]; Barron et al. [1]; Bell and Tang [2]

Focusing on e-Commerce value at the system level in separation of the particular organizational context is a rather incomplete view to the systems delivery philosophy. e-Commerce scholars active in the area of systems development repeatedly argue that the system by itself is not the ultimate objective of the whole process, contribution to an organization's performance is. Such contribution can't be viewed in the shadow of a narrow conceptualization of the engineering orientation of current value assessment endeavors.

From the above discussion, one can say that the literature has devoted quite an effort on the goal of the e-Commerce systems value rather than on the means as to how achieve the goal. Realizing such an objective requires a more systematic and carefully planned approach.

3. The e-Commerce Value Actualization Model

To help fill this gap in the literature, a process model is proposed. The model is based on what is known as SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. The suggested e-Commerce quality strategy consists of five stages: **E**xplore, **E**qualize, **E**stablish, **E**xecute, and **E**valuate.

Since the general emphasis of the model is strategic in nature, fine details of an e-Commerce system quality program (e.g., meeting specific quality guidelines at the encoding level) are not considered in this model. We are interested more in macro-level value creation efforts. As a result, we are interested in how to develop and sustain an organization's effort to improve e-Commerce value.

The following is a discussion of the five-stage model.

3.1 Explore

The first step in the suggested model, and may be the most arduous one, is to understand the operational setting in which the value program is to be implemented. On a micro level, the process involves studying both users' needs and IT department capabilities. Identifying users needs and understanding their specific requirements is a very crucial step that the whole implementation process depends on. Several methodologies have been proposed to identify user requirements. One of the rudimentary techniques to extract requirements is by carrying out face-to-face interviews with the users.

Under this general umbrella, the Critical Success Factors (CSF) methodology can be used to help top management articulate and identify those factors that the business vitally depends on for effective operation. An alternative approach to CSF is to use Ends/Means analysis [16], which focuses first on the ends (outputs) generated by organizational processes and then, shifts the analysis to identify the means (processes) used to achieve the ends.

Moreover, at this initial step a management-of-expectations strategy is to be put into effect by the IT department to keep the promises under control. The main theme of this strategy is that achieving user satisfaction should be the main criterion for judging the value of the e-Commerce system. Actually, in many cases, user satisfaction is the very deciding factor that differentiates between the success and failure of a particular system.

The next step is to evaluate the profile of the IT department to identify its capabilities and resources. This step is very essential because what the IT group is going to offer depends heavily on what it actually *can* achieve. Furthermore, knowing what the IT department can achieve, will continually help guiding its promises to the users, thus, advancing its ability to manage users expectations. In fact, such an important skill as the ability to manage user expectations is by itself a competency that has to be capitalized on by the department.

No one set of competencies can be found in all IT departments. IT groups differ from one another in many ways, but most importantly in terms of their ability to deal with political influences inside the organization. Issues involved in the implementation of information systems are not always part of a rational process. Moreover, in many instances users don't know what exactly they want. As a consequence, in such cases the department may be able to shape rather than accept without question the needs of the users.

3.2 Equalize

This step emphasizes the importance of interaction between the IT department and the users. This interaction will assist in identifying the possible avenues of action that the IT department can adopt to fulfill/ensure the information needs of the users.

The options for the IT department are numerous. Some of the possible courses that could help achieve the e-Commerce value include outsourcing, internal development, empowering end-users, the focus on the system itself, the focus on the system's output, or a combination of the previous strategies, etc.

It is needless to say that the set of possible strategies available for an organization is contingent upon its external and internal environment. External forces, like competitor actions, governmental regulations, etc., are of extremely related importance to the appropriate identification of users needs and adopted strategy. What are considered appropriate at a particular moment of time may be not as useful when the rivals in the marketplace act in a certain competitive way.

Also, structural, managerial, strategic, individual, and technological factors represent salient determinants of the adoption strategy as well. For example, an organization having Internet literate functional employees is, for sure, going to adopt a different technological strategy than that which has few literate employees; or if an organization is known for its management's support for technology in general then more aggressive strategies may be considered by the IT department; and so on and so forth for the rest of factors.

3.3 Establish

From the set of possible courses of actions that were identified in step (2), the "best" strategy should be selected for implementation. This "best" strategy should, as was pointed out earlier, reflect a match with the environment of the organization. This consideration is broad in nature and emphasizes the macro-level effects. It takes into account the level of threats and/or opportunities in the external environment, inclination of top management, overall organizational culture (e.g., computer literacy, training, etc.), and the like. For instance, pursuing a long-term total value creation strategy to improve systems delivery may be very alluring. However, if a competitor announces a new type of an information system that alters competition in the marketplace, then a more crash-oriented strategy could be selected while pursuing the long-term one later.

The selection process is very complicated by nature. There is no one best strategy that fits all. The way to choose the appropriate strategy is highly contextual. However, once the strategy is designated the focus will shift to a more operational dimension.

3.4 Execute

After selecting the appropriate strategy, it has to be put into effect. Within the general guidelines of the newly adopted strategy, sub-courses of actions should be carried out. Such sub-actions are of integral effect on the final success of the total quality effort. Consider, for example, an organization that decided to develop the system internally with special focus on the quality of the e-Commerce output. Such an organization may select to recruit new IT professionals with certain level of expertise, setting quality standards that take into account the e-Commerce output metrics, and so on.

These supplementary actions to the main strategy are very important because at this level the goal becomes a reality. It is easy to put things on a paper but it is difficult to make it work. Some times the strategy looks very attractive on paper. Once the implementation comes to be real, however, the validity of the claims is put on test. It is always advisable to make the strategy become a reality through encouraging operational line to: (1) provide feedback to strategy formulators, and (2) find ways to keep the spirit of the strategy while operationally altering the mechanics of the implementation process when problems arise.

3.5 Evaluate

As it is the case with any implementation strategy, monitoring and evaluating processes are also part of the process model on hand. In our e-Commerce quality case, it is important to determine the extent to which the e-Commerce quality goal is achieved. The extent to which the goal is achieved or not depends according to our conceptualization on the micro- as well as macro-level metrics.

The suggested model does not finish with the evaluation stage. Actually in some of the cases, the end may be just the beginning. The evaluation stage dynamically provides feedback information to the planners. The output of such control mechanism may follow one of two scenarios: (1) the feedback may be positive, which means that the recorded level of performance should be maintained or elevated if possible; (2) the feedback may be negative where the

e-Commerce planners should re-assess their capabilities and/or re-identify end-users needs to rigorously pursue the perfect fit between the two and resume the process from there. This process should undergo a continual assessment.

4. Summary and Conclusions

An e-Commerce value model was proposed to help in actualizing the value of e-Commerce systems. The paper took a strategic view in approaching the subject as opposed to the traditional, down-stream view that dominates the literature. The author does not imply that this model is a prescriptive one; rather it is suggested that the proposed model is a logical process that may help organizational planners in conducting their activities with regard to actualizing the value of e-Commerce systems.

A major limitation of this model is that it does not take into account the political effects of the different groups in the organization. Therefore, future research could address this issue. Another limitation of this model is that it does not show the relative importance of each stage to help management devote more attention to more important ones. Future research could identify the importance hierarchy of these stages and in what environment does the importance of the different stages vary.

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