Customer Orientation in e-Government Project Management: a Case Study

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Abstract: Customer orientation is vital for success in today's competitive environment. Jaworski and Kohli (1993) proposed a model to measure customer orientation comprising three components: 1) intelligence generation; 2) intelligence dissemination; and 3) organization-wide responsiveness. This model has been applied in several sectors. This paper applies it to an e-Government organization of a municipality. To apply the model, semi-structured interviews were conducted in the organization. Some of the major findings were: 1) an absence of concurrency in the design process; 2) a lack of input in the technology selection; 3) an absence of a knowledge management system for sharing lessons learnt; 4) a reactive nature of the organization; 5) use of different personnel for design and troubleshooting; and 6) a lack of training and standardized procedures. This research accomplishes three major purposes. The first is to elucidate customer orientation, as presented in other disciplines, the second is to elucidate how elements of customer orientation relate to e-Government, and third one was to demonstrate how customer orientation concepts can be used to suggest improvements in e-Government Project Management. All three purposes were achieved through the case study presented.

Keywords: e-government, IT project management, customer orientation

1. Introduction

e-Government initiatives worldwide have gained momentum in the past decade. Government agencies globally are trying to serve citizens through web interfaces, thus reducing or removing the need to visit brick and mortar facilities. However, this endeavor comes with challenges of its own. In an organization, prior to e-Government implementation, all the processes dealing with customers require their physical visit to the government agency (see figure 1). Different departments within the agency deal with the customers on an individual basis. Customer needs are addressed directly by the appropriate departments. However, after implementation of e-Government services, a buffer is created between the customers and the agency concerned. This buffer is the e-Government web interface (see figure 2). Although the customers and the government agency are actually farther apart, for the success of the initiative it is important that they appear to be closer to each other. In other words, customers need to feel that the web interface has added value by saving time and effort to perform a transaction, and the agency needs to realize that there is a cost saving associated with servicing the citizens online compared to a brick and mortar type of facility. In order to realize these two goals the e-Government department needs to effectively incorporate both customer and agency needs in the development of the web interface and associated process flows. Therefore, it is important that e-Government projects be customer oriented for the government agency and the end users. This customer orientation could mean an effective mechanism in order to ensure that development processes incorporate customer needs, an emphasis on usability, the incorporation of accessibility, the effective use of cultural markers. Each one of these areas is a separate research project. Therefore, for the purpose of this research efforts will be concentrated on analyzing the project management processes contributing to effectively incorporating customer needs into service design.

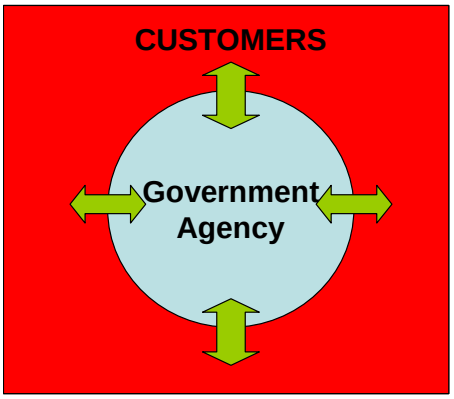

Figure 1: Agency-end user interaction prior to e-Government implementation

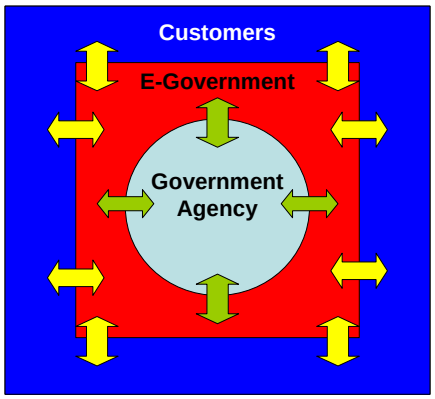

Figure 2: Agency-end user interaction after e-Government implementation

e-Government projects can be likened to any IT project and can draw on the lessons learnt from them. The following section presents a review of the literature in the area of risks and success factors in IT projects which can also be adopted by e-Government projects.

2. IT project management

IT departments in any organization occupy a significant position. However, over 60% of IT projects represent a failure in terms of exceeding the budget or deadlines, and also in terms of dissatisfied customers (Goepp et. al., 2006). This underperformance represents a considerable but, to a large extent, avoidable loss of economic value (Sauer et al., 2001). e-Government projects face the same challenges as any other IT project. Literature is replete with research on the risks and challenges in IT projects of different kinds. Boehm (1991) classified software project risks into five categories: technological newness, application size, expertise, application complexity, and organizational environment. Kliem (2001) identified 38 risks in BPR projects and classified them into four categories: people, management, business, and technical. Ham and Huang (2006) as well as Wallace et al (2004), have used a six category IT project classification that includes: user, requirement, project complexity, planning and control, team, and organizational environment. Addison (2003) highlights ten risky issues associated with e-Commerce projects: customer/user requirements issues, business and supply chain issues, methodology issues, strategic planning issues, management and user support issues, web page design issues, security issues, system integrity issues, staff issues, and technical environment issues. Mahaney and Lederer (2003), give four reasons for the failure of IT projects: the contract not being outcome based, ineffective monitoring, the failure of organizations to manage goals and conflicts, and the lack of application of regular task programmability techniques. Agarwal and Rathod (2006) point to the misalignment between the expectations of the customers and understanding of the producer (IT departments) as one of the major factors contributing to this high failure rate. King and Burgess (2006), highlight the interdepartmental and intradepartmental communication as a critical success factor in an Enterprise Resource Planning (ERP) implementation, a prevalent IT project for the past decade. Dhillon (2005) points to excessive importance on technological issues and very little to organizational issues as an important contributor towards IT failure. Procaccino et. al. (2005) rate customer satisfaction and user friendliness as key indicators of a successful IT project.

IT project management literature has also identified success factors for IT projects like: management of conflicts (Posner, 1986; Turner, 1993; Belassi and Tukel, 1996; and Wateridge, 1997); management of multifunctional teams (Kumar, 2002); good communication (Milis and Mercken, 2002); goal congruency (Clarke, 1999); teamwork (Milis and Mercken, 2002); good internal stakeholder relationship (Wilcocks, 1994); management involvement; and effective change management (Milis and Mercken, 2002).

Based on these recent findings it is important that, apart from technical competence, organizational aspects be also kept in mind while conducting IT projects. This paper presents a model that measures the organizational customer orientation of an e-Government implementation through a case study of a municipality.

3. Purpose of this paper

There are three purposes of this paper. The first purpose is to elucidate customer orientation as presented in literature from other disciplines. Second, this paper demonstrates how constructs of customer orientation relate to one another in the specific context of e-Government projects, which can also be adapted to other IT

projects. Third, it demonstrates how customer orientation concept might be used to suggest improvements to e-Government project management.

4. Customer orientation

Customer orientation is not a new concept. Appiah-Adu and Singh (1998) have traced it as far back as 1954. In the past two decades several definitions of customer orientation have come up. Shapiro (1988) defines customer orientation as "The dissemination of information about customers throughout an organization, formulation of tactics and strategies to satisfy market needs inter-functionally and achievement of a sense of company-wide commitment to these plans". Joworski and Kohli (1990) define customer orientation as the degree to which customer information is collected and used in the business unit. Ruekert (1992) defines customer orientation as "the degree to which the organization obtains and uses information from customers, develops a strategy which will meet customer needs, and implements that strategy by being responsive to customers' needs and wants". Deshpande et. al. (1993) define customer orientation as "The sets of beliefs that put the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, employees, in order to develop long term profitable enterprise".

All these definitions concentrate on customer's needs and translate them into valuable outputs from producers. Jowroski and Kohli (1993) have taken the definition proposed by Jowroski and Kohli (1990) and developed a three element model of customer orientation. The proposed model measures customer orientation based on three elements: organization-wide generation, dissemination and the responsiveness of market intelligence. This model has been used by several researchers in various applications and sectors such as construction (Dulaimi, 2005), supply chain (Saiguaw et al, 1998), new product development (Kahn, 2001), hospitality and tourism (Sin et al, 2005, and Qu et al, 2005), manufacturing (Singh and Ranchodd, 2004), and non-profit service sector (Gainer, B., and Padanyi, P., 2005). Due to its simplicity, ease of application, prevalent use in past research and versatility of adoption in different sectors, this model was chosen for application in this research.

5. The model

The case considered for this paper involves an e-Government organization which is responsible for designing, coding and maintaining the web interface as well as the back-end software functions of a municipality. It is described in more detail in the next section. The model proposed by Jaworski and Kohli (1993) has three components: 1) intelligence generation; 2) intelligence dissemination; and 3) organization-wide responsiveness. Dulaimi (2005) argues that if this model is applied to an organization, it should be able to effectively satisfy customer needs and expectations.

Intelligence generation in this model, for the case to be considered, means the generation of customer needs before the design of e-services. The effectiveness of the intelligence generation is affected by who collects the intelligence, how the intelligence is gathered, how often it is collected and the mechanism for revision as well as validation.

Intelligence dissemination in an organization can be evaluated by analyzing the process of distribution of knowledge within the organization. In the case of an e-Government organization, it is essential to collect information on customer needs and distribute it within the organization so system, webpage, and database design as well as other related technical operations can be performed.

Organization-wide responsiveness can be assessed by evaluating the product/service design process. How does the design take place, how much is the customer involved, and how often does the design need modification after product is launched?

6. The case

Dubai is a city kingdom located on the inlet of the Persian Gulf. It is a major port and commercial center of the Middle East, and the principal shipping, trading, and communications hub of the Persian Gulf region. Sometimes referred to as "the Venice of the Gulf," Dubai is a bustling, cosmopolitan city and a popular tourist destination. Dubai was founded as a small fishing village at the end of the 18th century. After the discovery of major oil and gas reserves in the 1960s, Dubai became a major port and a wealthy commercial town by the end of 20th century. Dubai's population is estimated to have reached 857,233. Only 19% of this population comprises of natives and the remaining 81% are expatriates who have come here seeking employment opportunities.

Dubai Municipality (DM) is regarded as one of the largest establishments in Dubai, in terms of the number of people it employs, the volume of services it provides to the public and the number of projects it executes. The municipality was established in the 1940s with three employees and housed in a one room office. However, it was not until 1965 that DM came into being officially. The municipality has continued its steady growth since its inception and now employs more than 11600 people.

In the year 2001, DM embarked on a major e-Government implementation triggered by a wider, Dubai wide government initiative to automate all government functions. The vision for the Municipality e-services as defined by the ruler to use the "e e-Government solution as the primary delivery channel to provide a single, easy, integrated, and reliable means of access to Municipal information and services in order to continuously improve the quality of services provided for the residents, businesses, and partners, reduce internal operational overheads, enhance revenues, and promote Dubai's image as a commercial and tourism hub in the Gulf region." All government departments were given a deadline to put 90% of their services online by the year 2007.

This vision for e-Government transformed the priority of the municipality to act as a customer oriented, agile and accountable entity, rather than being a public bureaucratic organization. This was a major paradigm shift and required detailed planning by top management.

6.1 The organization

The IT department in the municipality owns the e-Government initiative. It is important that the organizational structure of this department be discussed in detail. Figure 3 represents the organizational structure of the IT department. This department performs operation tasks, provides beneficiaries support, helps in the planning and development of information systems, undertakes computer-related tasks and data processing, ensuring the security It also provides staff with equipment, programs and necessary telecommunication networks, supplies and links all facilities and websites of the Municipality with e-Government websites and the information telecommunication network with standard specifications and protection against various risks.

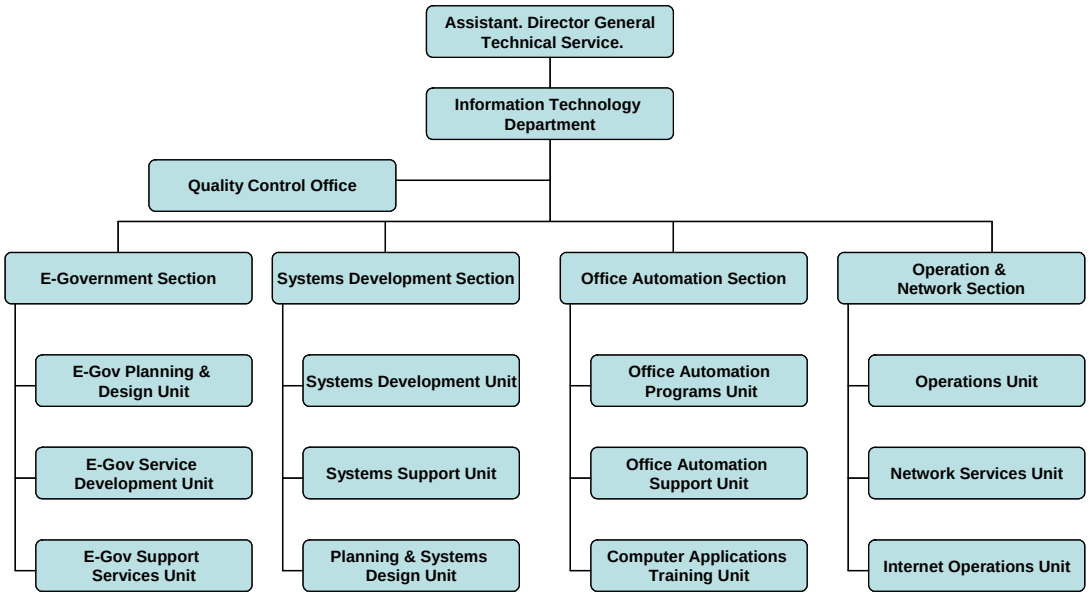

Figure 3: Organizational structure of IT department

Within the IT department the e-Government section has three main responsibilities: 1) To supervise, upgrade, monitor and support all computer systems of e-Government, whether externally purchased or internally developed; 2) To prepare and identify the technical criteria and standards related to the development of e-Government, databases and programming languages and implement them in the IT Department; and 3) To study and analyze e-Government systems, to determine their creation methods to prepare the technical specifications of systems required to be developed and to prepare tenders for the system projects. These responsibilities are undertaken by three major units within e-Government. The first unit deals with the planning and design of e-Government services, the second deals with development of websites and databases and the third deals with post implementation support.

The systems development section of the IT department has four major functions: 1) To propose long, medium and short term development plans for the IT systems; 2) To prepare and determine the technical criteria and standards for the development of systems, databases and programming languages, and to undertake the responsibility of implementing the same at the IT Department; 3) To perform feasibility studies of the systems which various regulatory units at the Municipality are considering implementing, and to make the appropriate decision; and 4) To provide technical assistance and necessary training for the systems used or to be used at the Municipality.

The office automation section of the IT department has three major functions: 1) To prepare and determine requirements of office automation programs, to perform their feasibility studies and prepare recommendations; 2) To prepare tenders and technical specifications of office programs and equipment, to communicate with companies and suppliers to evaluate submitted tenders, and to prepare the joint recommendations in coordination with the concerned regulatory units; and 3) To supervise the training of all computer users in the use of various office programs, Internet browsing, e-mail, web-mail and security aspects.

The operations and network service department within the IT department has three major functions: 1) To operate and maintain internal and external computer network and connection lines and circles; 2) To propose and execute procedures and regulations related to the security and confidentiality of information network, databases, information storage and back up; and 3) To install, transfer and maintain terminal monitor equipment, printers and connection equipment.

Each element of the IT department performs a distinct function. For the purpose of this study only the e-Government section of the IT department was considered, as that section was the only section within the IT department which produced service interfaces that were used directly by outside customers.

6.2 e-Government roles

Within e-Government there are four major roles played by employees: 1) Service Custodians; 2) Business Analysts; 3) Systems Analysts, and 4) Programmers.

The service custodian is in-charge of a service. The municipality automates its services in phases. When a particular service is planned to be automated and is going online, a custodian is appointed for that service. The job of the service custodian is to manage the entire process of converting the service to an online service and manage any proposed changes, post-implementation.

Business analysts are responsible for documenting the process flows prior to system design and coding. Once a decision is made to automate a service and a service custodian is assigned to it, the business analyst starts the job of discussing with the relevant department within the municipality who has the ownership of the service. Based on that input the process flow is designed by the business analyst and handed over to the custodian.

Systems analysts start working after the business analyst has documented the process flow. Systems analysts are responsible for creating the data flow diagrams, entity relationship diagrams and UML diagrams. Once system design is complete, coding of the system starts.

Programmers are involved in coding of the entire service during the initial development and modifying the codes post-implementation, if required.

e-Government currently has six custodians, three business analysts, three systems analysts and two programmers are on staff.

6.3 e-Government processes

e-Government has two major responsibilities: 1) Design and launch of new services online and 2) Maintaining all the e-services that have already been launched.

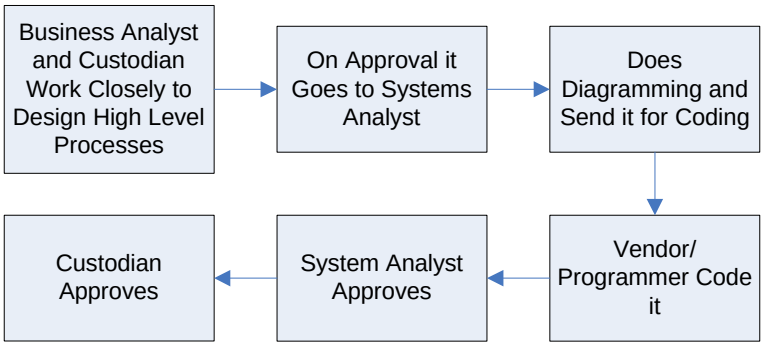

Figure 4: Service design process

Figure 4 summarizes the service design process. Once the decision to go online is made, a custodian is appointed. The business analyst under the supervision of the custodian designs the process flow for the service. During this design, the business analyst works very closely with the municipality department(s) concerned. Once the process flow is designed and approved, a systems analyst is appointed to undertake the system and the database design. After the system design is complete, coding starts. Coding can be done either internally by a programmer or can be outsourced to an external vendor. Once coding is complete, the systems analyst evaluates and approves it and it then goes for the approval of the custodian. Once that approval is obtained the service goes online.

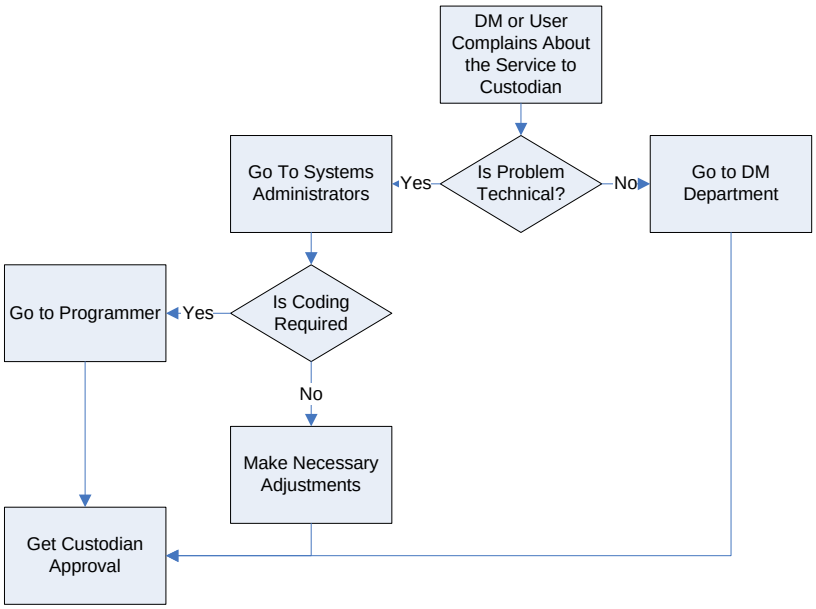

Figure 5: Service maintenance process

Figure 5 depicts the service maintenance process. Once a service is launched both the external users and the relevant municipal department(s) can contact a help desk if they have a problem with any part of the service. Once the problem is reported the service custodian is notified. The service custodian decides if the problem is technical or not. If the problem relates to the process then the municipal department concerned, is notified and once their change is approved by the service custodian the problem is rectified. If the problem is technical in nature then the systems analyst is notified. The systems analyst makes the decision whether there is any need for coding. If there is a need for coding then the programmer performs the coding and the changes are implemented after the approval of the service custodian. If no coding is needed, then the systems analyst makes the necessary adjustments and sends the changes for the approval of the service custodian.

6.4 The methodology

Owing to the small number of employees, it was not possible to conduct a survey and then perform quantitative analysis on the data. This led to the choice of interviews as the method for collecting data. The scope of this study covered two major customer groups, the first being DM, and the second being citizens or

end-users. The interviews were conducted in a semi-structured format where participants were asked about the intelligence generation, intelligence dissemination and responsiveness, both for DM and the end-users. Two members from each type of roles were selected for interview. In addition to that, two managers were also selected. Interviews were conducted in the offices of the interviewees and lasted between 45 minutes and an hour. All participants were explained the purpose of this research and were promised anonymity. They were asked to support their answers in the interview with specific instances or cases, if possible.

6.5 Analysis

This section is divided in three parts, each part corresponds to a component of the customer orientation model.

6.5.1 Intelligence generation

Intelligence generation, when it comes to DM is currently quite extensive. Service custodians and business analysts spend a considerable amount of time mapping the processes and identifying their needs. However, systems analysts and programmers do not have access to DM. They have to rely primarily on documentation provided to them by service custodians and business analysts, both of whom do not have any IT background. This lack of direct contact can result in multiple iterations before a product is deemed acceptable by DM. One of the programmers interviewed described a post-implementation change project where he was at his sixth iteration and still not sure if this product would be satisfactory to the DM.

The intelligence generation for end-user needs is a relatively weaker area for a project. It is not standard practice to talk to end-users for every service being developed. On quite a few occasions this input is primarily driven by the DM department concerned which communicates to the e-Government department, its perceptions of end-user needs. On some service development projects, brainstorming sessions and interviews were conducted. However, as in the case of DM intelligence generation above, all the contact currently with the end-user is done by service custodians and business analysts. The technical members of the team have no direct contact with the end-users, and have to rely primarily on the documentation of service custodians and business analysts. During the interviews the systems analysts and the programmers also pointed out that this was a frequent problem in post-implementation support as well. A lot of post-implementation changes had to go through multiple iterations, due to lack of direct contact between the complainant and the technical staff.

Currently, whatever intelligence is being generated is specific to the services being designed. No proactive intelligence about issues like perceptions and usability are being tracked. The municipality tracks two major matrices; adoption rate and the proportion of revenue generated through online versus over-the-counter transactions. Both these matrices are made available to the service custodians. However, neither of them could highlight issues like user satisfaction by changing the interface from an over-the-counter brick and mortar experience to online experience. The municipality is aware of this issue but at the moment the effort is concentrated on meeting the deadline for transferring 90% services online by 2007. The proactive intelligence generation methodology will be devised after this target has been achieved.

6.5.2 Intelligence dissemination

Currently, the intelligence dissemination process is sequential. Service custodians and business analysts have the most direct contact with DM and in some cases, end-users. However, the systems analysts and programmers often feel isolated and have to rely primarily on the documentation provided to them. One more issue with this sequential nature of the process is simply the expertise. Currently, all service custodians and business analysts come from business administration backgrounds, the systems analysts come from MIS backgrounds and the programmers are computer scientists. Due to this difference in expertise it is important that the systems analysts as well as the programmers be involved in the initial process design, since that can potentially have impact on data structures, user interfaces and codes. This lack of concurrency has resulted in multiple iterations in the service design process and delays in implementation.

The second issue highlighted under the intelligence dissemination was the lack of uniformity in ways of disseminating intelligence. Even though some standard forms exist for documenting user requirements for systems analysts and programmers, they are often not used. Each business analyst and service custodian has their own format. Therefore, it is not surprising that programmers and systems analysts find it more convenient to work with some service custodians than others. As two managers pointed out, this is also due

to lack of training and in some cases lack of standardized procedures. This is an area that is high on the list of to-do items on the coming year's strategic plan.

For intelligence dissemination one more issue that several interviewees pointed out was the absence of a platform or a knowledge management system where one could store lessons learnt on a project for future use. There is not even an informal mechanism of doing so. Everyone works in isolation, based on their personal knowledge and information on standard documents. This lack of knowledge sharing is counterproductive and results in the phenomenon popularly known as reinventing the wheel (Kulonda et. al., 2003). The senior managers did agree that, there is no such mechanism available for knowledge sharing, however, one such initiative is underway that should be implemented within a year.

6.5.3 Responsiveness

For responsiveness, e-Government is a very reactive organization. As has been pointed out in the intelligence generation section, there is no contact between the e-Government and municipal departments or the end users unless a problem with a service is reported. In order to harness the improvement through end user feedback, a more proactive approach is needed for every service that can potentially result in incremental improvements.

The other issue is with the team structure for responding to complaints either by end users or the department in the municipality concerned. The only person who remains committed to a service is the service custodian. If some technical issue arises, then it is not necessary that the service custodian approach the same systems analyst or the programmer who has developed the service initially. This results in delay in responding to complaints. One way of addressing this issue is by keeping the entire team constant for post-implementation support. The only time this rule should be violated is when someone is on leave or has left the organization. The senior management did agree that the problem exists. Given the small size of the organization it is not an issue that can easily be resolved.

As was accepted by several participants during the interview, the responsiveness to DM complaints is considerably faster than to those of the end-users'. This is primarily due to the close proximity with which e-Government works with DM compared to end-users. This proximity is due to the fact that they are physically located in the same general area and internal pressures are lot higher from DM departments compared to end-users.

7. Summary and discussion

Customer orientation has become a key element of organizational strategy (Dulaimi, 2005). Jaworski and Kohli (1993) proposed a model to measure customer orientation. This model has three components: 1) Intelligence generation; 2) Intelligence dissemination; and 3) Organization-wide responsiveness. The model has been used in several sectors and this paper applies the model to an IT organization dealing with the development of the e-Government interface of a municipality. Applications like e-Government or e-Commerce are important avenues for the application of this model because on implementation of the e-Government/e-Commerce initiative a buffer is created between the producer and the consumer, the buffer of the web interface. This buffer actually moves the producer and consumer farther apart, yet its function is to make them appear closer than before. Therefore it is important that any organization supporting an e-Government/e-Commerce initiative be customer oriented.

In this research the employees of the e-Government organization selected had four major roles: The service custodian who is responsible for the overall design, implementation and maintenance of any service that goes online, the business analyst who performs the business process analysis and gathers data on customer needs, the systems analyst who is responsible for system design, and the programmer who is responsible for coding.

In order to collect data, a semi-structured interview was conducted that involved two participants from each type of role and two managers. Based on the analysis of the data it was found that as far as intelligence generation is concerned, it is strong for DM but very weak for end-users. The intelligence generation is primarily a sequential process at the moment. Service custodians and business analysts are the only people dealing directly with DM or the end-users. This sequential nature of the process becomes even more of an issue because both these groups of people do not have any programming or IT background. This lack of concurrency and lack of involvement of the systems analysts and programmers in intelligence generation often leads to rework. The emphasis on concurrency and having a multi-functional team at every stage, is

very important for IT projects like e-Government, a fact that has been identified quite extensively in IT project management literature as a success factor (Kumar, 2002; Milis and Mercken, 2002; Bai and Lee, 2003). Having concurrency in processes is a new paradigm for DM and they have not practiced it so far in any type of IT project. There is also a lack of proactive intelligence generation at the moment, due to the fact that currently the resources are concentrated primarily on meeting the 2007 deadline of putting 90% DM services online. Once most of the services are online then DM can concentrate on generating proactive intelligence on customer needs and modifying services as well as processes accordingly.

For intelligence dissemination, the sequential nature of the information transfer is an issue, the other one being the lack of standardized procedures being followed and forms being used. This points to an immediate need for the training of employees in order to ensure uniformity. A concept highlighted in IT project management literature quite often (Milis and Mercken, 2002). The emphasis on getting 90% services online has not left enough spare resources to concentrate on the development of standardized formats, forms and procedures. However, this practice needs to change and standardization should take place in all aspects of e-Government implementation. The last issue pointed out in the intelligence dissemination was the lack of knowledge management or a lessons-learnt system where people can document lessons learnt that can be used for future projects. A platform like this has been identified as a key contributor to success for any IT/IS project (Pai, 2006). Discussions during the interview pointed out that most of the people interviewed were not familiar with the benefits of having a platform for sharing lessons learnt.

In the responsiveness area, it was found that the e-Government organization is a very reactive organization. The teams formed during the service design are dismantled as soon as the service is implemented and often new people have to get involved for post-implementation adjustments, thus increasing the learning curve involved with familiarization, thus the response time is delayed. This again is due to lack of resources at the moment and the emphasis on meeting the 2007 deadline. The last problem identified was the relatively faster response to DM related post-implementation issues compared to the end-user related issues. This is primarily due to physical proximity and a more diligent follow-up from the DM department that is affected by the service. There is also an increased sense of accountability towards internal departments compared to outside customers.

8. Concluding remarks

This paper had three stated objectives. The first one was to elucidate the concept of customer orientation as presented in literature from other areas. This was accomplished by choosing the Joworski and Kohli (1990) model and conducting a literature review on past work in several disciplines applying this model. The second and third purposes were to relate the constructs to an e-Government or IT project and see if application of this model can help suggest some improvements. Both these purposes were accomplished using the case of a municipal e-Government organization. The model provided an umbrella under which a wide array of issues such as communication, knowledge management, training, teamwork, and procedures could be analyzed, and areas of improvement highlighted.

References

Addison, T., (2003), “E-Commerce Project Development Risks: Evidence From A Delphi Survey”, *International Journal of Information Management*, Vol. 23 No. 1, pp. 25-40.

Agarwal, N., and Rathod, U. 2006, “Defining “Success” For Software Projects: An Exploratory Study”, *International Journal of Project Management*, Vol. 24 No. 4, pp.358-370.

Appiah-Adu, K., and Singh, S., (1998), “Customer Orientation and Performance: A Study of SMEs”, *Management Decision*, Vol. 36. No. 6, pp 385-394.

Bai, R.J., and Lee, G.G., (2003), “Organizational Factors Influencing the Quality of the IS/IT Strategic Planning Process*”, Industrial Management and Data Systems*, Vol. 103 No. 8, pp. 622-632.

Belassi, W., and Tukel, O.I., (1996), “A Framework for Determining Critical Success/Failure Factors in Projects”, *International Journal of Project Management*, Vol. 14 No. 2, pp. 141-151.

Boehm, B., (1991), “Software Risk Management: Principles and Practices”, *IEEE Software*, Vol. 8 No.1, pp. 32-41.

Clarke, A., (1999), “A Practical Use of Key Success Factors to Improve the Effectiveness of Project Management”, *International Journal of Project Management*, Vol. 17 No. 2, pp. 139-145.

Deshpande, R., Farley, J., and Webster, F., (1993), “Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadrant Analysis”, Journal of Marketing, Vol. 57, pp.23-37.

Dhillon, G., (2005), “Gaining Benefits From The IS/IT Implementation: Interpretations From Case Studies*”, International Journal of Information Management*, Vol. 25 No. 4, pp. 502-515.

Dulaimi, M.F., (2005), “The Challenge Of Customer Orientation In The Construction Industry*”*, *Construction Innovation*, Vol. 5 No. 1, pp. 3-12.

Gainer, B., and Padanyi, P., (2005), "The Relationship Between Market-Oriented Activities And Market-Oriented Culture: Implications For The Development Of Market Orientation In Non Profit Service Organization", *Journal of Business Research*, Vol. 58 No. 6, pp. 854-862.
Goepp, V., Kiefer, F., and Geiskopf, F., (2006), "Design Of Information System Architectures Using A Key-Problem Framework", *Computers in Industry*, Vol. 57 No. 2, pp. 189-200
Jaworski, B.J., and Kohli, A.K., (1993), "Market Orientation: Antecedents And Consequences", *Journal of Marketing*, Vol. 57 No. 1, pp. 53-70.
Kahn, K.B., (2001), "Market Orientation, Interdepartmental Integration And Product Development Performance", *Journal of Product Innovation Management*, Vol. 18 No. 3, pp. 314-323.
King, S.F., and Burgess, T.F., (2006), "Beyond Critical Success Factors: A Dynamic Model Of Enterprise System Innovation", *International Journal of Information Management*, Vol. 26 No. 1, pp. 59-69.
Kliem, R., (2001), "Risk Management for Business Process Reengineering Projects", *Information Systems Management*, Vol. 17 No. 4, pp. 71-73.
Kohli, A.K, and Jaworski, B.J., (1990), "Market Orientation: The Construct, Research Propositions And Managerial Implications", *Journal of Marketing*, Vol. 54 No. 1, pp. 1-18.
Kulonda, D.J., Arif, M**,** Luce, J., (2003), "Legacy Systems: Must History Repeat Itself?" *Journal of Knowledge Management Practice*, December, Vol. 4, Online Journal.
Kumar, R.L., (2002), "Managing Risks in IT Projects: An Options Perspective", *Information and Management*, Vol. 40 No. 1, pp. 63-74.
Mahaney, R.C., and Lederer, A.L., (2003), "Information Systems Project Management: An Agency Theory Interpretation", *The Journal of Systems and Software*, Vol. 68 No. 1, pp. 1-9.
Milis, K., and Mercken, R., (2002), "Success Factors Regarding the Implementation of ICT Investment Projects", *International Journal of Production Economics*, Vol. 80 No. 1, pp. 105-117.
Mullens, M A., Arif, M, Armacost, R L, Gawlik, T., . and Hoekstra, R L., (2005), "Axiomatic Based Decomposition for Conceptual Product Design", *Production Operations Management*, Vol. 14 No. 3 , pp. 286-300.
Narver, J.C., and Slater, S.F., (1990), "The Effect Of Market Orientation On Business Profitability", *Journal of Marketing*, Vol. 54 No. 4, pp. 20-35.
Pai, J.C., (2006), "An Empirical Study of the Relationship Between Knowledge Sharing and IS/IT Strategic Planning (ISSP)", *Management Decision*, Vol. 44 No.1, pp. 105-122.
Posner, B.Z., (1986), "What's All the Fighting About? Conflicts in Project Management", *IEEE Transactions on Engineering Management*, Vol. 33 No. 4, pp. 207-211.
Procaccino, J.D., Verner, J.M., Shelfer, K.M., and Gefen, D., (2005), "What Do Software Practitioners Really Think About Project Success: An Exploratory Study", *The Journal of Systems and Software*, Vol. 78 No. 3, pp. 194-203.
Qu, R., Ennew C., and Sinclair, M.Y., (2005), "The Impact Of Regulation And Ownership Structure On Market Orientation In The Tourism Industry In China", *Tourism Management*, Vol. 26 No. 8, pp. 939-950.
Ruekert, R., (1992), "Developing a Market Orientation: An Organizational Strategy Perspective", International Journal of Marketing, Vol.9, pp.225-245.
Sauer, C., Liu, L., and Johnston. K., (2001), "Where Project Managers Are Kings", *Project Management Journal*, Vol. 32 No.4, pp. 39-49.
Shapiro, B., (1988), "What the Hell is 'Market Oriented'?", *Harvard Business Review*, Vol. 66, pp. 19-25.
Siguaw, J., Simpson, P., and Baker, T., (1998), "Effects Of Supplier Market Orientation On Distributor Market Orientation And The Channel Relationship: The Distributor Perspective", *Journal of Marketing*, Vol. 62 No. 2, pp. 99-111.
Sin, L.Y.M., Tse, A.C.B., Heung, V.C.S., and Yim, F.H.K., (2005), "An Analysis Of The Relationship Between Market Orientation And Business Performance In The Hotel Industry", *Hospitality Management*, Vol. 24 No. 6, pp. 555-577.
Singh and Ranchodd, (2004), "Market Orientation And Customer Satisfaction: Evidence From British Machine Tool Industry", *Industrial Marketing Management*, Vol. 33 No. 2, pp. 135-144.
Slater, S.F., and Narver, J.C., (1994), "Market Orientation, Customer Value And Superior Performance", *Business Horizons*, Vol. 37 No. 2, pp. 22-27.
Standish Group International, Inc., (2004), *2004 Third Quarter Research Report*.
Turner, J.R., (1993), *The Handbook of Project-based Management*, McGraw Hill, New York.
Wallace, L., Keil, M., and Rai, A., (2004), "Understanding Software Project Risk: A Cluster Analysis", *Information and Management*, Vol. 42 No. 2, pp. 115-125.
Wateridge, J., (1997), "Training for ICT Project Managers: A Way Forward", *International Journal of Project Management*, Vol. 15 No. 4, pp. 283-288.
Wilcocks, L., (1994), *Information Management: the Evaluation of Information Systems Investments*, Chapman and Hall, London.