E-Government Evaluation:  
An Assessment Approach 
Using ROI vs. ROR Matrix

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ABSTRACT

Governments are in the process of transformation from old to new public management, and now E-Government, where online services are delivered to customers using information and communication technologies. Governments that evaluate customer satisfaction using Likert scales often face the challenge of translating findings into strategic actions. This paper introduces a novel ROI vs. ROR matrix analysis, a strategic action tool, to assess customer satisfaction in using E-Filing service in Malaysia. This paper will explore the concept of Customer Relationship Management (CRM) in E-Government, especially the business benefits realisations, tangible in the form of return on investment (ROI, e.g., cost savings) and intangible in the form of return on relationship (ROR, e.g., provide prompt services and helpful responses to customer requests). The development of the ROI vs. ROR matrix is discussed and followed by a demonstration of the usefulness of this matrix to classify customer experiences into four satisfaction quadrants. The research findings are then translated into strategic actions. This research allows the government service provider to identify strategic focus areas that need attention and allocation of resources. Since the main objective of CRM in E-Government is to improve customer satisfaction, the introduction of this ROI vs ROR matrix is timely to help government service provider to learn about their needs and motivations in using E-Government services.

Keywords: Benefits, Customer Relationship Management, Customer Satisfaction, E-Government, Evaluations, Online Research Methods, Return on Investment (ROI), Return on Relationship (ROR)

INTRODUCTION

The transformation of public service delivery and uptake of E-Government services are steadily increasing worldwide, and the future growth in this sector is inevitable, given the strong demand from customers, who are becoming more empowered with information, and getting better quality of services from the private sector. This indeed increases the pressure on government to serve their customers better. Malaysia is one country which has witnessed a tremendous growth in the implementation of information communication technologies (ICTs) to create a more effective and efficient government. In 1996, an E-Government initiative under Malaysia Multimedia Super Corridor (MSC) flagship was formed to improve E-Government services by developing flexible and responsive government delivery systems.

DOI: 10.4018/jegr.2013010105
to satisfy customers. It was to enable the Malaysian to have an easy access to a number of government services using the internet, instead of going to the ‘bricks-and-mortar’ government offices to have their transactions processed. Thus, many government agencies started to implement E-Government services (Wong et al., 2009) with the intention to improve quality of services, reduce paper works, cut costs and improve relationships with its customers.

In the past, governments were known to be bureaucratic, cumbersome, slow and inefficient when it comes to customers’ requests. Therefore, customers become frustrated and unsatisfied and as a result of that, it costed money. Sometimes citizen’s frustrations can be turned into votes against government in general election; therefore, it is important for government to be more responsive to the overall needs of its citizens. Timonen et al. (2003) conducted an E-Government research and they found that the main motivation behind the development of E-Government should not be cost savings, but genuine objectives to create a government that is citizen focused and customer friendly, which is in tandem with Customer Relationship Management (CRM) strategies. However, with increasing importance of cost benefit evaluations, governments are starting to adopt Customer Relationship Management (CRM) philosophical approaches for better return on investment (ROI) (Kawalek et al., 2003; Chao, 2003). Traditionally, organisations want more return on investment (ROI), but the trend is moving towards relationship marketing, which places more emphasis on return on relationship (ROR). Consequently, government needs a better strategy to face these demands and challenges, and to achieve better quality of services and customer satisfaction, CRM is definitely the key.

Malaysia’s government has been slow in adopting CRM strategies and this can impede future development of E-Government services. If E-Government service is continued to be introduced, with the notion of ‘build and they will come’, in government at a faster rate, it will not work. Instead government organisation should ask the following question: ‘If you build it, will they come?’ (Moulder, 2001). Failing to do so will result in a loss of taxpayers’ money. Thus it is becoming imperative for E-Government practitioners and researchers to build relationships with customers by learning what their actual needs and motivations are, how satisfied they are in the benefits realisations, and how their satisfactions can directly or indirectly influence E-Government uptake. Against this backdrop, the purpose of this study is to explore the concept of Customer Relationship Management (CRM) in E-Government, especially the business benefits realisations, tangible in the form of return on investment (ROI) and intangible in the form of return on relationship (ROR), and to demonstrate the usefulness of ROI vs ROR matrix to classify customer experiences into four satisfaction quadrants, namely, unhappy, compromised, happy, and delighted. Then, we will briefly outlined the research methodology used for this study and then followed by discussions of research findings. Finally, a number of conclusions for research are provided.
deliver E-Government benefits to customers using citizen-centric approaches.

Although the adoption of CRM by government got off to a slow start (Dave, 2001; Shine, 2002), its implementations are growing (Kavanagh, 2003; Saggese, 2003; Kawalek et al., 2003). Increasingly, Customer Relationship Management (CRM) has become a popular concept that has been recognised as one of the keys to organisation success (Tan and Pan, 2003; Pathfinders, 2002; Payne & Frow, 2004; Souder, 2001). In recent years, we could see a sudden surge of CRM research conducted in the public sector, particularly in the United Kingdom and the United States (Kawalek et al., 2003; Batista & Kawalek, 2002; Souder, 2001; Kavanagh, 2001; Shine, 2002). The governments of the United States, the United Kingdom, Ireland and most developed countries recognise the importance of CRM in E-Government; thus they use CRM as their strategy to realise E-Government benefits and to maintain their international positions as world leaders in E-Government.

In a research conducted by Crook et al. (2003), it was reported that contemporary governments have emphasized on building a better customer experience as their highest objective, and better customer experience means increased customer loyalty and satisfaction. For example, 93% of government respondents chose ‘improving citizen satisfaction’ as the main factor in driving the development of electronic services. Of the government executives, 83% responded that “customer demands for new and better services” was the second important driver in providing E-Government services. In order to achieve a better customer satisfaction, there is a need to improve the delivery of E-Government services by providing better customer experience.

Unfortunately, many public sectors are still not delighting their customers when delivering their services (Kettinger et al., 2009; Ulfelder, 2001), and this problem needs to be addressed. Customer delight goes beyond customer satisfaction because it focuses on the uncertainties and the need to exceed customer expectations (Chandler, 1989; Crotts et al., 2008). Therefore, in order to delight external customers, governments need to examine what their customers’ needs and expectations are. Internally, however, it is important to understand the degree to which business processes reflect the needs of, and thus enhance the relationship with, individual customers. It is also helpful to know the level of commitment the government has in continuous improvement of service delivery to better satisfy customers’ need.

Customers assess service quality by comparing their expectations and perceptions of quality of services received from service providers (Parasuraman et al., 1985, 1988, 1991). The fundamental principle of customer satisfaction is the used of ‘disconfirmation of expectations’ paradigm (Oliver, 1980; Oliver et al., 1997), and based on this model, satisfaction is formed by comparing cognitive perceived performance with pre-purchase expectations of goods or services. On one hand, if customer’s perceived performance is lower than his or her expectation (perceived performance < expectations), it will result in negative disconfirmation or disappointment (dissatisfaction); on the other hand, if customer’s perceived performance is higher than his or her expectation (perceived performance > expectations), it will result in positive confirmation or delight (satisfaction). However, if the quality of services or product performs as expected, it will yield moderate satisfaction, indifference, or contentment. Oliver et al. (1997) argue that in customer satisfaction/dissatisfaction (CS/D) literatures, customer delight research is very important, but unfortunately, the research in this area is rather limited, and hence they call for more research to be conducted around this delight category of satisfaction.

**E-GOVERNMENT BENEFITS: ROI VS. ROR**

In CRM, there are two broad categories of E-Government benefits, and they are known as tangible benefits or return on investments (ROI), and intangible benefits or return on relationship...
Osborne and Gaebler (1992) argue that government should move from bureaucratic to entrepreneurial government and increase ROI through improved and cost effective tax and license fees collections. More and more entrepreneurial organisations are moving towards relationship marketing with an expectation of better return on relationship (ROR) through strategic investment in CRM systems. Furthermore, literature reviews on CRM and return on relationship (Gummesson, 2004; Zingale, 1999) show that contemporary researchers have shifted the emphasis from ROI to ROR. Zingale (1999) called such a customer centric CRM approach a focus shift from transaction-based customer to relationship-based customer interactions.

Consultants from Deloitte and Touche (Eggers & Goldsmith, 2004), McKinsey (Baumgarten & Chui, 2009), Butler Group (Davis, 2004), Momentum Research Group (Shutter & Graffenried, 2000) and Accenture (Crook et al., 2003) have used various types of ROI methodologies to measure benefits realised from the use and implementation of E-Government. Eggers and Goldsmith (2004) used a cost savings methodology called ‘Citizen Advantage’ to justify the use of return on investment (ROI-tangible benefits) in calculating citizen savings in terms of direct costs (e.g., petrol and parking costs saved) and indirect costs (e.g., time saved). Increasingly, government starts to measure return on investments (Coffee, 2002) and E-Government has not been exempted from such performance measurement. ‘Citizen ROI benefits’ are tangible and can be measured objectively. They include: (1) saving transaction costs, (2) processing transaction speedily, (3) accessing data at high speed, (4) reducing time spent travelling to government office, (5) decreasing customer queuing time, (6) decreasing face to face interaction, and (7) saving petrol and parking costs. The ROI business model is not obsolete because it is still very much relevant to the government; however, a new trend that moves towards delighting customers will seek a new type of business model. This is where the return on relationship (ROR) model comes into play.

According to Randall and Katseva (2003), return on relationship (ROR) is described as an intangible benefit, and it can be measured by ‘measuring whether relationships produce direct or indirect returns to a company’. Return on relationship is also known as ‘long-term net financial outcome caused by the establishment and maintenance of an organisation’s network of relationships’ (Gummesson, 2002). Improving return on relationship (ROR) will not only satisfy customers but also dazzle them (Zingale, 1999). Some of the identified ROR benefits are as follow: (1) keeping customer’s personal and financial information secured, (2) keeping customer’s data private (privacy issues), (3) making website user-friendly and easy to use, (4) providing an up to date website, (5) providing customer caring and individual attention, (6) providing dependable and reliable service to customers, and (7) encouraging active participation from citizen.

So, between ROI and ROR, which is the primary benefit? A research conducted by Agarwal and Venkatesh (2002) using Microsoft Usability Guidelines (MUG) revealed that: ‘customers are more concerned with the emotions or feelings they experience from the website, whereas the investors or the system designer are more concerned with the return on investment (ROI) of the system they built’. Likewise, Randall and Katseva (2003) also argue that government executives place more emphasis on return on investments (ROI) - cost efficiencies and savings, whereas customers emphasize more on return on relationship (ROR) - customer satisfaction and loyalty. In a customer-company relationship, customers expect value for money, whereas companies expect money in return and also some form of loyalty in the business relationships (Bergeron, 2002). Therefore, in this paper, we argue in line with the literatures (Randall & Katseva, 2003; Agarwal & Venkatesh, 2002; Bergeron, 2002) that service providers rate ROI (tangible) as their primary benefits, whereas customers rate...
ROR (intangible) as their primary benefits. However, ideally if both ROI and ROR benefits are realised, then customers will be delighted. In other words, to be effective, government needs to be efficient; therefore, cost-efficiency (ROI) practices in government should be lauded, as the savings can be used to be more effective in delivering quality of services (ROR) to customers. Since CRM in E-Government concentrates on satisfying the needs and wants of people who use government services, it is important to identify what kind of ROI (direct benefit) and ROR (indirect benefit) to be realised in the satisfaction process. The proposed ROI vs ROR theoretical framework can be used as a CRM tool in managing customer satisfactions in E-Government.

It was from an extensive trawl of the literature that we carried out to identify the ROI, ROR benefits from E-Government services which were then used as basis for developing this matrix. The proposed ROI vs ROR matrix is used to measure customers’ perspectives. However, the matrix does not imply any linear relationship between return on investment (ROI) and return on relationship (ROR). This kind of matrix is similar to Covey’s (1989) matrix of Urgent vs Important, where there is no correlation between ‘Urgent’ and ‘Important’. It is just a framework to classify customers’ experiences when they use E-Government services.

In this research study, ROI (direct benefit) vs ROR (indirect benefit) matrix is developed as a strategic action tool to evaluate customer satisfaction in using Malaysia’s E-Filing service. Within the ROI vs ROR matrix, ROI is plotted along the X-axis and ROR along the Y-axis. As such, four quadrants are created and labelled as: ‘Unhappy’, ‘Compromised’, ‘Happy’, and ‘Delighted’. As mentioned earlier, we argue in line with the literatures (Randall & Katseva, 2003; Agarwal & Venkatesh, 2002; Bergeron, 2002) that customers place more emphasis on return on relationship (ROR) than return on investment (ROI) benefits.

This research serves to assist and guide government in ensuring not only higher return on investments (ROI) but also better return on relationships (ROR). The proposed ROI vs ROR matrix is used to measure customer satisfactions. It is a framework to classify customers’ experiences of using E-Government services into four satisfaction quadrants, and by analysing each of the quadrants represented in the ROI vs ROR matrix, strategic action for each of the quadrants can be easily identified. In the ROI vs ROR matrix (see Figure 1), the colour of quadrant gradually fades from a dark (quadrant A) to light colour (quadrant D); a darker colour gradient indicates more important strategic focus area, which needs further action to improve customer satisfaction.

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**Figure 1.** ROI vs ROR matrix

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Quadrant A: Very Important Strategic Focus Area

A customer who experiences low ROI and low ROR benefit realisations will be unhappy and he or she risks abandoning or criticizing the organisation’s services. The organisation needs to concentrate here and listen to customers’ needs in order to satisfy them.

Quadrant B: Important Strategic Focus Area

A customer who experiences high ROI and low ROR benefit realisations will feel compromised. This area needs attention because customers feel that they are being subjected to conditions, and they are not getting their primary ROR benefit.

Quadrant C: Lesser Important Strategic Focus Area

A customer who experiences low ROI and high ROR benefit realisations will be happy, but there are still gaps that can be identified to delight a customer. Therefore, in order to delight customers, government needs to look into these areas to make sure that ROI benefits are realised by customers.

Quadrant D: Well Done and Keep on Delighting

A customer who experiences high ROI and high ROR benefit realisations will be delighted and such customer is the source of organisation’s success. Ideally, all successful organisations should keep their customers delighted.

METHODOLOGY AND DATA COLLECTION

In this study, an interpretive methodology was applied to collect respondent’s data that was socially constructed through their own perceptions of that reality (Guba & Lincoln, 2005). In other words, the data from this research was obtained using unobtrusive observations technique. According to Mann and Stewart (2005), unobtrusive observation is like ‘lurking’ in a way unseen by the others in online environment. Because an unobtrusive observer can find data that is posted by online users in digital archives, he or she is not conditioned to be at the ‘data-generation’ stage (Snee, 2008; Hewson et al., 2003). Snee (2008) asserts that in an online environment, content is already produced and unobtrusive researchers can easily access and gather the data. Also, in an online environment, Seymour (2001) argues that online users or respondents are not constrained by place and time as the respondents have the options to choose when and how to answer those questions. Online users who responded from home will have more privacy and hence they will feel more convenience, relax, and less intrusive compare to offline research methods (Schillewaert & Meulmeester, 2005). Consequently, online respondents’ opinions could be free from any restrictions or pressures that are generated through the usual face to face interactions.

Empirical data, especially customer experiences in using E-Filing service that can be seen from archives, were collected from three channels, namely, online community, blogs and online newspapers. The first channel that we looked at was the Malaysia’s self-funded Subang Jaya E-Communities Portal that started its operation in 1999. It had successfully established itself as a knowledge-based community with grass-roots democracy. As of 13th March 2012, the E-Communities boasted a total of 17,653 users and currently its discussion forum has generated 29,195 threads and 514,019 posts. Before deciding to use this online community as point of reference, keywords such as E-Filing, online filing, and online tax were used in the search textbox on the website to look for E-Filing related postings. One of the threaded discussions that was actively discussed by communities in this forum was E-Filing activity; therefore, USJ forum at http://www.usj.com.my was used to identify customer experiences in using E-Filing service. Online community members can visit and re-visit the site which in turn enables them to extend their discussions or to make clear their views on a particular topic.
over time (Seymour, 2001). The second channel that we looked at was blog activities written by Malaysians. Some Malaysian bloggers wrote about their personal daily experiences in online journals (or blogs); therefore, we saw these as an opportunity to examine their experiences in the use of E-Filing services using Blog Search, a unique and powerful search facility that was launched in September 2005 by Google to enable users to search for unique keywords in blog articles. This method offers social scientists an opportunity for innovative research by using blog search facility at http://blogsearch.google.com to search targeted Malaysian bloggers who have written about their personal experiences while using E-Filing service. The latter online research method is very new, and it proves to be very useful in the search for bloggers’ experiences in using E-Filing service. As for the third channel, an on-going data collection from online newspaper archives was conducted. We searched specifically for citizens’ experiences and personal opinions about Malaysia E-Filing service via http://www.thestar.com.my/website. One of the advantages of online data collection is that data can be immediately viewed and transferred to word documents, which can then be queried or analysed in the data analysis stage. As a result, it helps to reduce time and cost spent in transcribing and collecting the data (Schillewaert & Meulemeester, 2005; Duffy et al., 2005; Seymour, 2001).

Once the data had been collected, content analysis technique, which analyses text data, was used to categorise E-Filing customer experiences into four different categories of satisfaction ranging from delighted, happy, compromised and unhappy that were listed in the ROI vs ROR matrix. The classifications of customer experiences do offer valuable reflections about the quality of E-Filing service offered by Inland Revenue Board (IRB) Malaysia.

**FINDINGS**

In this section, research findings in terms of customers’ experiences and subsequent classification of customer satisfaction into four categories will be presented. As such, areas of E-Government services that need improvement can be strategically identified.

**Quadrant A: Unhappy (Very Important Strategic Focus Area)**

In quadrant A, there are quite a number of issues being raised by the E-Filing customers, and they are unhappy when their needs are not met and the quality of services or products is below expectation. Thus it prompts for strategic actions to improve E-Filing systems to increase customer satisfaction.

Malaysiakini.com published a letter from NKV, a concerned citizen, who complained about the level of service quality from the IRB. He said:

_I went to Inland Revenue Board office at Kelana Jaya in Selangor to submit my EA form, but apparently they don’t accept that anymore nor will they stamp your copy for you [low ROR: due to unhelpful staff]. Surely is it the duty of IRB to facilitate the submission of the tax forms? Why talk about E-Filing when a good system as previously practiced is being changed by some short-sighted officials? I wasted so much time, petrol and parking [low ROI: waste of time and money] just drive to Kelana Jaya and not achieved anything except get irritated and flabbergasted._

Likewise, PJS (from usj.com.my forum) said that:

_They have a counter at Summit USJ. I got my digital PIN from there last week [low ROI: time wasted], yet to try to download the forms and digest on online, not sure of the steps as the instructions were in Bahasa language, and I became very blurred after reading their instructions [low ROR: language barrier]._

There were issues of slow download speed and culture of blaming users for being incompetent in the use of the system. This was quite apparent when Phillip Wong wrote in his blog (in the blog.thestar.com.my):
The E-Way or the snail way for taxes? It’s tax time again for all of us lesser mortals, and so I dutifully look at my forms and wonder if I could figure out what the tax document means by attempting to access the IRB website to download an English version of the explanatory notes or find some way to make my life easier. In this age of the (supposed) e-this-and-that, I spent an entire hour waiting for the website to load [low ROI: time wasted]. For a broadband user like me, it is eternity in hell! If the IRB wants us all to do E-Filing and all that, something really serious has got to be done with the speed of the webpage load/download [low ROI: accessing speed is low]. Why is it that entities that have a web presence doesn’t take the necessary steps to ensure that its presence is maintained in a dutiful manner? And if for a moment that the webmaster is trying to cover up by saying that nothing’s wrong and blaming the user for being incompetent [low ROR: culture of blaming the users] - think again! You too would be writing this when you are in my position.

Steven Lee (from blog.thestar.com.my) complained about the excessive use of security on the website and also the absurdity of the idea of manually collecting registration slips from the IRB office. He argued that:

There is no need to use security certificates and using them is overdoing security and making E-Filing a cumbersome procedure [low ROR: inconvenience]. It is ridiculous that taxpayers have to collect registration slips from IRB offices [low ROR: wasting time]. Taxpayers use E-Filing to avoid going to IRB offices in the first place. Most cybercafes and many companies do not allow installation of software on their computers. IRB failed to recognize this. Therefore, most people who do E-Filing will be those who own computers at home. Recording MyKad numbers when giving out registration slips to taxpayers should be enough. Why are personal particulars required during registration of security certificates when the information is available by checking MyKad numbers with the National Registration Department? Sending a simple PIN to taxpayers would be sufficient. Combined with the MyKad number, it is a 2-factor authentication process. Anyone who steals the PIN would hardly know the corresponding MyKad number. Even if both the PIN and corresponding MyKad number is known, what is there to gain from it? There are no sensitive information, such as bank account and credit card numbers. Also, whoever that uses E-Filing can be tracked down by their unique IP and MAC addresses. Lastly, security certificates are costly and PIN notifications are cheap.

Another contributor, PJS (from usj.com.my forum) complained about his several futile attempts to file the tax online, and he casted doubt about the system’s availability to process his tax return. He said:

I never get to that confirmation screen when I click ‘Submit’. I tried at least 4-5 times though [low ROR: wasting time]. Could something be wrong with my e-cert or IE or some settings in personal firewall that blocks the sending? Could it be the E-Filing server is too busy? [low ROR: doubt about the system’s availability] Now that I missed the hardcopy deadline, I gotta make sure my E-Filing is completed before 31st May. This kind of technology boo-boo sucks big time! Mad.

Quadrant B: Compromised (Important Strategic Focus Area)

In quadrant B, customers feel that their needs are being compromised by conditions and the quality of services or products is delivered with conditions. This is an important strategic focus area, and it reflects areas where users feel that they are subject to conditions and they are not getting their primary ROR benefits.

PJS (from usj.com.my forum) noted that although he spent little time in filing his tax return, he was still unsure whether he had completed the E-Filing successfully. He said:

I completed my E-Filing in less time than it took to read new postings in usj.com.my. About 30
minutes was all it took [high ROI: fast transaction]. I clicked 'Sign and Submit' button, then nothing happens! Duh! So what now? Will I get an acknowledgement via E-Mail or what? I kept checking my E-Mail, but I didn’t find anything, yet! How do I confirm if my form has reached IRB safe and sound? [low ROR: the user was not sure whether the transaction successfully completed because there was no confirmation].

Sharing the same predicament as ‘PJS’, Denver (from usj.com.my forum) said:

I already filed my taxes through the E-Filing, all from the comfort of my office. It’s quite convenient actually [high ROI: time saved]. And the online form (an enhance PDF file) automatically did all the calculations for me. But I did calculate my tax manually first, and then used the online form to confirm that my calculations were correct. But installing the digitcert was not smooth sailing. I got some ‘Warnings from Windows about the cert. I just pressed ‘Yes’ all the way and finally got the thing to install [low ROR: security problem]. Does anyone know how to back up your digitcert? What if I want to install the cert in my home personal computer? Which file should I transfer? Anyone know?

Jand (from usj.com.my forum) had successfully filed his tax return using Form B, but he was unsure whether he was needed to file other BE forms; hence, he tried to contact IRB, but to no avail:

I’ve already submitted the form B via E-Filing [high ROI: fast]. So how? Do I have to submit again using BE form? I tried calling the IRB, but the lines were too busy; therefore, I sent an E-Mail and got a standard auto-reply [low ROR: unsatisfactory response].

Bennyg (from blog.thestar.com.my) shared his concern about human error in handling his digital information:

On another occasion, I went to the IRB office in Shah Alam to get the digital certificate for E-Filing. It was the only counter at this busy time of the year to have no queue [high ROI: no queue]. After filling up my details, I was given a digital certificate whereupon the counter officer wrote the digital certificate number down on the registration form for data entry later. This form of data transcription is easily prone to mistakes or the registration form could go astray [low ROR: user was fear of human errors in handling his data]. Why can’t the digital certificate have a bar code which can then be immediately scanned? I hope that we are not going to have similar data quality problems with E-Filing as was faced with the MyKad exercise. It would be interesting to see the impact if that happens, and I hope I won’t get fined for late return/payments through no fault of my own (as had happened previously in the manual system). Good IT systems must capture data once and on-the-spot. Otherwise, they are just as good as the manual systems they replaced.

Tohca (from usj.com.my forum) complained about the lack of user friendliness in the E-Filing system:

I have submitted the E-Filing for my tax return successfully [high ROI: successful transaction], with some difficulty. It is certainly not the friendliest software to use [low ROR: not user-friendly], but it is better than the manual way to some extent.

Quadrant C: Happy (Lesser Important Strategic Focus Area)

In quadrant C, it is shown that customers who experience low ROI and high ROR are happy because their needs are met and the quality of services or products is delivered as expected. This is a lesser important strategic focus area. However, IRB still needs to look into gap areas to increase the ROI benefits to delight their customers.
Despite the public sector’s stereotype of delay in handling citizens’ requests, Janelim (from usj.com.my forum) still could collect her E-Filing slip and managed to complete the E-Filing easily. She said:

You gotta go to one of their counters and get a number series [low ROI: time wasted], which is a slip for online E-Filing. With that serial number then only you go online and fill up that assessment form. It is self-tabulation and you will have the actual taxable sum at the bottom. You will get a screen telling you ‘Berjaya’ meaning the process of submission is successful. Print out a copy for your file. We have done it and it’s quite simple [high ROR: user friendly].

PIS (from usj.com.my forum) later wrote:

I checked the digisign cert and it was fine [high ROR: good security]. On my next attempt, I turned off the personal firewall and set the IE security and privacy settings to be low, and tried to submit the same form I filled up on 28th April again, still nothing. Then as a last resort, I thought, perhaps it didn’t want to accept a form dated in the past, so I filled up a fresh new form manually [low ROI: time wasted], and clicked ‘submit’ button. Walla! Done! I got the confirmation slip. So happy now.

Quadrant D: Delighted (Well Done, and Keep on Delighting)

In quadrant D, customers who experience high ROI and ROR will be delighted. Here their needs are not only met, but also exceeded. Quality of services or products delivery exceeds their expectation. These delighted customers are the source of the organisation success and ideally, all successful organisations should keep their customers delighted.

In a report published by The Star newspaper in 2006, a citizen from USJ Subang said that, While he filed his tax using E-Filing this year, he found it fast [high ROI: saves time] and convenient [high ROR: convenient].” Similarly, Mohd Nizam Affundi from Damansara said, “The use of E-Filing was a great government initiative as the citizen can pay tax at their own pace [high ROR: convenient] and time [high ROI: saves time].

Jand (from usj.com.my forum) noted:

Anyway, it’s a good system if more people start filing the returns electronically hence saving petrol, subsidies, parking fees [high ROI: saves cost], less pollution [high ROR: environmentally friendly], paper, ink [high ROI: saves materials and costs], etc.

In the above mentioned classifications of customer satisfaction, ranging from unhappy, compromised, happy to delighted experiences, we managed to identify problems that needs attention in each of the satisfaction quadrants, and proper strategic actions should be taken by the authority to change customer’s satisfaction from undesired (unhappy, compromised) and positive states (happy) to a highly positive state (delight).

DISCUSSIONS ON STRATEGIC FOCUS AREAS

As we can see, the transformation of public service delivery and uptake of E-Government services, especially E-Filing service, are becoming wide spread in most countries around the world and Malaysia is no exception. Implementing a successful E-Filing system is a big challenge for many governments, but it does not hinder government from moving into an online environment. In addition, Internet users are on the rise in Malaysia, and many people are starting to use E-Filing to file their tax returns. If the E-Filing system is implemented properly, with continuous improvements on the system by taking into considerations of customers’ comments and feedbacks, this project will definitely create positive impacts and spill-over effects on other E-Government services in Malaysia. Therefore, here in this section is a summary of strategic focus areas that have been identified.
in quadrant A, B, and C, and it will provide a number of useful findings and recommendations that need IRB’s attention and allocation of resources to delight their customers.

Our findings in quadrant A suggests that customers who experienced low ROI and ROR are unhappy complained about the following issues: (i) technical flaws and usability problems of the website; (ii) lengthy web access time; (iii) overdoing security that can make E-Filing process troublesome; (iv) ridiculous time spent in collecting registration slips from IRB office prior to filing tax online; (v) unfriendly IRB staff in managing their E-Filing requests; (vi) waste of time, petrol and parking fees when transacting with IRB; and (vii) problems with the single ‘Bahasa’ language used on the website. These issues need to be addressed because they are seen as constraints that might impede the use of E-Government services. The findings of Agimo (2003) study, for instance, supports our results and reveals that - usability problems on websites, incomplete information, security and privacy are some of the barriers that inhibit citizens from using E-Government services. Also, Timonen et al. (2003) assert that citizens should be treated as customers and online services should be provided in a more user friendly manner in comparison to traditional method. Citizens should also be encouraged to provide feedbacks to government agencies so that their comments and feedbacks can be collected, transcribed, analysed and acted upon to improve online service delivery.

In quadrant B, however, our findings reveal that compromised customers highlighted that although E-Filing transactions were fast (high ROI), they were uncertain whether they had successfully filed their tax return because there was no confirmation at the end of the transaction (low ROR). One of the customers raised the issue of getting no response from the IRB when they called the government office for help or assistance in filing tax online. Another respondent said that there was still a possibility of human errors when handling and updating digital certificate numbers manually on E-Filing system. For example, when tax payers collected their digital certificate numbers, they were afraid that the IRB staff could mishandle their digital certificate number; it was because some of the IRB staff wrote digital certificate numbers on paper for data entry into the system at later stage. Agimo (2003) argues that it is important that information requests should have a fast turnaround time, and instead of going to the government offices to have their transactions processed in a manual way, it should be easily accessible from agencies’ websites.

One of the happy customers in quadrant C said that despite the problem of customer’s time being wasted (low ROI) when collecting the E-Filing slips from the IRB office, users were still able to complete their E-Filing forms easily (high ROR). Likewise, another user said that although he had to spend a lot of time filling up the forms, he still managed to get it done electronically. According to the user, the E-Filing system has a very good digital certificate security system and that of course will help to increase the level of trust among users. Agimo (2006) concurs that Internet users are getting more cautious about security and privacy of their information when they transact online, and they need guarantee from service providers that their information will be kept private; therefore, online service providers need to assure users that their systems are safe and secure to be used to encourage the uptake of the E-Government services.

From the abovementioned findings, customers in quadrant A had experienced low ROI and ROR benefit realisations and were classified as unhappy customers with negative disconfirmation, which strengthens the ‘disconfirmation’ paradigm by Oliver et al. (1997). In quadrant B, our findings highlighted that when there is a low ROR and high ROI benefit realisations, customers will feel compromised. On the contrary, in quadrant C, our findings revealed that when there is a high ROR and low ROI benefit realisations, customers will be happy. The literatures and findings of other studies (Randall & Katseva, 2003; Agarwal & Venkatesh, 2002; Bergeron, 2002) support our
categorisations of customer experiences into different quadrants of satisfactions.

The analysis of ROI vs ROR matrix, especially by looking at the strategic focus areas highlighted in quadrant A, B and C, reveals the need for better quality of services with greater emphasis on delivering an improved, faster and reliable service. This could be realised through coordinated co-operations and efforts to continuously improve the system to meet customers’ needs and satisfactions. Through these broader participations of stakeholders, where customers provide feedbacks and service providers act on the feedbacks to improvise the system, it will definitely enhance and speed up the provision of better online quality of services in Malaysia. A further recommendation of this study is the clear need to better understand customer needs through the use of Customer Relationship Management (CRM) as strategies to develop a system that is meeting the needs and wants of their customers, or better still exceeds their expectations. In this E-Government study, in which we applied the ROI vs ROR matrix to evaluate E-Filing services, and because we collected the data from online respondents through E-Communities and blogs, it is therefore obvious that the samples collected for the study is limited to people who is computer literate. In other words, although online survey or online unobtrusive observation is very cost-effective, it also has its limitation, such as the samples being selected from a pool of Internet-enabled population. However, the data collected have been useful in the classification of customer experiences into different types of satisfaction categories which enables researchers and IT managers to find areas that need improvements to better satisfy their customers.

CONCLUSION

This research applied qualitative methods to evaluate customer satisfaction in the use of E-Filing service in Malaysia, and three objectives were identified: (1) to demonstrate the use of a tool to evaluate customer satisfaction; (2) to identify categories of customer experiences and categorize them into four quadrants (unhappy, compromised, happy and delighted); and (3) to identify areas that need resource allocations to transform unhappy, compromised and happy customers into delighted customers.

In this paper, we managed to explore the concept of Customer Relationship Management in E-Government, and also classified E-Government benefits into tangible (ROI) and intangible (ROR) categories. We then discussed about the development of the novel ROI vs ROR matrix, as a strategic action tool, to assess customers’ satisfaction in the use of Malaysia E-Filing service. Initially, an extensive trawl of the literature was carried out to identify benefits of E-Government and categories of customer satisfactions, which were then used as a basis for the development of the matrix. An unobtrusive online observation was carried out as a mean to collect data from online community, blogs and electronic newspapers. Using the two dimensions – return on investments and return on relationships - the ROI vs ROR matrix was developed to interpret the data that had been categorised in the satisfaction quadrants. This enabled us to identify strategic focus areas that need attentions and these areas of focus had been clearly highlighted in the findings and discussion sections. We suggest that this tool should be used to assess quality of services of one E-Government service at a time, and by doing so, researchers or practitioners can have a deeper insight of customer experiences in the specific E-Government service. This matrix also can be used to allow constructs or factors that influence the uptake of E-Government services to emerge. Later, these emerging constructs can be listed in Likert scales measurements as fields or attributes to gauge users’ perceptions of importance and expectations attributed to each of the fields. This ROI vs ROR matrix helps service provider to concentrate in Quadrant A, B and C, and prompts for strategic actions in these focus areas, and with these, hopefully, it will improve customer satisfaction.

We managed to create a new theoretical framework that embraces the ROI and ROR concepts to assess customer experiences by
categorizing experiences into different levels of satisfaction. On one hand, designing this new theoretical framework creates additional theoretical value by defining customer satisfaction using concepts such as needs (Bergeron, 2002) and expectations (Edvardsson et al., 1994; Parasuraman et al., 1985, 1988). ROI vs ROR theoretical framework can be used as an alternative to Oliver’s (1980) disconfirmation of expectations paradigm in the evaluation of customer satisfaction. On the other hand, we also provide first-hand empirical evidence by collecting data to prove the validity of the ROI vs ROR matrix. This theoretical framework contributes considerably to the existing body of literature in the field of service quality and CRM. The ROI vs ROR matrix, unlike the usual Likert-scale (e.g., SERVQUAL, SERVPERF, IPA) tools that use quantitative measurements, enables practitioners to evaluate customer experiences qualitatively by categorizing customer satisfaction levels. This means that practitioners can clearly identify areas to improve, in other words, translate findings into strategic action to improve customer experience. Another contribution of this research is to allow emerging constructs resulting from the qualitative research to be used as important factors in quantitative research. We are suggesting that the qualitative ROI vs ROR Matrix and the Likert-scale quantitative SERVQUAL, SERVPERF or IPA evaluation tools should be applied synergistically together to strengthen the usefulness of the empirical findings. Finally, to conclude, the author managed to demonstrate the usefulness of the ROI vs ROR matrix in classifying customer experiences in using E-Filing service in Malaysia and also managed to identify areas of strategic focus, which need allocation of resources. For further research, more empirical social science research using the ROI vs ROR matrix is envisaged to complement the existing quantitative customer satisfaction tools.

REFERENCES


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