Evaluating Social Security Board's Online Contribution Portal and its Success

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Abstract:

This paper studies how effective Social Security Board's Online Portal has been to employers. The "Online Contribution Portal" is web application which allows registered businesses the ability to submit their monthly contributions statement to SSB and facilitates the online payment through participating financial institutions. The online contribution portal provides an electronic version of form Fin15A used by businesses for recording the statement of contributions. This Online Portal is a new measure for the organization as it aims to decrease customers waiting in line to pay and instead have them pay online. This study seeks to study how effective the Online Portal has been for employers as well as Social Security staff that import the data as well as recommendations to improve the system.

Keywords: Social Security Board (SSB), Online Contribution Portal, Fin15A, Online, Effective

Introduction

Management Information Systems (MIS) is the study of people, technology, organizations, and the relationships among them. MIS professionals help firms realize maximum benefit from investment in personnel, equipment, and business processes. MIS is a people-oriented field with an emphasis on service through technology. Businesses use information systems at all levels of operation to collect, process, and store data. Management aggregates and disseminates this data in the form of information needed to carry

out the daily operations of business. Everyone who works in business, from someone who pays the bills to the person who makes employment decisions, uses information systems.

Social Security Board's vision is to provide a system with inclusive, fair and dependable coverage for all beneficiaries involved, cemented on the mission statement where Social Security Board SSB will deliver a customer-centered and financially sustainable Social Security program that provides lifetime coverage to all beneficiaries as well.

In accordance to their mission statement, SSB has launched an online contribution portal that aids registered businesses with monthly online payments through participating online institutions.

The Online Contribution Portal launched by SSB has successfully aided registered customers by reducing time consuming lines to pay personally at respective SSB office branches and has now provided them for accessible online payment availability. In addition, it has assisted staff with flexible importation of data into SSB's data systems.

Literature Review

The most important work done by the Belize Social Security Board is being able to create an Online Contribution Portal which is an online service that allows (1) the submission and validation of the electronic Contribution Statement (FIN15A) and (2) the electronic payment of contributions from the comfort of a customer's office or home in real-time. The main features of this service are to increase the use of online services, to increase accuracy in data entry, to strengthen our workforce productivity and ultimately improve services to customers. The Online Contribution Portal is a web application that requires connection to the internet in order to interact with the system. Data saved on the system can be seen using any major Internet browser. After registering for the service, the Online Contribution Portal can be used immediately without any further configuration. In order to view submitted contribution statements you will need to have a PDF reader.

The researcher who has conducted this Online Contribution Portal is the Belize Social Security Board's Manager. He/she created this research based on how it could impact the entire payment of contributions process by improving the timely processing of contribution payments and submission of statements.

The theoretical structure used is Adaptive Structuration Theory; this theory is formulated by DeSanctis and Poole to study the interaction of groups and organizations with information technology (Greenbaum, 2017). Adaptive structuration theory basically explains the use and effects of technologies in organizations. Therefore, at the Belize Social Security Board they are slowly changing from its traditional way of receiving and making payments manually and holding high hopes that this new system will change the organization for the better. The Belize Social Security Board is now breaking into the technology world by introducing an online contribution portal which is now being used for employers to make payments that aims to make the process easy and hassle free for businesses. For the organization this online contribution portal makes life easier for customers because they can be on vacation, can be anywhere, & they can pay their social security contribution.

Upon introducing the Online Contribution Portal, the researcher had to analyse Customers reaction of changing from the traditional way to now adapting to technology. There are steps that need to be taken in order to correctly use the system. These steps include Registering to use the Online Portal, confirming payments from the bank and importing contributions to an employee's account, which is both done internally. The branch will have the ability to register a business so they can have access to the Online Portal. The business fills out the form and the branch then is required to enter the email and contact name on the Registration dialog. To register a business, the branch will search by business number. To do that enter the business number to register on the search box, and either click the Search button or press the ENTER key to locate the business(Internal Online Business Manager Version 1.1) The grid with the results will be displayed at the bottom, with the particulars of the business. The 'Registration Status' on the grid result indicates to the branch if that particular business has already been given access to the Online Portal or not. When the result is displayed, under the 'Actions' column, click on the blue link button Add. That will bring up the Registration Data Entry Dialog, and only the Contact Name and Email are required. After entering data, click on the 'Create' button. This will then create an email with the temporary password for the

business to use to login on the Online Portal. Under the Finance view, there is an upload file utility, which is to be used to upload all files with transactions from the bank. Those transactions are payments done by the businesses for their Social Security online contributions. The Finance staff gets the file from the bank website, and save it to a text file. After uploading the file, the upload utility will display additional buttons for your action. Click on the 'Preview' button to view all the transactions on the file you will be uploading. When previewing the content, one can either save the list or print if so desire. The import menu is used by the branches to view all the transactions approved by Finance HQ, and are ready for the branches to import contributions into the system, which can be viewed under the IP History in CMS. When on the Import view, the branches will see all statements paid, and can also see the contributions paid for employees for each of those businesses.

In order to achieve maximum efficiency, Employers have to be registered in order to pay online. There are still a number of employers who choose not to register because they lack knowledge of the system or they are quite comfortable in paying over the counter. Another limitation to Social Security's Online Portal is the fact that it does not provide an option for Self Employed personnel to pay online. Social Security hope to add Self-Employed IP'S to the system in the years to come.

Research Model and Hypotheses

The DeLone and McLean model developed is widely used in several other researches in relation to Information Systems. Models are used for efficient structure of information systems in real life (R. Weingart, 2017). The MIS quality is determined by the information content of the data provided for the management decision making.



The model above has been altered to meet the necessities of various information systems over time. DeLone and McLean (2003) state that "quality has three major dimensions: information quality, systems quality and service quality". System Quality includes the characteristics yearned of an IS. These measures are based upon the usability aspects and performance traits of the system that is being assessed. These measures encompass: response time, reliability, functionality and flexibility. Information Quality substantiates the desirable characteristics of the output of an information system. This dimension encompasses measures such as: reliability, timeliness, completeness and presentation, which focus on the quality of information that the system produces and its usefulness for the user. Service Quality is representative of the quality of the support that the users obtain from the internal users of the information system. Measures inclusive of this dimension of quality are: responsiveness, reliability, competence, attitude and accuracy. During 1992

DeLone and McLean had suggested that the dependent variable for information system research is Information System success. The Information System Success Model, later refined in 2003 and 2004 (DeLone & McLean, 1992, 2003, 2004), is one of the most utilized models within information systems literature. DeLone and McLean reconsidered the existing terms of information system success and their respective measures and classified them into six distinct dimensions: System Quality, Information Quality, Use, User Satisfaction, Individual Impact, and Organizational Impact. The IS Success Model was DeLone and McLean's attempt to integrate the aforementioned dimensions into a thorough framework illustrated in Figure 1.



Figure 1: Delone and Mclean Information System Success Model

The modified model measures information system success based on (6) constructs these are as follows:

- 1. perceived usefullness
- 2. perceived ease of use
- 3. percieved behavior control
- 4. subjective norm
- 5. voluntariness
- 6. behavior intention.

DeLone and McLean (2002, 2003) suggest that Information Quality, System Quality, and Service Quality each should be measured separately because they will influence subsequent Use and User Satisfaction. Furthermore, Information Quality is a characteristic of the information system's output, such as accuracy, timeliness, and completeness. Information Quality is evaluated by the user and will affect User Satisfaction and Use which will answer the following:

- H3. Information quality will positively impact user satisfaction.
- H6. Information quality will positively impact use.

System Quality is an important determinant in User Satisfaction and Use. System Quality refers to the technical capacities of an information system, i.e., ease of use, response time, reliability, and availability which will answer the following:

• H2. System quality will positively impact user satisfaction.

• H7. System quality will positively impact use.

Service Quality is the difference between perception and expectations, which is an important variable in success measurement. Previous research usually measures Service Quality with respect to responsiveness, assurance, and empathy. In Social Security's Online Portal System, Service Quality is found to be related to Use and User Satisfaction in the online experience which will answer the following:

- H4. Service quality will positively impact user satisfaction.
- H8. Service quality will positively impact use

Moreover, Use and User Satisfaction are closely interrelated. In a process sense Use must precede User Satisfaction, but in a causal sense positive experience with Use will lead to increased User Satisfaction, and in the same vein, increased User Satisfaction will lead to increased Use which will answer the following:

• H5. Use will positively impact user satisfaction.

DeLone and McLean (2003, 2004) suggest that Net Benefits are the most important success measures as they capture the balance of positive and negative impact. A positive or negative Net Benefit from the user's perspective will reinforce or decrease Use and User Satisfaction. This study focuses on the measurement of the Online Contribution Portal's success from the perspective of the users of the Online Contribution Portal. Therefore, the Net Benefit in this study refers to the users' Perceived Net Benefits evaluation of the Online Contribution Portal. The users may feel that they are not getting any benefits from using the system, or they may feel that the system allows them to save time and money. This will answer the following:

- H9.User satisfaction will positively impact perceived net benefit.
- H10.Use will positively impact perceived net benefit

The hypothesized relationship between Social Security's Online Portal success variables are based on the theoretical and empirical work reported by DeLone and McLean (2003). As they suggest, the success model needs further development and validation before it could serve as a basis for the selection of appropriate IS measures. Accordingly, the study hypothesized the following ten hypotheses tested:

- H1. Complementary technology quality will positively impact system quality.
- H2. System quality will positively impact user satisfaction.
- H3. Information quality will positively impact user satisfaction.
- H4. Service quality will positively impact user satisfaction.
- H5. Use will positively impact user satisfaction.
- H6. Information quality will positively impact use.
- H7. System quality will positively impact use.
- H8. Service quality will positively impact use.
- H9.User satisfaction will positively impact perceived net benefit.
- H10.Use will positively impact perceived net benefit.

Methodology:

The research used a quantitative approach to gather numeric and contextual information from the target population. The researchers used questionnaires in order to measure the efficiency and effectiveness of Social Security's Online Portal Contribution for both internal and external users, which are the employers who make their employee's contribution payments and Social Security's staff. Questionnaires were used to measure the overall success that Social Security's Online Contribution Portal has had with both employers and SSB's staff. Fifteen questionnaires were given to Social Security's staff that directly interacts with the online contribution portal, and fifteen questionnaires were given to the employers. After gathering the information The DeLone and McLean model will be used to evaluate the online contribution portal.

Setting:

The researchers went Social Security Headquarters located in Belmopan and provide the internal users, SSB's staff, with a hardcopy of the questionnaires in order to ensure that the questionnaires were done in a timely fashion; fifteen questionnaires were handed out to internal users. As for the external users, the employers, the researchers decided that it would be more efficient if the questionnaire were also done in the form of an online questionnaire and emailed to the respective business that utilize the online portal contribution; fifteen online questionnaires were handed out to external users. The locations of these businesses will all be from Cayo district located near Belmopan; however it is noteworthy to point out that the research does not focus on the location of the businesses and is strictly focused on evaluating Social Security Board's online contribution portal.

Research Participants:

There were two types of participants in this research, internal and external users. The external users consist of employers with employees who pay their contribution using the online portal contribution. Not all businesses utilize the online portal so out of those businesses that do utilize it, the type of businesses played no factor in this research and neither will the number of employees the business' had; Fifteen external users were chosen, they were chosen because they utilized the online portal and for no other reason. The internal users were chosen from Social Security Board's headquarters in Belmopan, a total of fifteen internal users and they were chosen because they directly interact with the online portal.

Research Design:

The researchers first went to Social Security Board headquarters in Belmopan in order to administer the questionnaires to the internal users first, the researchers stressed that all information would be kept confidential and that it would be strictly for the purpose of the research, all fifteen internal users were acquired for the questionnaire. A researcher who works at Social Security Board acquired a list of names of the businesses that utilize the online contribution portal and their email addresses; the researchers then emailed the chosen businesses the online questionnaire. The fifteen businesses were chosen at random, the type of business or their location did not play a factor in being chosen for the questionnaire, the researchers only looked at those who use the portal. The questionnaire was geared toward identifying the usefulness and level of success the online portal had created. The questions were close ended to facilitate the selection of responses and to avoid unanswered questions.

Construct measurement

To ensure that our research information validity, measurement scales for the quantitative data collection were mainly elicited from previously verified instruments. The Bailey and Person (1983) seven item scale

with some adjustments to fit the specific context of Social Security's Information System. Bailey and Pearson's instrument is the standard instrument in the IS Field, because it has widely accepted, has been tested for reliability and validity by several researchers. The scale was adjusted to meet specific criteria of the Online Portal. Not all Constructs were used as they were irrelevant to the research.

Table 1. The measurement items for questionnaire.		
Construct	Survey Questions	Source
Information & System Quality	 IS 1: The Information System provides information that is exactly what you need IS 2: The Information System provides information you need at the right time IS 3: The Information System provide information that is relevant to your job IS 4: The Information System provides sufficient information IS 5: The Information System provides information that is easy to understand IS 6: The Information System provides up-to-date Information IS 7: The Information System is easy to use. IS 8: The Information System is user-friendly. IS 9: The Information System provides high-speed information access. IS 10: The Information System provides high-speed information access. IS 11: The Information System helps you improve your job performance. 	Bailey and Person (1983) Change et al., (2009)
User Satisfaction	job performance. US 1: Most of the users bring a positive attitude or evaluation towards the Information System function. US 2: You think that the perceived utility about the Information System is high. US 3: The Information System has met your expectations.	Seddon and Yip (1992)
Use	 You are satisfied with the Information System. I could complete the job using the Information System U 1: if there was no one around to tell me what to do as I go. U 2: if I had never used an Information system like it before. U 3: if I had only the information system manuals for reference. U 4: if I had seen someone else using the information system before trying it myself. U 5: if I could call someone for help if I got stuck. U 6: if someone else had helped me get started. U 7: if I had a lot of time to complete the job for which the information system was provided. U 8: if I had just the built-in help facility for assistance. 	Balaban et al., (2013) Rai et al., (2002)
Perceived Net Benefit	PB1: The INFORMATION Technology system helps the organization save cost.	Alshibly,(2011);

 PB 2: In general, I am hesitant to try out new technology. PB 3: Among my peers, I am usually the first to try out new technologies. PB 4: I like to experiment with new technologies. 	Tansley et al, (2001)
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Data Analysis and Results

The purpose of this research is to analyze the effectiveness of the Social Security Board's use of the Online Portal for employers to make contribution payments at the convenience of their home or office. This research was developed from a quantitative point of view. The sample size used for this research was 35, which included users of the Online Portal as well as employees of Social Security Board who uses the information that is generated from the Online Portal:

Primary data: Questionnaires were utilized to obtain data from employers who use the Online Portal. Participants were selected using the accidentally sampling method where each researcher distributed to employers within Belmopan and surrounding areas.

Secondary data: Some employers as well as employees of Social Security Board who uses the information from the Online Portal directly were surveyed and asked questions based on the efficiency and convenience of the System as well as the satisfaction of the system.

Out of the 45 questionnaires that were distributed to employers who uses the Online Portal, only 40 usable
questionnaires were collected, which yield a response rate of 88.88 percent.

Table 2. Characteristics of the respondents		
Characteristics	Number	Percentage
Gender		
Males	15	37.5%
Females	25	62.5%
Working Experiences		
1-2 years	10	25%
3-5 years	4	10%
6-9 years	13	32.5%
>10	13	32.5%
Position in Company		
Manager	15	37.5%
Forman/Supervisor	20	50%
Non-Manager	5	12.5%
Computer Experience		
1-2 years	0	0%
3-5 years	14	35%
6-9 years	6	15%
>10	20	50%

Below are Charts showing the results of the questionnaires collected from the respondents concerning the success of the SSB's Information System. The questions were based on Information & System Quality, Personal Innovativeness, and User Satisfaction.



Figure 2: Position of Respondents

Figure 2 shows the positions of the respondents. 50% of the respondents belonged to a Supervisory role while 37.5% belonged to a Managerial position and 12.5% of the respondents were non-managers. It was important to note the position of our respondents because in many cases it would be the managers who are responsible for the paying of Social Security Contributions. In this case, it was noted that 50% of the respondents were Supervisors and the ones in charge of making payments.





Figure 3 shows the result for the number of respondents who were asked if the information system is user friendly, easy to use and understand and provides up-to-date information. 92.5% of the respondents answered yes and only 7.5% of respondents said no.



Figure 4: Improved Job Performance

Figure 4 reflects the number of respondents who were asked if their job performance were improved. 70% answered yes or showed that their work performance improved while 30% said thought otherwise.



Figure 5: Personal Innovativeness

Figure 5 shows that 97.44% of respondents agree that the information system allows them to save time since they do not have to physically come into the office to make payments.



Figure 6: User Satisfaction

Figure 6 reflects the number of respondents who were asked if they were satisfied with how the System work. 95% answered yes or showed that they were satisfied and only 5% said that they were not.

Discussion, Limitation and Conclusion

Implications

This research was based on Delone and Mclean (2003) update IS success model. The results show that the use of, system quality, services quality, information quality and perceived net benefit are valid measures of the Social Security Online Contribution Portal. Base on the finding the hypothesized relationship between Delone and Mclean (2003) six dimensions were supported in this research. The interdependence of the dimensions with one another was clearly seen. The Delone and Mclean IS Success model illustrates that the objective is to have a high perceived net benefit, at SSB Contribution Portal was very good suggesting that employees and employers loved the idea of an online portal.

This research provides information that is important to the Social Security Board, about the dynamics of the Online contribution portal within their organization. According to the Delone and Mclean model the net perceived benefits is the key to determining IS success as well as the other dimensions are also needed to provide a better understanding of the success of the portal. Information system, system use, user satisfaction, quality system, service quality, improved job performance and personal innovativeness are all contributing factors that influence that perceived net benefits. The results illustrate that all of the dimensions with in the SSB contribution portal has been very receptive and responsive. The user satisfaction would receive the most net benefit because we found out that overall users are grateful for the implementation of this new system.

Limitations

The researchers encountered some limitations one of the main one being respondents were reluctant to participate hence the limited number of respondents. However, we still managed to complete the project.

Conclusion

In our study, we found out that more than 50% of respondents are satisfied with Social Security Board's Online Contribution Portal. They find it very convenient for them to pay in the comfort of their own homes rather than coming into the office and waiting an hour in line for service. We also noted that employees of Social Security Board also use this service as they can sit at their desk and pay. Many employers have given

positive feedback to the research. This research was one with great experience since we obtained a lot of knowledge that we can apply in the future if we want to be entrepreneurs.

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Appendix

Survey Questions

Questionnaire - "Benefits of Social Security Board's Online Portal"

Purpose

This questionnaire asks for information about the effects of Social Security Board's Online Portal which allows employer to pay their employees' contributions online.

Please answer the questions in relation to your company. Your individual responses to the questionnaire will be strictly confidential.

Instructions

This is a survey, not a test; there are no right or wrong answers. Please print in the spaces provided and tick the boxes to mark your answers.

1. Background Information	Answers:
Please enter amount of computer experience you have in years:	
Please indicate the number of years you have been working for this company:	1 2 3 4 5 6 7 8 9 10
Please indicate your gender:	Male 🔲 Female 🗌
Which of the following best describes your position in your company?	Manager 🗌 Forman/Supervisor 🗌 Non-Manager 🗌

Indicate your agreement with each statement by rating it from (1) strongly disagree to (7) strongly agree.

2. Information & System Quality	Disagree
The Information System provides information that is exactly what	
you need	
The Information System provides information you need at the	1 2 3 4 5 6 7
right time	
The Information System provide information that is relevant to	1 2 3 4 5 6 7
your job	
The Information System provides sufficient information	1 2 3 4 5 6 7
The Information System provides information that is easy to	1 2 3 4 5 6 7
understand	
The Information System provides up-to-date Information	
The Information System is easy to use.	
The Information System is user-friendly.	
The Information System provides high-speed information access.	
The Information System provides high-speed information access.	

The Information System helps you improve your job performance.	1 _ 2 _ 3 _ 4 _ 5 _ 6 _ 7
3. Personal Innovativeness with Information Technology	Disagree
The INFORMATION Technology system helps the organization save cost.	1 2 3 4 5 6 7
In general, I am hesitant to try out new technology.	
Among my peers, I am usually the first to try out new	
I like to experiment with new technologies.	

	4. Computer Self-Efficacy Measure	DisagreeAgree
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I COULD COMPLETE THE JOB USING THE INFORMATION SYSTEM...

if there was no one around to tell me what to do as I go.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if I had never used an information system like it before.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if I had only the information system manuals for reference.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if I had seen someone else using the information system before trying it myself.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if I could call someone for help if I got stuck.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if someone else had helped me get started.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if I had a lot of time to complete the job for which the information system was provided.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 🗌
if I had just the built-in help facility for assistance.	

Assess your user satisfaction on the following items by rating them from (1) very poor to (7) outstanding.

5. User Satisfaction	PoorOutstanding
Most of the users bring a positive attitude or evaluation towards the Information System function.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 [
You think that the perceived utility about the Information System is high.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 [
The Information System has met your expectations.	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 [
You are satisfied with the Information System .	1 🗌 2 🗌 3 🗌 4 🗌 5 🗌 6 🗌 7 [

Please return this survey to the person who gave you the form.

Thank you for your participation.