# An Evaluation of the Standard Integrated Government Tax Administration System in the Tax Department

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#### Abstract

Choosing the right information system is vital to the succession of any business or organization. This system is not only used to store data but also to produce different reports. There have been many researches done on information systems over time but knowing the effectiveness of a system is important. The system currently in use at the Income Tax Department is the Standard Integrated Government Tax Administration System (SIGTAS). This is also the system in use at the General Sales Tax Department. In order to get a clear understanding of the system and its effectiveness, we decided to conduct an Applied Research on SIGTAS to determine its effectiveness with the work done at the department.

**Keywords:** information system, Standard Integrated Government Tax Administration System (SIGTAS)

#### Introduction

An information system is an applied research discipline that uses the application of different theories such as computer science, economics and even social sciences to solve issues concerning IT. The importance of defining the Information System's dependent variable cannot be overemphasized. The evaluation of I/S practice, policies, and procedures requires an Information System's success measure against which various strategies can be tested. Without a well-defined dependent variable, much of I/S research is purely speculative (DeLone & McLean, 1992). We have recently accepted the use of interpretive research paradigms, but the resulting research output is still mostly explanatory and, it could be argued, not often

applicable to the solution of problems encountered in research and practice (Peffers, etal, 2007). DeLone and McLean (1992), stated that: "...in searching for an IS success measure, there are nearly as many measures as there are studies" (p. 61). The IS utilized at the Income Tax Department (SIGTAS) has been in place from the 1990's. The functional units of the Standard Integrated Government Tax Administration System are the Income Tax Department and the General Sales Tax Department. Both units fall under the Ministry of Finance portfolio which is currently headed by the Prime Minister of Belize, Hon. Dean Oliver Barrow. The Income Tax Department provides services on business and employee taxation for individual enterprises, partnership, corporations and also employees. These services are provided through online services via their website <a href="https://www.incometaxbelize.gov.bz">www.incometaxbelize.gov.bz</a> or through online payments at the Atlantic Bank Ltd. The supervisors and support staff use of SIGTAS information system to process taxpayer's registration information, tracking of monthly filing and submission of returns and payment plays a major role in the information system's success within the Income tax department.

The study was conducted at the head office of the Income Tax Department in Belize City. It was conducted to determine the effectiveness of the IS being utilized at the department. Our study is based on the Delone and McLean (1992) IS Success Model. This model seeks to provide a comprehensive understanding of an Information System's success through the identification and explanation of the relationships between the six dimensions with an additional two components. These dimensions are System Quality, Complementary Technology Quality, Service Quality, User Satisfaction, Use, Perceived Net Benefit, Information Quality and Computer Self Efficacy. All these dimensions play a vital role when evaluating a company's information system because you are able to determine the success/failure and/or effectiveness of the system in place. MIS has its role and impacts the smooth operation of a company that can be overemphasized. Management information system is very important in the day to day operations because these systems work with people, organizations, technology and relationships among the people in the organization affecting the company (Floropoulos, etal, 2010). When MIS is properly implemented it helps achieve a high level of efficiency and productivity in a company. The revolution of information and communication technology has caused rapid changes in the daily life of people, especially the government.

The main purpose of this research is to determine the effectiveness and efficiency of the Standard Integrated Government Tax Administration System. The use of SIGTAS plays an important role, not only for the Income Tax Department, but also for the government of Belize on a whole. There are many benefits to the use of the system like increased tax collection, compliance, decrease in fraudulent acts and being able to track tax liability which are all highly dependent on the reliability of the information system. Our results indicate that there are strong connections between DeLone and McLean's eight success constructs.

### **Literature Review**

A management information system is a computerized database of financial information organized and programmed in such a way that it produces regular reports on operations for every level of management in a company. The main purpose of the MIS is to give managers feedback about their own performance; top management can monitor the company as a whole. Information displayed by the MIS typically shows "actual" data over against "planned" results and results from a year before; thus it measures progress against goals. (MIS, n.d.). An Effective public sector management relies on the contributions of many people. Each person or agency has specific roles and responsibilities that support the organization in meeting governance and accountability requirements. Crown Agencies Resource Office, & Ministry of Finance. (2019, June 27). The use of a proper Information system is important in all government departments. It allows Public servants, who are task with the everyday goal of meeting customers' needs to achieve the highest level of customer's satisfaction in an efficient and effective manner. The fundamental reason for this literature review is to evaluate the success of the SIGTAS information System as a Customer Management Relationship System, including employee ease of use, at the Belize Income Tax Department.

#### Delone & McLean Model

Researchers from developed countries have delved into IS success and how effective it can be for a particular firm or organization. The information systems success research that is most comprehensive is the 1992 paper by DeLone and McLean (DeLone et al. 1992; McLean et al. 1992). DeLone and McLean later did a follow up research paper "The DeLone and McLean model of information systems success: a ten-year update" refining their previous findings. One of the refined aspects focuses on the user satisfaction which can also be viewed as a customer relationship. (DeLone et al. 2003; McLean et al. 2003)

In order to understand what CRM (Customer Relationship Management), DeLone and McLean used as a guide in their first paper. The model referred to the communications research of Shannon and Weaver which gave a comprehensive look at the technical level of communications which refers to the accuracy and efficiency of the communication system that produces information, the semantic level which refers to the success of the information in conveying the intended meaning, and the effectiveness level which refers to the effect of the information on the receiver. (Shannon et al. 1949; Weaver et al. 1949) These levels: the technical, semantic, and effectiveness is a part of the bedrock that the original DeLone and McLean Model is based on. This brought forth the D&M IS Success Model, which states that "systems quality" measures technical success; "information quality" measures semantic success; and "use, user satisfaction, individual impacts," and "organizational impacts" measure effectiveness success.

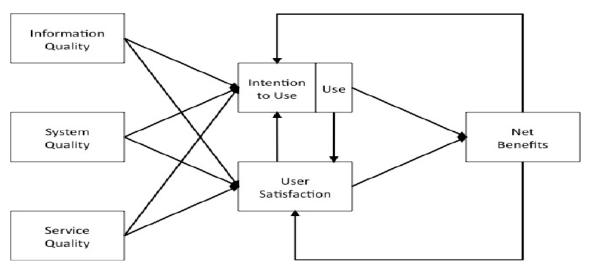


Figure 1. D&M Model of Information system Model

This then poses a question: How effective and efficient is the use of Customer Relationship Management Systems in Belize particularly in the Income Tax Department; a developing country, which is striving toward advancement? In the developing world, and particularly in Belize, no such research exists. This research however intends to survey how effective a customer relationship system is in a business locally in particular, the effectiveness of business's information system. How does the information system facilitate the smooth flow of day to day operations? How does the information system allow the staff members of the Income Tax Department to access information requested by customers? How does it improve the overall running of the Income Tax Department?

The fundamental idea behind all those questions is the concept of service quality which was dubbed SERVQUAL. One body of work that makes this concept clearer is the works of Pitt, Watson, and Kavan. Their research is called Service quality: a measure of information systems effectiveness.

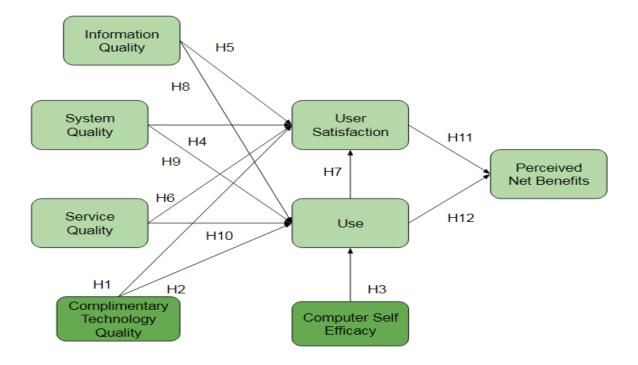
In this research they observed that "commonly used measures of IS effectiveness focus on the products rather than the services of the IS function. Thus, there is a danger that IS researchers will measure IS effectiveness if they do not include in their assessment package a measure of IS service quality" (Pitt et al. 1995; Watson et al. 1995; Kavan et al. 1995). This simply questions if the: "IS has up-to-date hardware and software" (tangible); "I.S. is dependable" (reliability); "IS employees give prompt service to users" (responsiveness); "IS employees have the knowledge to do their job well" (assurance); and "IS has users' best interests at heart" (empathy). SERVQUAL Model, a Quality Management Tools. (2019, June 24).

All of these are linking back to the customer relationship management system success. In a developing country such as Belize how can a customer oriented business like the Income Tax Department gain optimal satisfaction from using their information? The simple answer to that is through the guarantee of user/worker satisfaction and in turn this creates the net benefits the DeLone & McLean model explains.

Belize is considered to be a developing country, and the Government of Belize is trying to implement new and improved ways to help the customer service processes faster and easier through the use of technology. The SIGTAS system is used by the Income Tax Department of Belize to improve the financial payment of refunds and other very vital services faster and easier. This research seeks to focus solely on Income Tax and the roles and responsible it plays in the public sector. The importance of Information Systems in Income Tax Department is very important since it serves as a much needed service to the public the Government of Belize

## **Research Model and Hypothesis**

The supervisors and support staff use of the SIGTAS information system to process taxpayer's registration information, tracking of monthly filing and submission of returns and payment plays a major role in the information system's success within the Income tax department. Thus, the study proposed a comprehensive module of SIGTAS' success (see Fig.1) which suggest the information quality, system quality, complementary technology quality, service quality, users satisfaction, Use, perceived net benefits and the self-efficacy measuring the success indicators of the SIGTAS module. The study was done with the definition of the DeLone & McLean IS success module success dimension, contrast them with SIGTAS specific properties, and merge the different points of view into a revised classification scheme, consequently we include the following success dimensions in our theoretical module:



#### Sample & data collection:

The statistics for the research were gathered from public officers from the Income Tax department in Belize City. Our Research were based on "qualitative Sampling" technique with the advantage of selecting appropriate based on their own judgement. The employee(s) were kindly asked if they would participate in the survey of gathering information as to how well they use SIGTAS information System.

The surveyed were done by using 33 questionnaires in surrounding the validity of the used SIGTAS information

Female participant represented a slightly higher percentage of the complete sample (Approximately 60.6 percento compared to male participants (approximately 39.4 percent. 42.4% of the participant were age 25-35 years. The complete sample were composed of approximately 51.5% educated participant who obtain an associate degree. The participants were mostly skilled with over 15 years working experience at 36.36 Percent.

Gender	Age	Education	Working Experience

Male	39.4%	1 - Less Than 25	12.1%	1st year	0%	1- <5	24.2%
Female	60.6%	2 - From 25 to 35	42.4%	2nd year	3.0%	2 - 5-10	24.2%
Total:	100%	3 - Over 35 to 45	33.3%	3rd year	36.4%	3- 11-15 years	15.15%
		4 - Over 45 to 55	12.1%	4th year	5.5%	4- >15 years	36.4%
		5 - Older than 55	0%	Masters	9.1%	Total:	100%
		Total:	100%	Total:	100%		

Table 1: Survey data collection results

#### **Research Module:**

This is a hypothesize relationship between the SIGTAS information system and how successful it is using the success dimension; it will only be based on the theoretical work reported by DeLone & McLean (2003). The phenomenal masterpiece conveyed by Delone & McLean established the theoretical relationship the SIGTAS information system and the IS success constructs. The following hypotheses were verified:

- H1. Complementary technology quality will positively impact user satisfaction.
- H2. Information quality will positively impact user quality.
- H3. System quality will positively impact user satisfaction.
- H4. Service quality will positively impact user satisfaction.
- H<sub>5</sub>. 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.

- H11. Complementary technology quality will positively impact use.
- H12. Computer self-efficacy will positively Impact use.

#### **Construct Measurement**

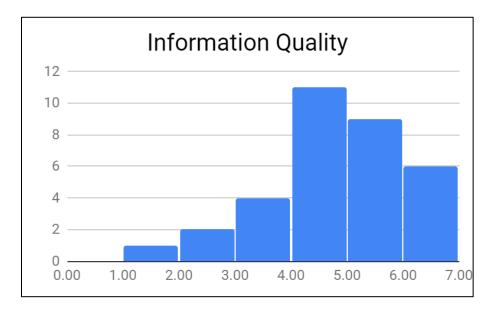
In order to guarantee that legitimate content was produced for the quantitative data aspect of this research, the questions were based on the pragmatic IS system module developed by DeLone & McLean (2003).

	Table 1: Measurement items for questionnaire	
Construct	Survey Questions	Source
Information Quality	IQ1: Income tax SIGTAS Provides information that is exactly what you need. IQ2: Income Tax SIGTAS system provides information you need at the right level. IQ3: Income Tax SIGTAS system provides information that is relevant to your Department. IQ4: Income Tax SIGTAS system provides sufficient information. IQ5: Income tax SIGTAS system provides information that is easy to understand. IQ6: Income tax SIGTAS system provides up-to-date information.	Bailey & Pearson (1993)
System Quality	SQ:1 Income tax SIGTAS system is easy to use. SQ:2 Income tax SIGTAS system is user-friendly. SQ:3 Income tax SIGTAS system provides interactive features between users and the system. SQ:4 Income Tax SIGTAS system provides high- speed information access	Alshibly, (2011)
Complementary Technology Quality	CTQ:1 The software on the device (desktop or laptop) you normally use to access Income Tax SIGTAS system is adequate. CTQ:2 The computer (desktop or laptop) you normally use to access Income Tax SIGTAS system has a fast and reliable internet connection. CTQ:3 The speed of the internet connection used to access SIGTAS is adequate. CTQ:4 The reliability of the internet connection used to access the SISTAG is adequate.	Teece, D.J YIP (1992)
Service Quality	SV:1 The support staff keeps Income Tax SIGTAS system software up to date. SV:2 When users have a problem Income Tax SIGTAS system support staff show a sincere in solving it. SV:3 Income Tax SIGTAS system support respond promptly when users have a problem. SV:4 Income Tax SIGTAS system support staff tell users exactly when services will be performed.	Change et al., (2009)

Users Satisfaction  Use	US:1 You have a positive attitude towards Income Tax SIGTAS system. SU:2 You think that Income Tax SIGTAS system is useful. US:3 Income Tax SIGTAS system has met your expectation. US:4 You are satisfied with Income Tax SIGTAS system. U:1 Your frequency of use of Income Tax SIGTAS system is high. U:2 You depend upon Income Tax SIGTAS system. U:3 You were able to complete a task using Income Tax SIGTAS system even when there, was no one around to tell you what to do. U:4You have the knowledge necessary to use Income Tax SIGTAS system.	Seddon and Yep (1992)  Balalan et al., (2013) Rai et al., (2002)
Perceived Net Benefits	NB:1 Income Tax SIGTAS system helps you improve your job performance. NB:2 Income Tax SIGTAS system helps you save time and costs. NB:3 Income tax SIGTAS system helps you achieve its goals. NB:4 Using Income Tax SIGTAS system improves its assessment and training. NB:5 Using Income Tax SIGTAS system enhances your productivity. NB:6 Overall, using the SIGTAS system enhances recruitment and performance management.	Alshibly, (2011);Tansley et al., (2001)
Computer Self-Efficacy Measure	CSE:1 If there was no one around to tell me what to do as I go. CSE:2 Have you ever used an information system (SIGTAS) like it before. CSE:3 Do you have SIGTAS manuals that are able to reference? CSE:4 Have ever seen someone else using the information system before trying it myself? CSE:5 Are you able to call someone for help if you got stuck? CSE:6 Did someone else had helped me get started with SIGTAS? CSE:7 If I had a lot of time to complete the job for which the SIGTAS was provided. CSE:8 If I had the built-in help facility for assistance while using SIGTAS CSE:9 If someone showed me how to do it first. CSE:10 If I had similar information system before this one to do the same job.	Cassidy, 5., & Eachus,P. (2002)

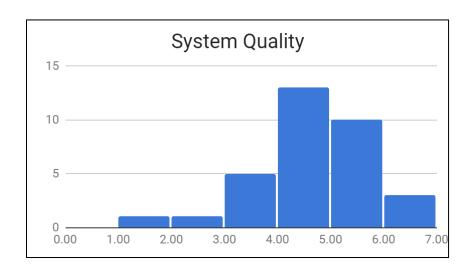
## **Data Analysis**

We did not do a hypothesis testing, our research is applied research due to some limitation being limited time, financing and restrictions. Results were obtained from a sample survey of 30 participants. The data was analyzed and interpreted using Google sheets. The DeLeon & Mclean model with the 6 constructs was used, with the additional of two more constructs was implemented for the Belize context. The additional construct being Computer Self- Efficacy and Complementary Technology Quality provided value and improvements of the model. We will analyze and discuss our results in histograms, and a bar chart from the Income Tax Organization.



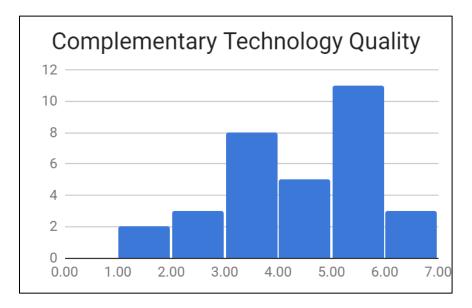
**HISTOGRAM 1: INFORMATION QUALITY** 

Histogram 1 illustrates employees from our sample of thirty, 11 employees are satisfied with the information quality of SIGTAS at their workplace, the second most satisfied shows 9 employees being satisfied and 1 of the employees were the least satisfied.



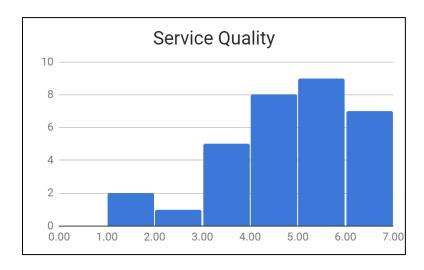
#### **HISTOGRAM 2: SYSTEM QUALITY**

Histogram 2 illustrates the ranges from 1 -2 of the employees has a neutral remain which rate the system quality to be very poor. Ranges from 5-6 out of the thirty rated the system to be successful.



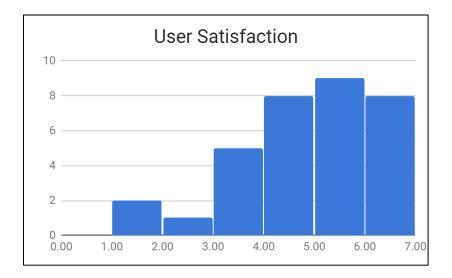
**HISTAGRAM 3: COMPLEMENTARY TECHNOLOGY QUALITY** 

Histogram 3 illustrates that 1 employee does not find the use of SIGTAS effective, with the highest being 11 employees out of the 30 finds the quality of SIGTAS very effective in the organization.



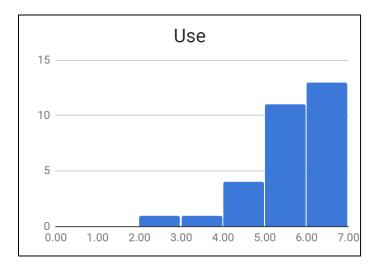
**HISTOGRAM 4: SERVICE QUALITY** 

Histogram 4 illustrates 2 employees rating quality of SIGTAS being unsatisfactory or poor. Ranges from 3-7 respondents rated the service quality very satisfactory and positive.



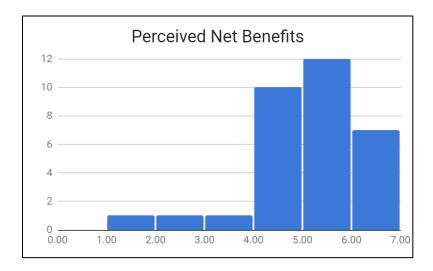
**HISTOMGRAM 5: USER SATISFACTION** 

Histogram 5 illustrates 2 out of 30 respondents are not satisfied with SIGTAS, majority are very satisfied with the IT at the organization.



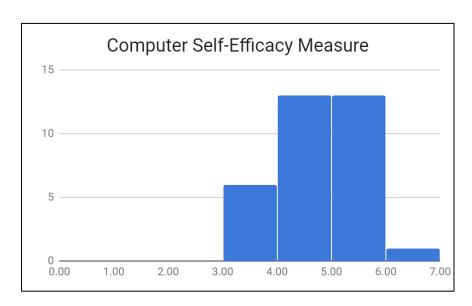
**HISTOGRAM 6: USE** 

Histogram 6 illustrates the level of use employees have on SIGTAS.1 of the employees out of 30 does not use it at all, probability being this person was from a lower department, ranges have 2-3 have a neutral remain, 5 shows more usage of the information system, Majority ranges are from 6-7 which show high usage of the system.



**HISTOGRAM 7: PERCEIVED NET BENEFITS** 

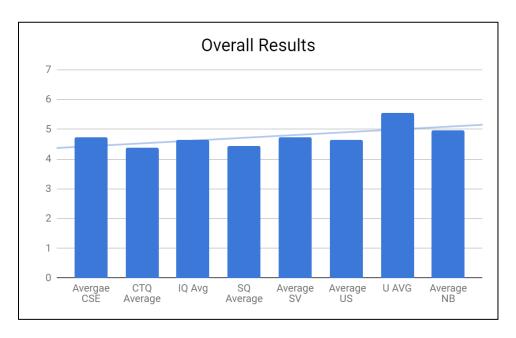
Histogram 7 illustrates employees who perceived net benefits of SIGTAS, ranges from 1-3 have a neutral remain, and 10 respondents have a highly positive feedback, 12 shows the maximum with highly positive feedback as well, range 7 shows well but can be improved.



**HISTOGRAM 8: SELF- EFFICACY MEASURE** 

Histogram 8 illustrates the level of computer self-efficacy on SIGTAS, ranges 1-3 have no response, ranges from 5-6 have a neutral remain which is highly positive on their ability to perform task on SIGTAS.

#### **Discussion**



Bar chart: illustrates the overall results of al constructs.

The average rate Complimentary Self- Efficacy is 4.72, Complementary Technology presents an average rating of 4.37, Information Quality obtains 4.63, System Quality obtains 4.45, Service Quality obtains 4.74, Use Satisfaction obtains 4.65, Use obtain 5.56, and Net Benefit obtains 4.95 average rate. A lot of variances are shown.

The construct of Complementary Technology has the lowest with 4.37 average rating, which needs a lot of improvements. It measures the internet speed, hardware and software. The organization should improve their internet speed, purchase updated computers, or upgrade some of the computers already at the department.

The construct of System Quality has the second lowest with 4.45 average rating, this suggest that the IT technicians might not be doing their job, also the system needs an update or a better hardware for the quality of the system to be more effective.

The construct of Use Satisfaction has the third lowest with 4.65 average rating. This is suggesting that the service quality may be too slow or has a lot of downtime.

The construct of Computer Self-Efficacy has an average rating of 4.72. This indicates that new employees might need training to gain experience for the use of SIGTAS.

The construct of Net Benefit has an average rating of 4.95 which is successful but not too high. It is an average of use and use satisfaction.

#### Conclusion

The research was conducted using the applied method due to limited time and money. Success level of the Information System SIGTAS that had been implemented within the Income Tax Department by Ministry of Finance for the collection of the Government Revenue country wide. To measure the Information System's success, an existing model was created by Delone and Mclean (2003) was selected. The model looks at the different dimensions that mainly contribute to the system implementation. This model would normally be used to judge the level of success of the Information System. Two new sections were also added to the model which are self-efficacy and complimentary technology quality to get more practical data to support the research. These two constructs were added to the research so that the success of the data with SIGTAS user's interactions would have been able to be measured.

From the research it shows different constructs results in different variances. Difference can be explained by various by various response that employees gave from the Department. Based on the model it is perceived net benefits signal out if the Information System is successfully implemented with a 4.65 average and this maybe caused due to lots od down time. We also look at Perceived Net Benefits which has a very high feedback with 12 which shows the maximum. The Perceived Net Benefits are due to quality, user satisfaction and system use. These should be closely monitored by the Department so that they are able to have higher users' satisfaction of SIGTAS. When make Management decisions they should monitor these constructs since employee satisfaction will lead to higher levels of productivity and the Department will thrives.

From the results we can see that Complementary Technology has the lowest with 4.37 average rating which needs a lot of improvements, it measures the internet speed, hardware and software, and the results vary. The Department should improve their internet speed, purchase newer computers, or upgrade some of the computers. System Quality has the second lowest with 4.45 average rating, this suggest that the IT technicians might not be doing their job to attend to clerks when they need assistance, also the system needs an update or a better hardware for the quality of the system to be more effective. Use Satisfaction has the third lowest with 4.65 average rating, service quality may be too slow or has a lot of downtime. Computer Self-Efficacy has an average rating of 4.72, new employees might need training to gain experience for the use of SIGTAS. Net Benefit has an average rating of 4.95 which is successful but not too high. It is an average of use and use satisfaction.

The data is consistent with the result gather that SIGTAS is useful and is at an adequate level of quality, since most of the results during the analysis show the content of the majority with the program.

#### Limitations

The research was successful in locating the necessary construct models that would adequately measure the success of the information system. However, the success didn't come without some limitation. Time and resources were a huge part of developing this research study. Time was limited since we only had a few weeks to develop the research, and there are so many factors that add on to hours of work. Additionally, some limitations that were faced were the limited amount of available papers/studies on the SIGTAS information system. Moreover, another limitation of this research is that it was based on the response of 32 participates. Income Tax Department has more employees that use SIGTAS country wide; but due to time, they were not able to form part of the study. Therefore, the results might not properly represent all the employees that uses the system. As previously mentioned, time allocation was a huge limitation due to our conflicting schedule and individual priorities we all have.

In conclusion, SIGTAS system is widely accepted as being useful and practical for the Income Tax Department. Results show a positive attitude towards the system in the workplace. However, the perceived net benefit is low due to the employees feeling that the system doesn't fully help in all aspects of their job task or enhance their productivity. They note that it is a genuine system; though, it benefits their job in a major way that it would only need improvements. This could be because of software not being updated timely. A recommendation that could aid in increasing the net perceived benefit is to engage the software in a way that the user is able to integrate it in more in their daily task. So not only a few specific tasks but a variety of tasks that gives the user a more meaningful experience in use. They should also update the system and more training should be done so that individuals can be more comfortable while using the program. A satisfied worker in his/her job will lead to them being more productive with their jobs, which benefits the Department in a whole. This study provides a structure for understanding IT management software success. The detailed framework we have developed we developed from theory and empirical research provides a foundation for future research.

#### Reference

- Peffers, K., Tuunanen, T., Rothenberger, M. A., & Chatterjee, S. (2007). A design science research methodology for information systems research. *Journal of management information systems*, *24*(3), 45-77.
- DeLone, William H., and Ephraim R. McLean. "Information systems success: The quest for the dependent variable." *Information systems research* 3.1 (1992): 60-95.
- Delone, William H., and Ephraim R. McLean. "The DeLone and McLean model of information systems success: a ten-year update." *Journal of management information systems* 19.4 (2003): 9-30.
- Shannon, C. E., & Weaver, W. (1949). A Mathematical Model of Communication Urbana.
- Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service quality: a measure of information systems effectiveness. *MIS quarterly*, 173-187.v
- SERVQUAL Model, a Quality Management Tools. (2019, June 24). Retrieved from https://www.toolshero.com/quality-management/servqual-model/
- Petter, S., DeLone, W., & McLean, E. R. (2013). Information systems success: The quest for the independent variables. *Journal of management information systems*, 29(4), 7-62.
- Al-Shibly, H. (2011). Human resources information systems success assessment: An integrative model. Australian Journal of Basic and Applied Sciences, 5(5), 157-169.
- Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. Information systems research, 13(1), 50-69.
- Seddon, P. and Yip, S. K. (1992), "An Empirical Evaluation of User Information Satisfaction (UIS) Measures for Use with General Ledger Account Software," Journal of Information Systems, 6(spring), 75-92.
- Seddon, P. B. (1997). A respecification and extension of the DeLone and McLean model of IS success. Information systems research, 8(3), 240-253.
- Tansley, C., Newell, S., & Williams, H. (2001). Effecting HRM-style practices through an integrated human resource information system: An e-greenfield site? Personnel Review, 30 (3), 351-371.
- Seddon, P. and Yip, S. K. (1992), "An Empirical Evaluation of User Information Satisfaction (UIS) Measures for Use with General Ledger Account Software," Journal of Information Systems, 6(spring), 75-92.
- Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic management journal*, *13*(5), 363-380.
- Bailey, J. E., & Pearson, S. W. (1983). Development of a tool for measuring and analyzing computer user satisfaction. Management science, 29(5), 530-545
- Teece, D. J. (1988). Capturing value from technological innovation: Integration, strategic partnering, and licensing decisions. Interfaces, 18(3), 46-61
- Wang, Y. S. (2008). Assessing e-commerce systems success: a re-specification and validation of the DeLone and McLean model of IS success. Information Systems Journal, 18(5), 529-557.
- Management Information Systems (MIS). (n.d.). Retrieved from https://www.inc.com/encyclopedia/management-information-systems-mis.html
- Crown Agencies Resource Office, & Ministry of Finance. (2019, June 27). Public Sector Management: Roles & Responsibilities. Retrieved from https://www2.gov.bc.ca/gov/content/governments/services-for-government/public-Sector-management/pso-government/public-sector-management-roles-responsibilities
- Floropoulos, J., Spathis, C., Halvatzis, D., & Tsipouridou, M. (2010). Measuring the success of the Greek taxation information system. *International Journal of Information Management*, 30(1), 47-56.

## **Appendices**

## **Questionnaire I – "Effects of SIGTAS" (Income Tax Employees)**

#### **Purpose**

This questionnaire asks for information about experience with SIGTAS services to employees and how effective it is to you as a user. We would like to measure the use of the service and the effective and efficient it has been to employees in completing their daily transactions and its effects on the Department's performance.

Please answer the questions in relation to your personal experience. 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 tick the boxes to mark your answers.

1. Background Information	Answers:	
Please indicate your gender:	Male  Female	
Please indicate your age:	<25	
Please indicate highest education level attained:	PhD Masters Bachelors Associates High School Primary School	
Please indicate your working experience:	<5   5-10   11-15   >15	

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

2. Information Quality	Disagree
IQ1: Income Tax SIGTAS system provides information that is exactly what you need	1
IQ2: : Income Tax SIGTAS system provides information you need at the right time	1 2 3 4 5 6 7
IQ3: Income Tax SIGTAS system provides information that is relevant to your Department needs	1 2 3 4 5 6 7
IQ4: Income Tax SIGTAS system provides sufficient information	$1 \square 2 \square 3 \square 4 \square 5 \square 6 \square 7$
IQ5: Income Tax SIGTAS system provides information that is easy to understand	1 2 3 4 5 6 7
IQ6: : Income Tax SIGTAS system provides up-to-date information	1 2 3 4 5 6 7
	1 2 3 4 5 6 7
3. System Quality	Disagree
SQ1: : Income Tax SIGTAS system is easy to use	1 2 3 4 5 6 7
SQ2: Income Tax SIGTAS system is user-friendly	1 2 3 4 5 6 7
SQ3: Income Tax SIGTAS system provides interactive features between users and the system	1
4. Complementary Technology Quality	Disagree
CTQ1: The computer (desktop or laptop) you normally use to access: Income Tax SIGTAS system is adequate	1
CTQ2: The computer (desktop or laptop) you normally use to access: Income Tax SIGTAS system has a fast and reliable internet connection	$1 \square 2 \square 3 \square 4 \square 5 \square 6 \square 7$

5. Service Quality	Disagree
SV1: The support staff keeps : Income Tax SIGTAS system software up to date	1 2 3 4 5 6 7
SV2: When users have a problem : Income Tax SIGTAS system support staff show a sincere interest in solving it	1
SV3: : Income Tax SIGTAS system support staff respond promptly when users have a problem	1
SV4: : Income Tax SIGTAS system support staff tell users exactly when services will be performed	1
6. User Satisfaction	Disagree
US1: You have a positive attitude towards : Income Tax SIGTAS system	1 2 3 4 5 6 7
US2: You think that : Income Tax SIGTAS system is useful	1 2 3 4 5 6 7
US3: : Income Tax SIGTAS system has met your expectations	1 2 3 4 5 6 7
US4: You are satisfied with : Income Tax SIGTAS system	1
7. Use	Never
U1: Your frequency of use of Income Tax SIGTAS system is high	1
U2: You depend upon Income Tax SIGTAS system	1 2 3 4 5 6 7
U3: You were able to complete a task using Income Tax SIGTAS system even when there was no one around to tell you what to do.	1
U4: You have the knowledge necessary to use Income Tax SIGTAS system.	1 2 3 4 5 6 7
8. Perceived Net Benefits	Never
NB1: Income Tax SIGTAS system helps you improve your financial planning	1 2 3 4 5 6 7
NB2: Income Tax SIGTAS system helps you save time and costs	1 2 3 4 5 6 7
NB3: Income Tax SIGTAS system helps you achieve your financial goals	1 2 3 4 5 6 7
NB4: Using Income Tax SIGTAS system improves your financial budgeting	1 2 3 4 5 6 7
NB5: Overall, using Income Tax SIGTAS system enhances your productivity	1 2 3 4 5 6 7

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

Thank you for your participation.