Measuring the success of Belize Water Services' Information System (SAGE 300) at the Belize City Branch

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Abstract

Can SAGE 300 ERP be implemented successfully to help the organization develop efficiently? Generally, employees in Belize often lack access to proper training whenever investing in an information system, in result produce lower quality of work, and therefore limit employers to offer promotions. Utilizing information systems can help the company to achieve their goals, improve operational excellence and decision making within their departments to provide the best service for their customers. How best to utilize these resources depends on the training and experience the employees have about the system. The first method we took was to collect primary data from the company about the enterprise system benefits. Secondly, analyzing information systems' success in developing countries. Finally, the paper discusses the overall success of the ERP in order to achieve competitive advantage in terms of efficiency and productivity in the organization.

Keywords: Information System success, competitive advantage, efficiency, developing countries, organization, operational excellence,

Introduction

BWS is the water and sewerage utility for the country of Belize, serving the larger municipal areas of the country. BWS currently serves approximately 44,000 customers with a total average water demand of some 150 million US gallons per month. Over 60% of the water supplied is produced using conventional water treatment processes with rivers as its sources. Satellite water wells are used for the majority of the other water systems. In San Pedro, BWS distributes water which has been treated by Reverse Osmosis, the conversion of sea water to drinking water. Since 2001, BWS has increased its investment in Assets and implemented improved procedures and controls to increase its efficiency.

The purpose of this project is to show how Management information systems are used in various establishments. In this paper you will be able to learn about the information system used at one of Belize's National utility sectors; Belize Water Services. Their new information system is a business management software initially called "Peachtree Accounting" but now known as SAGE 300. It is used by large organizations, primarily for accounting purposes. At BWS, SAGE 300 is used by four departments: Accounting, Stores, Technical services and Engineering. So SAGE's features accommodate information for each department.

The powerful financial tools of Sage 300 helps Belize Water Services to confidently manage their company's complex finances and remain compliant with government regulations. Its' features include full multi-currency capability, powerful bank reconciliation and tax reporting, flexible transaction processing options, powerful management of fiscal periods and informative dashboards for analytical reporting. Sage 300 Core Accounting modules help businesses succeed by accurately presenting valuable financial information in a clear, understandable format.

Our group will be analyzing how efficient and successful this system will be for them to accomplish their mission and vision. This will be done by researching why Belize Water Services implemented this system and what are the benefits they are experiencing now. Therefore, we will conduct quantitative research by developing questionnaires to gather information from the internal unit at Belize Water Services. We will be using tables, charts and any other formats to properly display the analysis of the data collected.

Literature Review

The main purpose of this literature review is evaluating the success and failures of ERP systems in develop countries and how Sage 300 ERP used by BWS compatible with the constructs developed by Delone and McLean and other researchers.

ERP system is defined by researchers as information Systems packages that gather, compile and store all information and information based processes use within different levels of the organization (Kumar, 2000). These enterprise system allow many users ranging from the clerks to directors with application that performs different functions and

capabilities within an organization, however these systems do not only makes the business process operate efficiently but these are costly investments in terms of money ,time and makes the flow of information more effective. Even though, many organizations around the world invest heavily in enterprise systems attempt to measure their success has been few. (e.g., Baer 1999; Davis 1989; Deloitte Consulting 2000; Knowles et al. 2000; Sedera et al. 2001; Shang and Seddon 2000). The impacts resulting from ES are arguably difficult to measure (Baer 1999; Davis 1989; Deloitte Consulting 2000; Knowles et al. 2000; Sedera et al. 2001

Models and Measures of IS Success Research assessing the success of information systems has been ongoing for nearly three decades (e.g., King and Rodriguez 1978; Matlin 1979; Myers et al. 1997; Rolefson 1978) Guy G. Gable, Darshana Sedera, and Taizan Chan, however the approach and the scope use to evaluate the IS success have varied greatly and thus stating that each IS different from the other and making comparison difficult.

The most widely used framework is the Delone and McLean (1992) IS success model (Heo and Han 2002; Myers et al. 1997). DeLone and McLean proposed an IS success model that greatly reflect the combination of reported individual measures by work of Shannon and Weaver (1949) and Mason (1978).this model is used to measure how these construct are greatly connected in order to provide the end result for any organization which is success. The six IS success constructs are: (1) system quality, (2) information quality, (3) use, (4) user satisfaction, (5) individual impact, and (6) organizational impact. Researcher have tested these construct and found that they provide valid results. Failure of information systems continue to be a problem in developing countries. According to research there are numerous reason why information system failed. First of all organizations most time fail to do a thorough research about the systems that wish best suited for their organization, they fail to get all relevant information (Bhatti, 2005; Syed Iftikhar, 2008) and because of this they customize these system without unlocking these to its full potential and comes up with unrealistic expectation (Zhang, 2002; Syed Iftikhar, 2008).The need for changing current business process is very important (Wood, 2010; Zhang, 2002; Singh, 2009). Studies shown that there is a lack of top management support and lack of users involvement, (Huang, 2010; Vineets, 2006; Wallace, 2004).

Moreover there is a lack of education and training about these systems. (Zhang, 2002; Bhatti, 2005) Which contributes to user's resistance to learning. Due to organization lack of commitment that slows down the implementation process (Zhang, 2002).additionally organization due not input accurate information in system which contributes to a system failure (Vinteets, 2006 as well as organizations fail to do a proper budget of the cost and time needed to implement these system which cause a delay and over budget for most firms Lindley, 2008; Francoise, 2009; Holland, 1999; Parr, 2000). And most importantly they fail to manage c cultural issues are important factors in the success of implementation. (Motwani, 2005).
Additionally, Social and technical problems concerning implementing of ERP are also factors that are widely scrutinized (Ramayah, 2007). Both technical and non-technical i.e. (social aspects of people and society) and (technical aspects of software and technology) issues are the common causes of failure that are needed to be examined
IS design and implementation features are widely examined and discussed also contributes to this problem.

According to researchers there is evidence that research about problems that can be face during ERP implementation is minimal and even lacking (Ramayah, 2007 the implementation of ERP system is a complex and costly activity (Magnusson, 2004; Markus, 2000). The factors affecting ERP success must be studied carefully and in-depth since these are important in a successful ERP implementation. As noted before factors that affects the success of an ERP implementation are critical success factors. Critical Success Factors (CSF) are scenarios that are needed to be fulfilled for ensuring success of a system (Poon, 2000).

ERP success in developing countries

In earlier studies of ES benefits by Deloitte Consulting's (1998) study of 85 global companies, reported tangible and intangible benefits by these firm with the implementation of these system. The Tangible benefits of these firms are they saw smooth and efficient flow of business process, and cost saving while intangible benefits such as with new system the business is overall improved, and information is accessible through the cross function of the organization which improve key decision making and get prompt feedback from customer. (Davenport et al. 2002; Ross 1999). Shang and Seddon (2002) compiled and evaluate and classified these benefits from the result of these studies into the five main dimensions: operational, managerial, strategic, infrastructure, and organizational.

Table 1: ES Benefit Dimensions (Shang and Seddon 2002)

Dimension	Benefit Definitions (all consequences of ES use)
Operational benefits	Operational benefits are usually reflected in cost reduction, cycle time reduction, productivity improvement, quality improvement, and improved customer service.
Managerial benefits	Improved management decision-making, e.g., improved allocation and control of organization's resources, monitoring of operations, performance improvement and support for strategic decisions.
Strategic benefits	Support for strategic action such as business growth, alliance, globalization, innovation, product differentiation, and external linkages.
IT Infrastructure benefits	Reduced IT costs, increased capability for quick and economic implementation of new applications, and enablement of greater organizational flexibility.
Organizational benefits	Consequences of ES use that make an organization more focused and cohesive, better at learning, and better at executing its chosen strategies. Evidence of organizational benefits includes increased employee morale and satisfaction, greater employee accountability, and the transformation of users from doers to planners with broadened skills.

Based on recent studies by researchers, these benefits do not occurs immediately after implementation but it varied differently for organization and what one company benefits is not the same for the next (Davenport et al. 2002), however the importance is that organization that invest substantially in these systems are to receive great benefits that will help achieve the overall goal of their organization.

Methodology

Management Information Systems are not limited to software systems, they are the entire set of business processes and resources that are used to pull together information from functional or tactical systems. Data is then presented in a user-friendly and timely manner so that mid and upper-level managers can use it to take the right actions. The entire system is designed so that the company will meet its strategic and tactical goals.

Organizations have multiple functional systems. These usually include sales systems, financial systems, inventory systems, logistic systems and more. MIS combines information from multiple systems. This helps management to better understand their own departments' contributions. The combination of this data, such as sales figures combined with available inventory, help the manager take the appropriate action in order to meet the customer's needs.

The primary function of MIS is to help managers take an action, answer a question or ask the right question. The questions or actions should directly relate to tactical or strategic goals. A sales manager who uses projections from the financial systems to compare with actual sales and determine whether goals will be met. If the target is not going to be met, then the manager and his group can review their past actions and make necessary changes in order to increase sales and meet goals.

The system we are evaluating is an ERP (Enterprise Resource Systems) which combines data used in the entire sales process.

Our system is Sage 300 the group will be analyzing how efficient and successful this system will be for BWS to accomplish their mission and vision. This will be done by researching why Belize Water Services implemented this system and what are the benefits they are experiencing now. Therefore, we will conduct quantitative research by developing questionnaires to gather information from the internal unit at Belize Water Services. We will be using tables, charts and any other formats to properly display the analysis of the data collected.

Theoretical Foundation: Information Systems Success

Information System Success (ISS or IS Success) is a distinct type information system (IS). With the help of previous theoretical foundation pertaining to IS success, this section will be based on. The Delone and Mclean (1992) examined, but did not test, more than 100 experimental papers containing IS success measures or methods between 1981 and 1988 when they tried to assemble the numerous variables associated with the variety of IS success. There was a dispute between Delone and Mclean because there wasn't a lot of importance when calculating input variables like user participation. The effectiveness of IS success couldn't get calculated because there were comparable accuracy. Delone and

Mclean also argues over the major factors of IS success which includes: system quality, information quality which is the quality of the output of the IS, consumption of the output of the IS which is the use, and user satisfaction which is the IS user's response to the IS. Delone and Mclean (1992) established their model by allowing information to be the output of an IS or the message in a communication system. According to Shannon and Weaver (1949) and Mason (1978) drawings, they observed that the effects of information on its users can be judges based on different levels which includes a technical level, a semantic level, or an effectiveness level.

Information quality, system quality, service quality, use and user satisfaction benefit are very important variables for the management information system we are evaluating (Sage 300) because it provides quality information and services to benefit its user satisfaction.

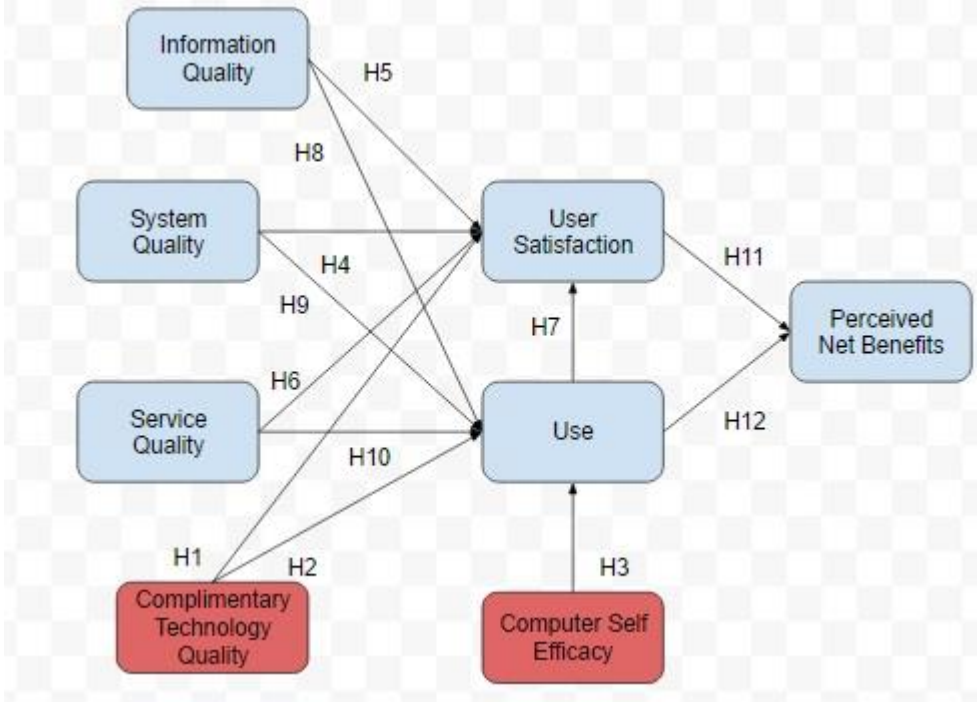

Figure 1: Delone and Mclean Model

Construct measurement

Measurement scales for the quantitative data collection were mainly extracted from Instruments that were used in previous research in order for us to ensure the content validity of the scales. The researchers measured the information quality construct with a six- item scale from Bailey and Person (1983), which was modified to the context of Sage 300. Bailey and Pearson's instrument has become a standard instrument in the IS field

and is widely accepted since it has been tested for reliability and validity by several researchers.

A four –item scale was used and developed from instruments used by Alshibly (2011) and were used to measure the system quality construct. Service quality construct was measured using a five–item scale that was adopted and refined from instruments used by Chang et al (2009). Use was measured by a four-item measure adapted from previous studies (Balaban et al., 2013; Rai et al., 2002). Satisfaction is considered as an evaluative judgment regarding the specific Sage 300 experience and the affective attitude towards Sage 300 by the users who interact directly with the system. This construct was measured with a four-item scale from Seddon and Yip (1992). The perceived benefits defined as an achievement of an organization's objectives for using Sage 300 and achievement of end-user related objectives from using the software. These covers actual benefits adopters receive from using Sage 300. This was operationalized by a six-item scale adopted from (Alshibly, 2011; Tansley et al, 2001). Complementary Technology quality was added because we live in a developing country where the network system is being accessed on and may be unpredictable from a 3- item scale from Teece, D. J. (1988). The Computer Self-Efficacy construct was added to see how it will positively impact the system use by the users, this construct was developed by Compeau, D. R., & Higgins, C. A. (1995). This may affect the success of the system. All the items were measured using a 5- point Likert Scale with anchors ranging from strongly agree (5) to strongly disagree (1). After the measurement variables were established, the face validity of these variables was tested. Please see table 1. In the appendix.

Hypothesis:

H1. Complementary technology quality will positively impact user satisfaction.
H2. Complementary technology quality will positively impact system use.
H3. Computer self-efficacy will positively impact system use.
H4. System quality will positively impact user satisfaction.
H5. Information quality will positively impact user satisfaction.
H6. Service quality will positively impact user satisfaction.
H7. Use will positively impact user satisfaction.
H8. Information quality will positively impact use.
H9. System quality will positively impact use.
H10. Service quality will positively impact use.
H11.User satisfaction will positively impact perceived net benefit.
H12.Use will positively impact perceived net benefit.

Table 2. BWS Measurements from Questionnaire		
Construct	Survey Questions	Source
Information Quality	IQ 1: SAGE 300 provides information that is exactly what you need. IQ 2: SAGE 300 provides information you need at the right time. IQ 3: SAGE 300 provides information that is relevant to your job. IQ 4: SAGE 300 provides sufficient information. IQ 5: SAGE 300 provides information that is easy to understand. IQ 6: SAGE 300 provides up-to-date Information.	Bailey and Person (1983).
System Quality	SQ 1: SAGE 300 is easy to use. SQ 2: SAGE 300 is user-friendly. SQ 3: SAGE 300 provides high-speed information access. SQ 4: SAGE 300 provides interactive features between users and system.	Alshibly, (2011).
Complementary Technology Quality	CTQ 1: The software on the device (desktop computer, laptop, mobile device) used to access SAGE 300 is adequate. CTQ 2: The device hardware (desktop computer, laptop, mobile device) used to access SAGE 300 is adequate. CTQ 3: The device (desktop computer, laptop, mobile device) used to access SAGE 300 has an adequate internet connection in regards to speed and reliability.	Teece, D. J. (1988). Capturing value from technological innovation: Integration, strategic partnering, and licensing decisions. Interfaces, 18(3), 46-61.
Computer Self Efficacy	CSE 1: If there was no one around to tell me what to do as I go. CSE 2: If I had never used an information system like it before. CSE 3: If I had the SAGE 300 manuals for reference. CSE 4: If I had seen someone else using SAGE 300 before trying it myself. CSE 5: If I could call someone for help if I got stuck. CSE 6: If someone else had helped me get started.	Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. MIS quarterly, 189-211.

	CSE 7: If l had a lot of time to complete the job for which SAGE 300 was provided. CSE 8: If I had just the built-in help facility for assistance. CSE 9: If someone showed me how to do it first. CSE 10: If I had used similar information systems before this one to do the same job.	
Service Quality	SQ 1: The support staff keep SAGE 300 software up to date. SQ 2: When users have a problem, SAGE 300 support staff show a sincere interest in solving it. SQ 3: SAGE 300 support staff respond promptly when users have a problem. SQ 4: SAGE 300 support staff tell users exactly when services will be performed.	Chang et al., (2009).
User Satisfaction	US 1: Most of the users bring a positive attitude or evaluation towards SAGE 300's function. US 2: You think that the perceived utility about SAGE 300 is high. US 3: SAGE 300 system has met your expectations. US 4: You are satisfied with SAGE 300.	Seddon and Yip (1992).
Use	U 1: The frequency of use with SAGE 300 is high. U 2: You depend upon SAGE 300. U 3: I was able to complete a task using SAGE 300 even if there was no one around to tell me what to do as I go. U 4: I have the knowledge necessary to use SAGE 300.	Balaban et al., (2013) Rai et al., (2002).
Perceived Net Benefits	NB 1: SAGE 300 helps you improve your job performance. NB 2: SAGE 300 helps the organization save cost. NB 3: SAGE 300 helps the organization achieve its goal. NB 4: Using SAGE 300 improves the assessment and training. NB 5: Using SAGE 300 in job increases my productivity.	Alshibly, (2011); Tansley et al, (2001).

	NB 6: Overall, using SAGE 300 enhances recruitment and performance management.	

Table 2. BWS Measurements from Questionnaire

Sampling and Data Collection:

The data for this research were collected from a sample of Belize Water Services: Accounting, Stores, Technical services and Engineering department. The method of the research sampling is to identify employees that directly uses SAGE 300. Fifteen employees from each department were chosen for the sample. All 60 questionnaires were distributed and collected making the response rate 100%. The 7-point Likert scale was used: strongly agree (7), to strongly disagree (1). The respondents' characteristic as shown in table 3, shows that most of the participants were males with 76.6% while the females comprised of 23.3% only.

Characteristic of Respondent

Gender		Age		Education		Company Experience		N(60)
Male	46=76.6%	1- From 18 to 22	9=15%	1-Primary School	-	1-Under 3 years	30=50%	
Female	14=23.3%	2- From 23 to 27	18=30%	2-High School	-	2- 3 to 5 years	12=20%	
		3- From 28 to 32	22=36%	3-Associate Degree	32=53%	3- 6 to 8 years	10=16%	
		4- From 33 to 37	8=13%	4-Bachelor Degree	26=43%	4- 9 to 11 years	8=13%	
		5- 38 and over	3=5%	5-Master Degree	2=3%	5- 11 and over	-	
				6-Post Graduate	-			
Total	99%	**Total**	99%	**Total**	99%	**Total**	99%	

Table 3

Information Quality		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4	9	15%
5	12	20%
6	28	47%
7	11	18%

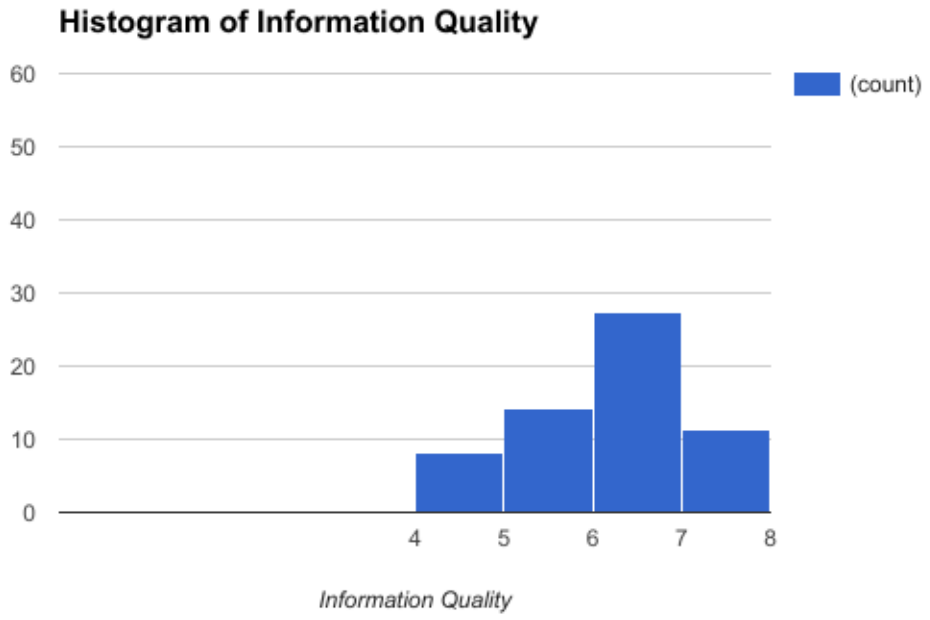

Figure 2

Figure 2: The graph shows that most employees in the fours departments believes that SAGE 300 provides them with the necessary information needed as it relates to up-to-date information, easy to understand, relevant to the job and avaialable at the right time.

System Quality		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4	2	3%
5	14	23%
6	35	58%
7	9	15%

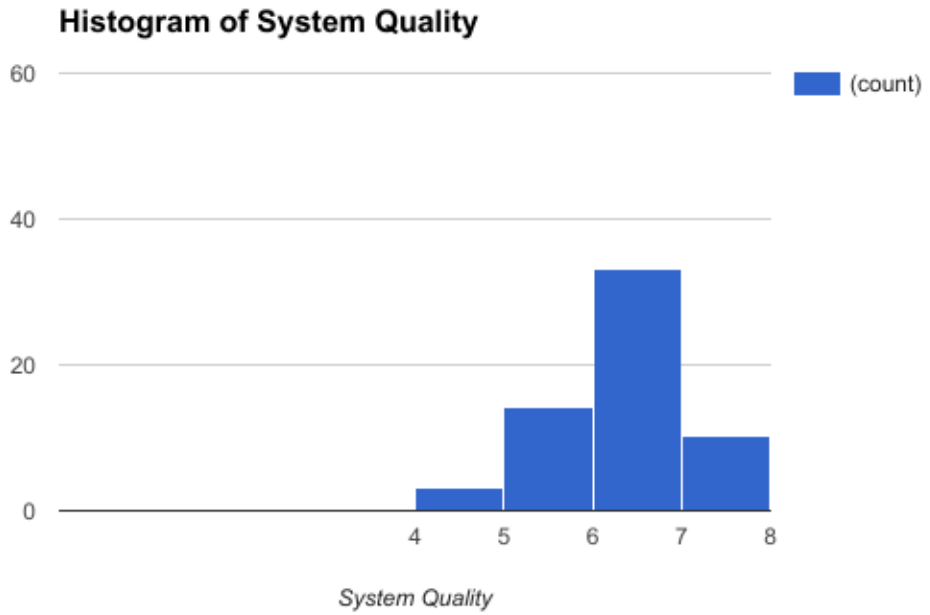

Figure 3

Figure 3: Regarding System Quality, this graph shows that most employees in the four departments are able to use SAGE 300 since the system is user friendly and provides interactive features for the user. Most importantly, employees agree that the system provides high speed access of the information.

Complementary Technology Quality		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4		
5	7	12%
6	18	30%
7	35	58%

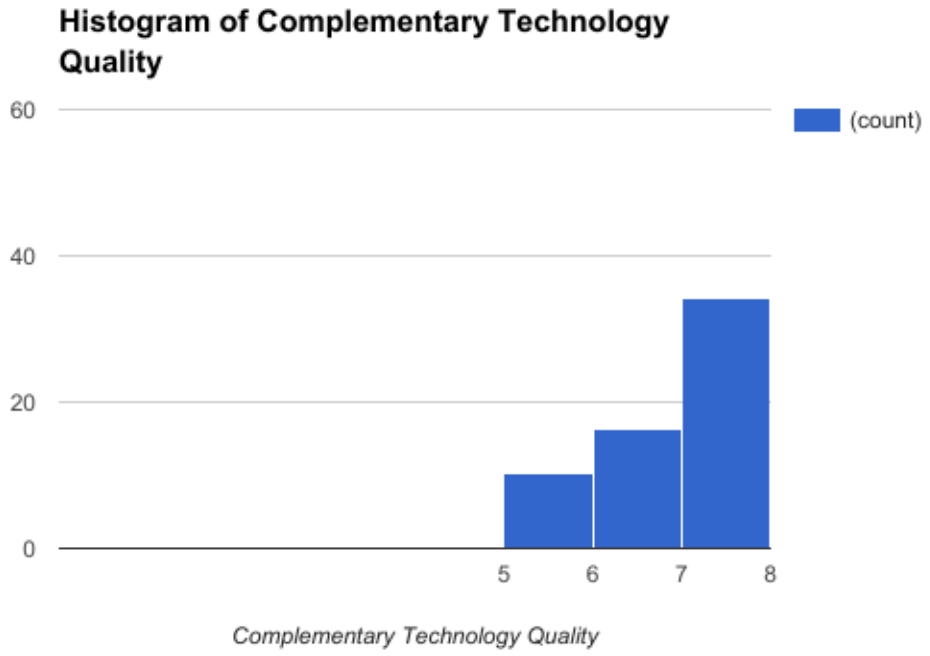

Figure 4

Figure 4: This graph shows that the equipment and service used to access SAGE 300, adequately assists most employees in the four departments.

Computer self-efficacy		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3	2	3%
4	3	5%
5	20	33%
6	35	58%
7		

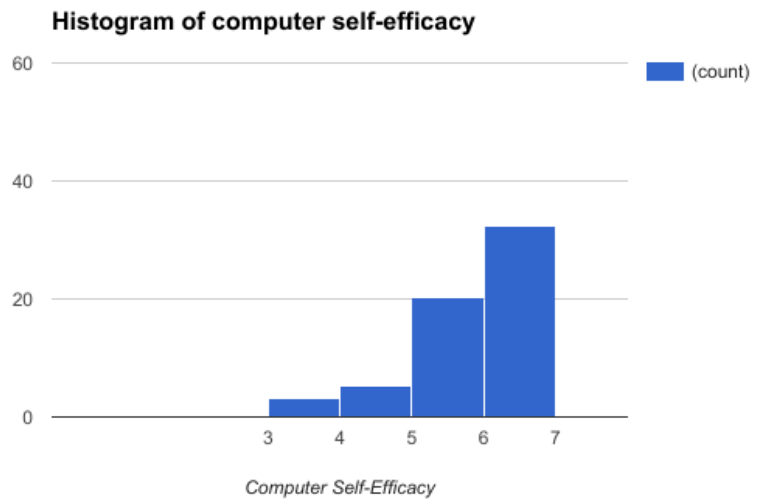

Figure 5

Figure 5: This graph demonstrates that majority of the employees can manage to use SAGE 300 to complete their job without the frequent need of added assistance.

Service Quality		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4	3	5%
5	10	17%
6	9	15%
7	38	63%

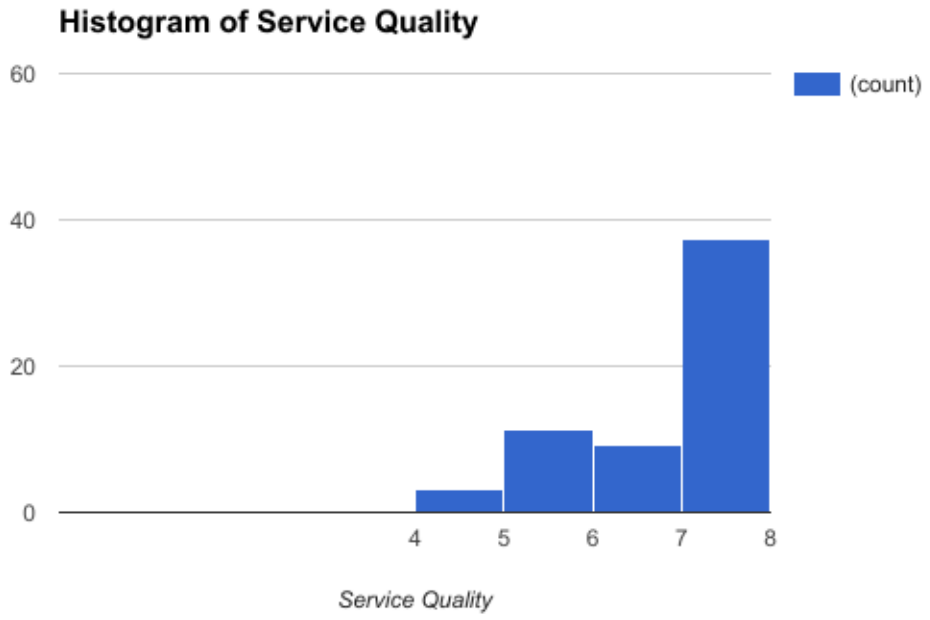

Figure 6

Figure 6: This graph demonstrates that majority of the employees agrees that Belize Water Services support staff maintains SAGE 300 up-to-date, informs the staff when maintenance will be performed, and respond promptly when users encounter a problem. It shows the support staff's best interest for the users.

User Satisfaction		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4		
5	22	36%
6	19	32%
7	19	32%

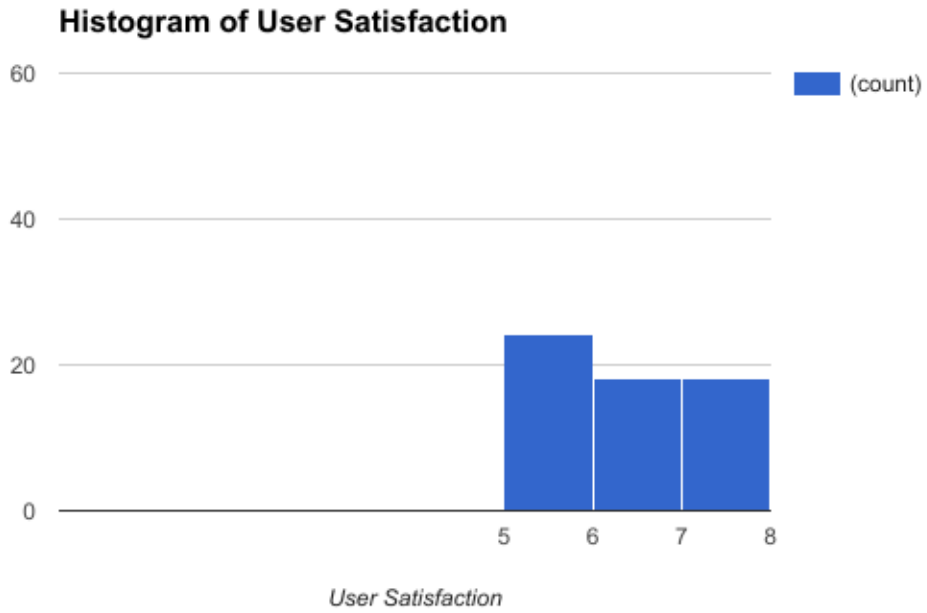

Figure 7

This graph demonstrates that most employees are moderately satisfied with the use of SAGE 300 and has met their expectations. As the employees continue to adjust to the new system in place, a positive evaluation and/attitude towards SAGE 300 will continue to increase. The ratings show a moderate user satisfaction because they are dependent on the support staff to assist them.

Use		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4	2	3%
5	5	8%
6	35	58%
7	18	30%

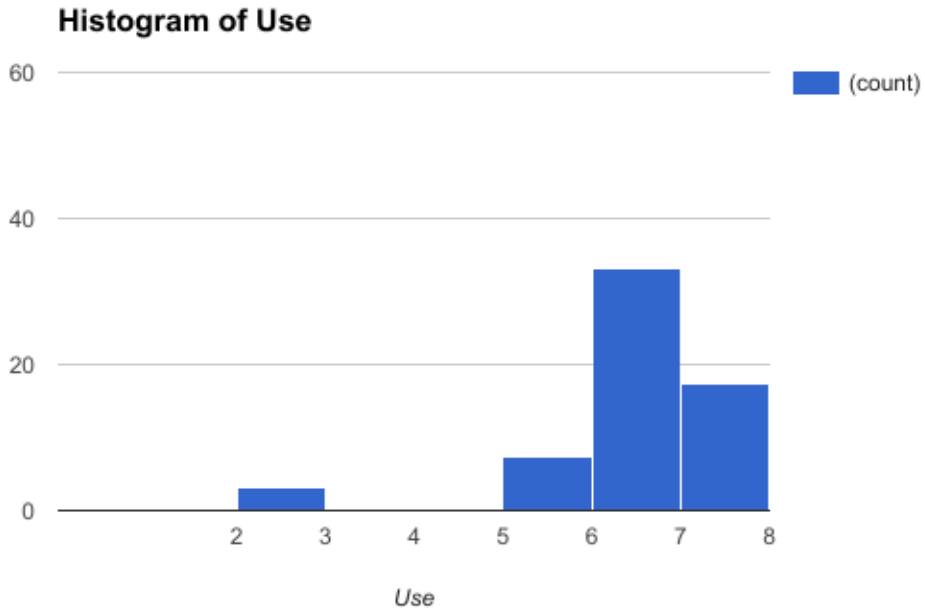

Figure 8

Figure 8: This graph demonstrates that majority of the employees are dependent on SAGE 300 and are capable of using it due to training provided. Only a few employees do not use the SAGE 300 frequently as the others.

Perceived Net Benefits		
Strongly agreed- Strongly disagree	Number of participants	Percentage
1		
2		
3		
4	7	12%
5	1	1%
6	2	3%
7	50	83%

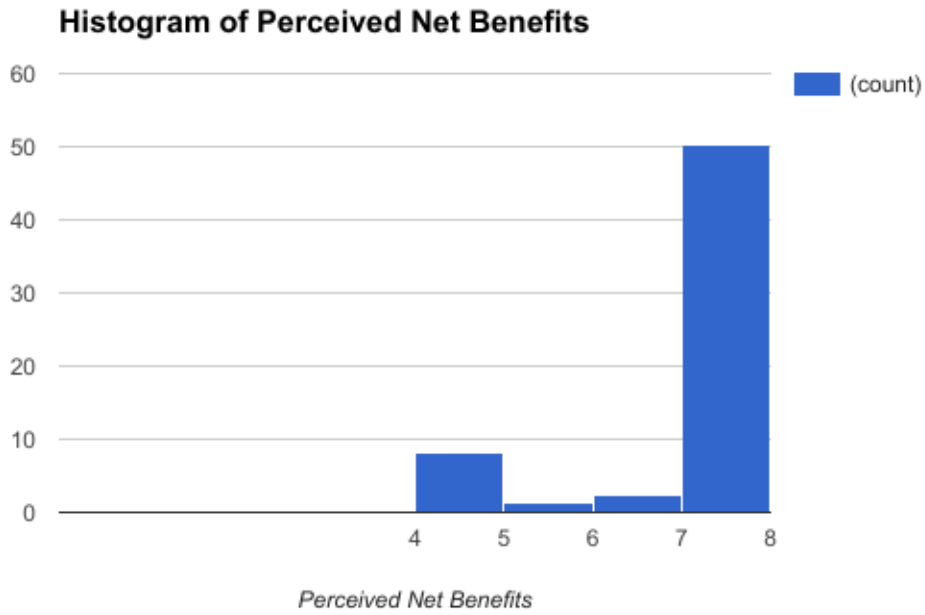

Figure 9

Figure 9: The perceived net benefits of SAGE 300 are highly viewed by the four departmental employees since it has improved their job performance and increased their productivity. They also agree that the system has help Belize Water Services to achieve its goal, reduce cost and improves assessment and training.

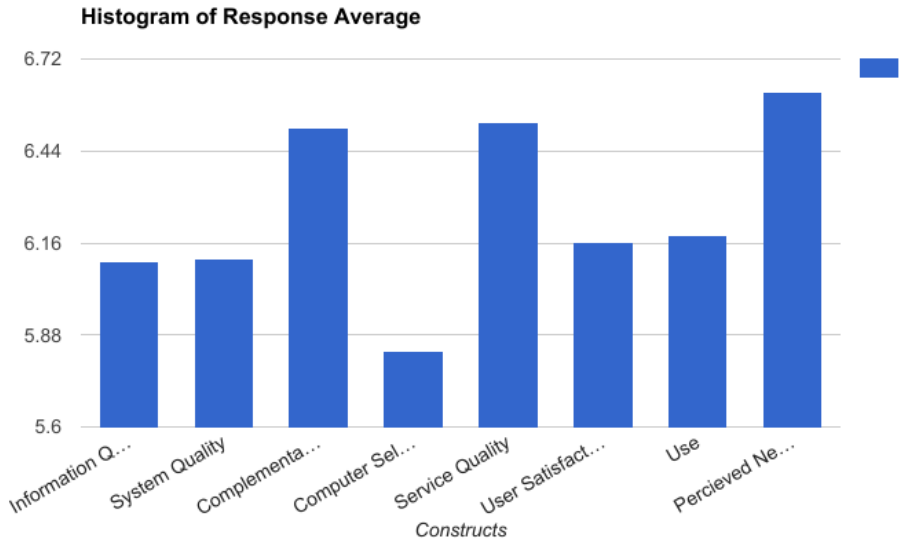

Figure 10

Figure 10: The Response Average graph shows that overall, majority of the employees in the four departments are satisfied with SAGE 300 since it enhances performance management and the system is properly maintained. User satisfaction is dependent on service quality since the support staff assist users with any query.

Discussion, Limitation and Conclusion

Discussion

This information system research was conducted to measure the success rate of Sage 300 at the Belize Water Services Ltd. At the Belize City Branch. As a result of this, a Sage 300 success model was created based on the DeLone and McLean (2003) IS Success Model. Finding shows that construct which are; information quality, system quality, service quality, use, user satisfaction and perceived net benefit are logical means to measure the system's success.

The system's success research yield vital and important data about the system's success. As per the model that was set out showing the perceived net benefits, it is considered to positively measure the achievement anticipated for Sage 300 Success', compared to the other measurements.

The slight variances in the results from the histograms, can be due to the lack of personal interest to use the system in order to function as it should. Also, the amount of participants who have Associate level could suggest the reason for the success because of their knowledge in Computer Science. Therefore, this could be one of the reasons why they are apt in the operations of the information system. There were also approximately 36% of the total participants who were between the age of 28-32 this could also suggest the success of this system is due to the availability of fresh knowledge and willingness to grow and adapt with the system.

Limitations

One main limitation faced in our study was the doubt of getting repeated answers because of the repetitive nature of the instrument used in the survey. Also, our sample was 60 persons, so we understand that they would take their time to answer the instrument since it is not one of their obligations. Despite these limitations, the present study provides valuable insights into the success of the system at BWS. In brief, this study provided a structure to understand the success and explored the impact of both the system quality and user satisfaction, Sage 300's use and perceived net benefits. This provides a foundation for future research. For future research we recommend researchers to test the hypothesis and include a greater portion of the population according as how the system goes expanding in the company.

Conclusion and Implications

In our study, we found out that most of our participants found the information system at BWS to be useful. Generally, the same amount stated that the system was of high quality and that the information is adequate and useful. However, a small percentage of persons may be unhappy with it. It shows that the sample chosen is mostly satisfied with the

information system. Based on the different chart analyses, we concluded that both the information system is being upgraded and the workers from the different department have gotten used to the use of the computer system to do their job efficiently. However, frequent training is required for the employees that are the direct users of the system so that user satisfaction increases.

We also noticed that most participants rated the constructs high, as in the case of the Usage and the Complementary Technology, Information Quality and Service Quality. In this case, we would suggest that BWS continues updating the systems to have the information needed because the staff depends on it to their job more efficiently. Specifically for the service quality, the technicians would have to train as to how to keep software for the systems updated and to ensure that response is prompt when systems go down and face any errors. These suggestions are vital because without the proper functionality of the systems, the daily operations of BWS can be affected. They depend solely on these systems to give efficient service to their customers and the daily operations of the company. Most importantly, if systems are down, it would be very difficult for them to see their vital information in a timely and orderly fashion due to the information haphazard that would arise.

The DeLone and McLean model assisted in the successful analysis of this study. The eight constructs enabled us to see where the information system is at now and how it can be upgraded in the near future.

Some suggestions for future studies on this topic would be the allocation of more time so that researchers can acquire more feedback for better effective results. Also, that we can research other companies using the same system and compare them, so that the researchers can have a better understanding of how effective the information systems are.

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Appendix

Questionnaire I – "Success of SAGE 300 at BWS" (Accounting, Stores, IT and Engineering)

Purpose

This questionnaire asks for information about how SAGE 300 has improved the productivity and helped to achieve the company's goals. Your company recently implemented new features on SAGE 300. We would like to measure the success of this information system at work.

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. Your Survey ID number will be provided.

1. Background Information	Answers:
Please enter your age:	18-22 ☐ 23-27 ☐ 28-32 ☐ 33-37 ☐
Please enter amount of computer experience you have in years:	
Please indicate the number of years you have been working for this company:	Under 3 ☐ 3-5 ☐ 6-8 ☐ 8-10 ☐ 11 and over ☐
Please indicate your gender:	Male ☐ Female ☐
Please indicate highest education level attained:	PhD ☐ Masters ☐ Bachelors ☐ Associates ☐ High Sch☐ Primary Sch☐
Which of the following best describes your position in this company?	Manager ☐ Supervisor ☐ Non Manager ☐

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

2 Information Quality	Disagree ----------
SAGE 300 provides information that is exactly what you	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides information you need at the right time.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides information that is relevant to your	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides sufficient information.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides information that is easy to understand.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides up-to-date Information.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

3. System Quality	Disagree ----------
SAGE 300 is easy to use.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 is user-friendly.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides high-speed information access.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
SAGE 300 provides interactive features between users and system.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

4. Complementary Technology Quality	Disagree ----------
The software on the device (desktop computer, laptop, mobile device) used to access SAGE 300 is adequate.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐
The device hardware (desktop computer, laptop, mobile device) used to access SAGE 300 is adequate.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐
The device (desktop computer, laptop, mobile device) used to access SAGE 300 has an adequate internet connection in regards to speed and reliability.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐

5. Computer Self Efficacy Measure *I COULD COMPLETE THE JOB USING SAG*	Disagree---------- -----Agree
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☐
If I had the SAGE 300 manuals for reference.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
If I had seen someone else using SAGE 300 before trying it	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
If I could call someone for help if I got stuck.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
If someone else had helped me get started.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
If l had a lot of time to complete the job for which SAGE 300 was provided.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐
If I had just the built-in help facility for assistance.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
If someone showed me how to do it first.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
If I had used similar information systems before this one to do the same job.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐

Please answer the following questions using this scale:
Indicate your agreement with each statement by rating it from (1) strongly disagree to (7) strongly agree.

6. Service Quality	Disagree----------
The support staff keep SAGE 300 software up to date.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
When users have a problem, SAGE 300 support staff show a sincere interest in solving it.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐
SAGE 300 support staff respond promptly when users	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
SAGE 300 support staff tell users exactly when services will be performed.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐

7. User Satisfaction	Disagree----------
Most of the users bring a positive attitude or evaluation towards SAGE 300's function.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐
You think that the perceived utility about SAGE 300 is	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
SAGE 300 system has met your expectations.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐
You are satisfied with SAGE 300.	1☐ 2☐ 3☐ 4☐ 5☐ 6☐

8. Use	Disagree----------

The frequency of use with SAGE 300 is high.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
You depend upon SAGE 300.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
I was able to complete a task using SAGE 300 even if there was no one around to tell me what to do as I go.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
I have the knowledge necessary to use SAGE 300.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐

9. Perceived Net Benefits	**Disagree----------**
SAGE 300 helps you improve your job performance.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SAGE 300 helps the organization save cost.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
SAGE 300 helps the organization achieve its goal.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
Using SAGE 300 improves the assessment and training.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
Using SAGE 300 in job increases my productivity.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
Overall, using SAGE 300 enhances recruitment and performance management.	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐

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

Thank you for your participation.