

Evaluating the Success of the Management Information System at Transparent BPO in Belize City

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Abstract

Transparent BPO uses Kronos for a staff of 1,000 plus employees and for over 10 programs. The purpose of Kronos' Information System at Transparent BPO is to balance employee needs with the employer's strategic business goals. This research explored the relationship between Kronos' System usage and how effective it is for a user to determine whether it provides value to the organization. The system should help the company achieve goals such as improved operational excellence and decision making for their various campaigns. Specifically, the system's yield effectiveness in areas of: information quality, system quality, complementary service (mobility and accessibility), service quality, and user and its use. First, data was collected via surveys completed by staff at the organization. Data was transformed into useful information to be analyzed and synthesized. Lastly, after information evaluation, it was observed that an opportunity for improvement in user satisfaction and perceived net benefits exists. The research thus proposes for another in depth research to be conducted for managers/supervisor throughout the ten plus programs. Onus is on the organization to encourage staff awareness/appreciation in learning the purposes of Kronos.

Keywords: information systems, information technology, information quality, and information system success

Introduction

The advent of Management Information Systems (MIS) allows for the collection and storage of data, which is used as a communicative tool for analyzing information in order to monitor operations and make effective business decisions (Weedmark, 2019). Subsequently, the success of a highly effective Information Systems (IS) can have a major impact on corporate strategy and organizational success. Also, the involvement of managers and decision makers in all aspects of information systems is a major factor in its success, including higher profits and lower costs (Rosca, Doina & Banica, Logica & Mirela 2010).

The increase of the information technology era and organizations providing software as a service, it is imperative that organizations throughout the world adapt to the changes. Organizations dependent on information systems to provide their services to their customers are more affected by the success or failures of their information system. Due to their large customer base and the multiple campaigns Transparent BPO conducts at the same time, the need to produce efficient, effective and quality services to their clients consistently is of utmost importance. They therefore utilize Kronos with the goal of providing excellent customer care.

Transparent BPO is the largest nearshore outsourcing contact center in Belize. They design flexible, customizable, brand-boosting nearshore services, call center and business process outsourcing solutions for mid-size and enterprise companies. They underwent a network overhaul in 2016 in order to achieve five-nines reliability. It currently maintains International Private Line connections from their data center in Miami. Due to their commitment to privacy, security and connectivity they were awarded the AICPA on its compliance with the SOC 2 controls following a comprehensive analysis and audit by a certified CPA firm. They also ensure that through their technology solutions they integrate their operational processes so that their team has access to the information they need in order to complete business campaigns for their clients.

Kronos Information System aims to manage employee information, timesheet management, employee's employment record, share new policies and compliance measures (Bersin, 2014). Those are all the right elements to an IS for a massive company such as Transparent BPO.

In user satisfaction, managers who experience these features by using the system are satisfied, however the score reflected a low score since employees who were more dissatisfied mostly answered it. Additionally, the outcome for perceived net benefits according to results has proven to be inefficient with a below average score of 4.9%. However, it is as a result of the instrument being directed to staff rather than supervisor/managers, who are in the position to fulfill those questions. Those will be discussed later in this paper. The primary conclusions of the paper are: More department programs should have been investigated to incorporate more managers' response and additional time would have been needed to conduct a more effective consensus.

The Primary purpose of this study is to identify how effective Kronos' System usage is for users. Shannon and Weaver defined the technical level of communications as the accuracy and efficiency of the communication system that produces information. The semantic level is the success of the information in conveying the intended meaning. The effectiveness level is the effect of the information on the receiver (Journal of Management Information Systems, 2003). In the survey, "systems quality" measures technical success; "information quality" measures semantic success; and "use, user satisfaction, individual impacts," and "organizational impacts" measure effectiveness success (Journal of Management Information Systems, 2003). Although these six dimensions of success are proposed to be interrelated it is important to note user satisfaction and perceived net benefits are primarily the areas of concerns.

Literature Review

Information systems (IS) are a set of interrelated components that collect, process, store, and distribute information that helps the organization in decision making, coordination and control. (Laudon & Laudon) Management information systems combine computer science, management science, operations research and practical orientation with behavioral issues. Four main actors in sociotechnical systems approach are suppliers of hardware and software, business firms, managers and employees and lastly, the organization's environment. (Laudon & Laudon) The purpose of this applied research is to ascertain whether the Management Information System (MIS) Kronos, used by Transparent BPO employees, adds value to the organization.

This review will first analyze and synthesize quality literature methodologically, provide a firm foundation to a research topic, provide a firm foundation to the selection of research methodology and demonstrate that the research contributes something new to the body of knowledge. (Levy & Ellis, 2006) DeLone and McLean conducted an in-depth research on information systems success into a more coherent body of knowledge and to provide guidance for future researchers. (DeLone & McLean, 2003) The DeLone and McLean model of information system success emphasizes six interrelated dimensions of information system success such as: information quality, system quality, service quality, user satisfaction, use and perceived net benefits. For the purpose of this research, two additional dimensions were added, such as: complementary technology quality and computer self-efficacy measure.

In the 21st century, in order for growing businesses to achieve the strategic business goal of survival, it is imperative that they wisely invest and train in the usage of their incorporation of information systems. IS also assists organizations to achieve five other strategic goals such as: operational excellence, new products, services and business models, customer and supplier intimacy, improved decision-making and competitive advantage. (Laudon & Laudon) It is especially for the last reason that organizations choose to invest heavily in IS.

In the research conducted by Winston Lin and Benjamin Shao (1999), there was a positive link between user participation and system success. It also suggested that user participation; user attitudes and user involvement were interrelated. The study confirmed that by encouraging active contribution of user participation in learning about the information systems would lead to a more successful system outcomes. It is therefore important that managers not only pay attention to employees' knowledge of the system but also their attitude towards it. Employees who have a more favorable attitude towards the information system show user satisfaction as having a higher efficacy. It is therefore important, in relation to Transparent BPO with the use of Kronos, to foster an atmosphere that helps employees understand the importance of IS and encourages them to have a positive attitude towards the system. (Lin & Shao, 2000)

The research conducted by DeLone and McLean assumes that the relationships included in the information system model are stable across different organizations. Based on their thirteen hypotheses, the research resulted in proving that system quality and perceived usefulness affects system use and user satisfaction does not. It indicated that system quality affects all aspects of system success and is dependent on user attitude and therefore user satisfaction. (Sabherwal, Jeyaraj, & Chowa, 2006) It is therefore of great importance that upper management take an active role in elevating employee outlook on the organizations IS and ensure they have a collaborative business culture where employees are actively involved in the development of IS. This collaborative environment benefits and improves productivity, quality, innovation, customer service and financial performance.

Research Methodology

Transparent BPO utilizes the Kronos information system. The staff uses it to access employee information, timesheet records, and providing information based on policies.

The improved version of DeLone and McLean (2003) concluded that the Internet applications process works into IS success model and the eight success dimensions. Their improved IS success model can be added to the measurement constraints of the Kronos. Hence, this study recommends an overall model of the Kronos success, which advises that information quality, system quality, service quality, use, user satisfaction, complementary technology quality, computer self-efficacy and perceived net benefits are Kronos success constructs.

Based on the continuous knowledge of the D&M IS success model dimension, it was contrasted with the Kronos specific properties and revised. The following was included in the theoretical model:

- Information quality, which targets the aspects of the Kronos system output and how useful it is for the user's job.
- System quality includes measures of Kronos as a system itself. It recognizes performance, functionality, ease of use, user friendliness and interactive features of the system.
- Service quality focuses on the IT support related to Kronos that is conveyed by the service provider and whether the hardware is properly maintained.
- User satisfaction is the perceptual position to the Kronos in which the employee interacts directly with it.
- The Kronos perceived net benefit is the performance of the firms' purpose for using the Kronos and the success of the end results from using them.
- Use establishes the perceive use of Kronos and all its users.
- Computer Self-Efficacy Measure focuses on whether the user was knowledgeable and confident in using the system.
- Complimentary Technology Measure focuses on whether Transparent BPO has the necessary hardware and internet devices and access to provide effective use of the IS.

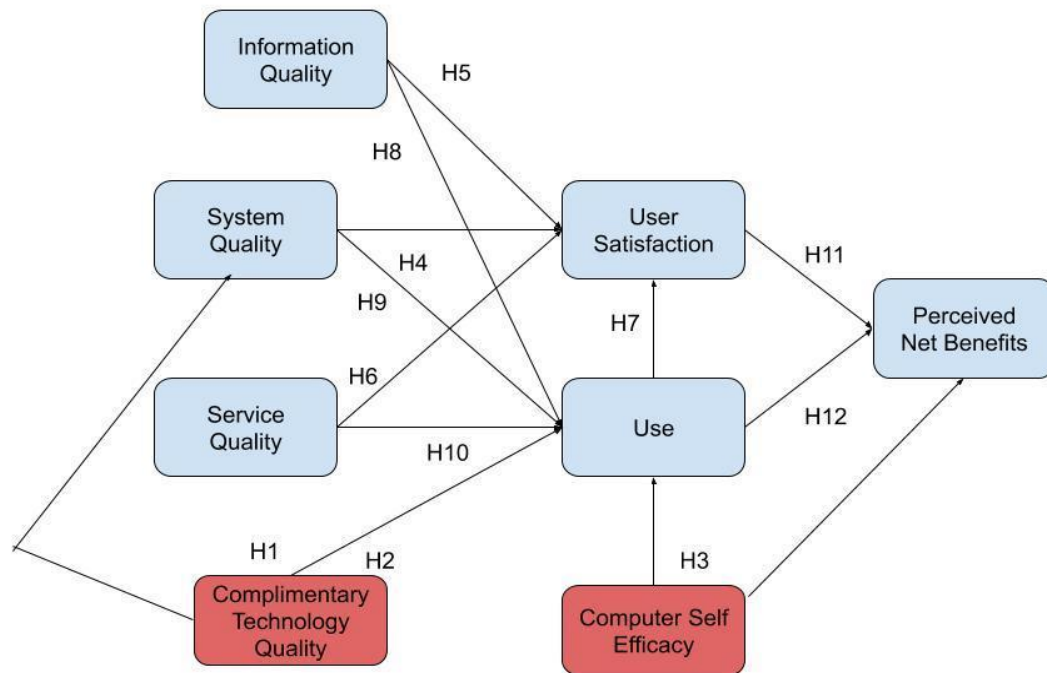


Figure. 1 Delone and McLean Modified Information System Success Model

Figure 1 This is a hypothesized relationship between the Kronos system at Transparent BPO and how successful it is using the DeLone and McLean IS success Model.

Hypothesis

This is a hypothesized relationship between Kronos and Sales force system success and how it is successful using the eight dimensions. It will be based on the theoretical work reported by DeLone and McLean (2003). The following 12 hypothesis were established:

- H1. Information quality will positively impact user satisfaction.
- H2. System quality will positively impact user satisfaction.
- H3. Service quality will positively impact user satisfaction.
- H4. Use will positively impact user satisfaction.
- H5. Information quality will positively impact use.
- H6. System quality will positively impact use.
- H7. Service quality will positively impact use.
- H8. User satisfaction will positively impact perceived net benefit.
- H9. Use will positively impact perceived net benefit.
- H10. Complimentary technology quality will positively impact use.
- H11. Computer self-efficacy will positively impact use.
- H12. Complimentary technology quality will positively impact system quality.
- H13. Computer self-efficacy will positively impact Perceived net benefits.

Description of Participants

The participants were employees from Transparent BPO, Belize City. Transparent BPO is ever expanding and has 3 branches within the city. Research data was collected from employees within Transparent BPO, Cleghorn Street branch who utilize the system to complete their work to be used in decision-making processes by the supervisors and managers.

Population and Size Sample

The population used was from the Cleghorn branch of Transparent BPO from Belize City. All employees were trained on how to use Kronos and were therefore knowledgeable about the information system. These individuals varied in position however they all utilized Kronos to complete their jobs. The information was then transferred to the managers to assist in decision-making business processes. A survey was distributed to a total of thirty employees using the random sampling method.

Instrument

Information was gathered using the DeLone and McLean dimension to determine whether the information system, Kronos, adds value to Transparent BPO. In addition, questionnaires were used to collect information from the employees of the organization. The questionnaire was divided into eight parts with each section requiring employees to depict their use and effectiveness of Kronos.

Construct Measurement

Transparent BPO gave permission to distribute the surveys which was constructed using the model developed by DeLone and McLean Information System Success Model. The measurement was used to evaluate the success of Kronos using the information quality, system quality, complementary technology quality, service quality, user satisfaction, use, perceived net benefit and computer self efficacy measure dimensions. A manager at the organization distributed to employees to complete. Data was collected, analyzed and synthesized into useful information to assist us in the research.

Questions used in the survey were modified for the Kronos information system at Transparent BPO. Information quality was measured using six questions from Bailey and Person (1983). System Quality was measured using four questions from Alshibly (2011). Service Quality is measured using four questions from Chant et. al. (2009). User Satisfaction is measured using four questions sourced from Seddon and Yip (1992). Use was measured using four questions from Balaban et al., (2013) Rai et al., (2002). Perceived Net Benefits was measured using six questions from Alshibly, (2011); Tansley et al., (2001). Complimentary Technology Quality was measured using four questions from Teece, D. J. (1988). Computer Self Efficacy was measured using ten questions from Compeau, D.R., & Higgins, C. A. (1995).

Table 1 illustrates the research constructs and related survey sections used for measurement of each of the constructs.

Construct	Survey Questions	Source
Information Quality	<p>IQ1: The Transparent BPO Information system provides information that is exactly what you need</p> <p>IQ2: The Transparent BPO Information system provides information you need at the right time</p> <p>IQ3: The Transparent BPO Information system provide information that is relevant to your job</p> <p>IQ4: The Transparent BPO Information system provides sufficient information</p> <p>IQ5: The Transparent BPO Information system provides information that is easy to understand</p> <p>IQ6: The Transparent BPO Information system provides up-to-date Information</p>	Bailey and Person (1983)
System Quality	<p>SQ1: Is Transparent BPO information system is easy to use?</p> <p>SQ2: Is Transparent BPO information system user-friendly?</p> <p>SQ3: Is Transparent BPO information system providing high-speed information access?</p> <p>SQ4: Is Transparent BPO information system providing interactive features between users and systems?</p>	Alshibly, (2011)
Service Quality	<p>SV1: The support staff keeps the Kronos Information system software up to date.</p> <p>SV2: When users have a problem, the Kronos Information system support staff shows a sincere interest in solving it.</p> <p>SV3: The Kronos Information system support staff responds promptly when users have a problem.</p>	Chang et al., (2009)

	SV4: The Kronos Information system support staff tell users exactly when services will be performed.	
User Satisfaction	US1: Most of the users show a positive attitude towards the Kronos Information system function. US2: You think that the intuit utility about the Kronos Information system is high. US3: The Kronos Information system has met your expectations. US4: You are satisfied with the Kronos Information system.	Seddon and Yip (1992)
Use	U1: Your frequency of use with the Kronos Information system is high. U2: You depend upon the Kronos Information system. U3: I was able to complete a task using the Kronos Information even if there was no one around to tell me what to do as I go. U4: I have the knowledge necessary to use the Kronos Information system.	Balaban et al., (2013) Rai et al., (2002).
Perceived Net Benefits	NB1: Kronos Information system helps you improve your job performance. NB2: Kronos Information system helps the organization save cost. NB3: Kronos Information system helps the organization achieve its goal. NB4: Using Kronos Information system improves the assessment and training. NB5: Using Kronos Information system in job increases my productivity. NB6: Overall, using the Kronos Information system enhances recruitment and performance management.	Alshibly, (2011); Tansley et al., (2001)
Complimentary Technology Quality	CTQ1: The software on the device (desktop computer, laptop, mobile device) used to access	Teece, D. J. (1988)

	<p>Transparent BPO information system is adequate. CTQ2: The device hardware (desktop computer, laptop, mobile device) used to access Transparent BPO information system is adequate. CTQ3: The speed of the Internet connection used to access Transparent BPO information system is adequate. CTQ4: The reliability of the Internet connection used to access Transparent BPO information system is adequate.</p>	
<p>Computer Self Efficacy Measure</p>	<p>CSE-1 I could complete the job using Kronos Information system, if there was no one around to tell me what to do as I go. CSE-2 I could complete the job using Kronos Information system, if I had never used an information system like it before. CSE-3 I could complete the job using Kronos Information system, if I had only the information system manuals for reference. CSE-4 I could complete the job using Kronos Information system, if I had seen someone else using the information system before trying it myself. CSE-5 I could complete the job using Kronos Information system, if I could call someone for help if I got stuck. CSE-6 I could complete the job using Kronos Information system, if someone else had helped me get started. CSE-7 I could complete the job using Kronos Information system, if I had a lot of time to complete the job for which the information system was provided. CSE-8 I could complete the job using Kronos Information system, if I had just the built-in help facility for assistance. CSE-9 I could complete the job using Kronos Information</p>	<p>Compeau, D.R., & Higgins, C. A. (1995)</p>

	system, if someone showed me how to do it first. CSE-IO I could complete the job using Kronos Information system, if I had used similar information systems before this one to do the same job.	
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Table 1: Measurement items for the questionnaire**Sampling and Data Collection**

The data for this study was collected from a sample of 30 Transparent BPO employees from various positions, gender, age groups, educational background and work experience. While not all surveys were properly completed, it did not affect the outcome of the surveys. The characteristics of the respondents are found in Table 2. Male participants represented a slightly lower percentage of the complete sample, of 43.33%, approximating 43.33% compared to female participants who approximated 56.66%. 50% of the participants were between the ages of 20-25. The entire sample consisted of High School and Associates graduates with the former taking the majority at 63%. 33.33% of the respondents had 4-6 years of work experience. The entire sample was completed by 80% being Agents. 93.33% of the respondents work the standard 45 hours per week. A total of 26.6% of respondents worked in Technical Journaling.

Characteristics	Number	Percentage
Gender		
Male	13	43.33
Female	17	56.66
Age		
Less Than 20	2	6.6
From 20 to 25	15	50
From 26 to 35	12	40
From 36 to 45	1	3.3
From 46 to 55	0	0
Older than 55	0	0
Education		
Primary School	0	0
High School	19	63.3
Associates	11	36.6
Bachelors	0	0
Masters	0	0
PhD	0	0
Work Experience (years)		
None	3	10
1 -3	9	30
4 -6	10	33.33
7 - 10	6	20
>10	2	6.6
Position		
Agent	24	80
Supervisor	0	0
Team Leader	3	10
Manager	3	10
Hours Worked Per Week		
<40	0	0

40	1	3.33
45	28	93.33
>46	1	3.33
Department		
Technical Support	8	26.66
Books	5	16.66
Consumer Line	6	20
Journals	9	30
Management	2	6.66

Table 2 Characteristics of the respondents

Data Analysis/Results

The purpose of the research was to measure how effective is the Kronos System for Transparent BPO employees and how it adds value. There were a total of 30 respondents from which the data was gathered. The questionnaire had a total of 41 questions (8constructs) which one specific program was surveyed. The opinions of the respondents ratings varied from (1) strongly disagree, (4) neutral and (7) strongly agree. The data is analyzed using the average of each construct and the results are represented in histograms below.

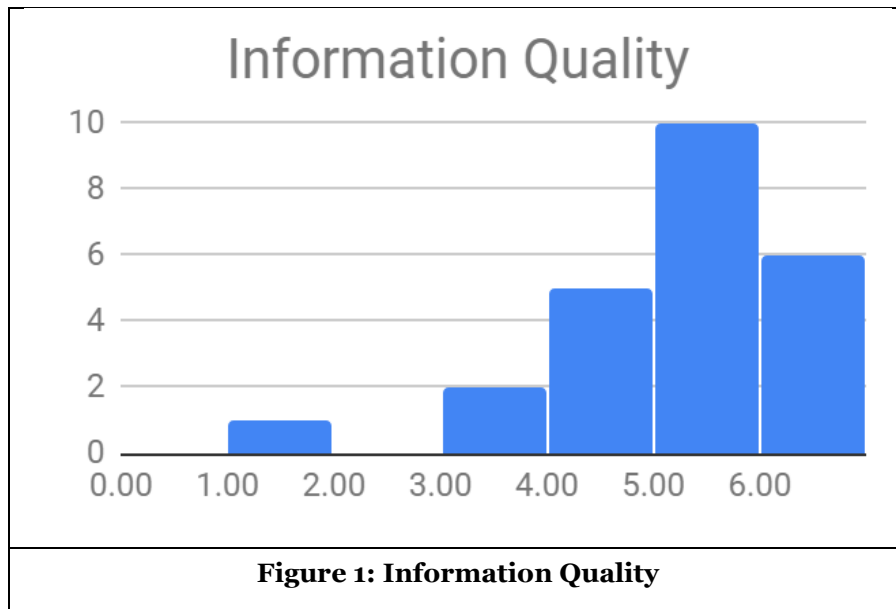


Figure 1: Shows the opinions of the respondents on how the information provided by the information system is adequate to them. 27 of the 30 (90%) respondents agreed that Kronos does provide the adequate information which were from the 4th to 7th scale. 3 respondents disagreed that it does not provide the necessary information which were from the 1st to 4th scale; nonetheless, Kronos does provide the necessary information to the majority of the employees. Kronos information quality averaged to 5.52.

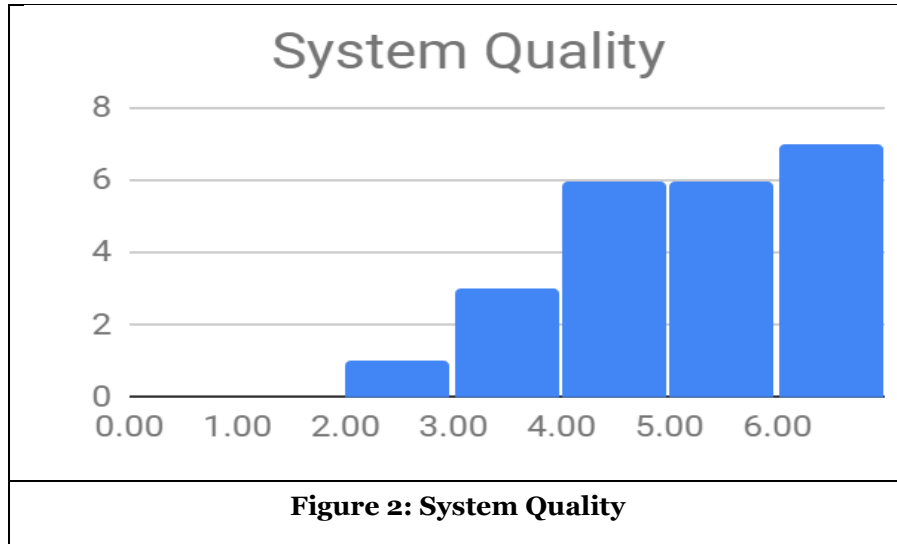


Figure 2: Shows the opinion of Transparent BPO employees on the system quality, which has an average of 5.11. 7 respondents fully agreed that Kronos is very easy to use. 12 employees also agreed falling within the neutral to 6th scale range. There were 3 respondents who disagreed that Kronos was easy to use, they were within the 2nd to 4th scale. The system quality of Kronos is good as 86% of the employees agreed that it is easy to use.

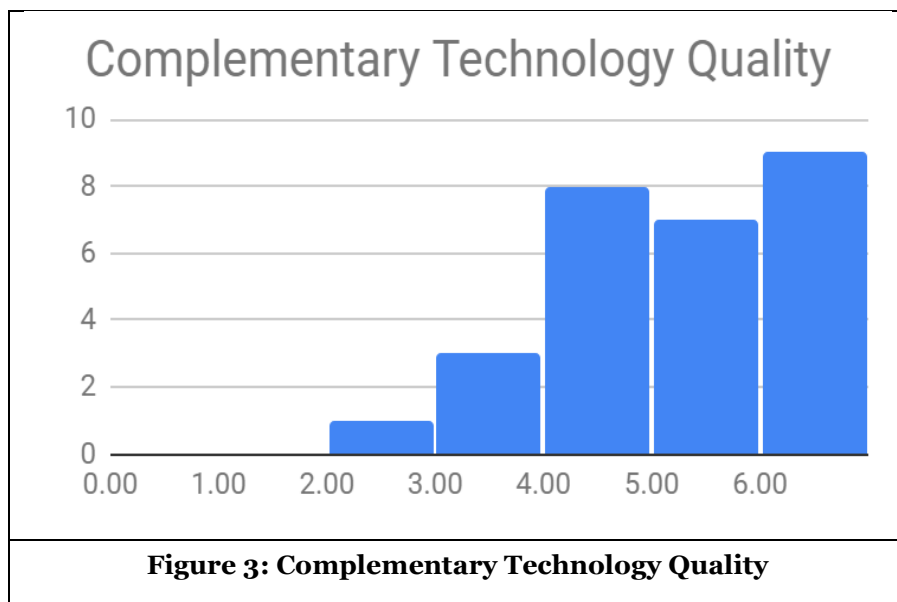


Figure 3: Shows Transparent employees' responses on how the Internet compliments Kronos and aids the usage of the system. 9 employees strongly agreed that the complimentary technology is adequate for

Kronos. 15 employees also agreed that it is adequate who ranged from the neutral to the 6th scale. There were 4 employees who said that the Internet connection was not adequate and they were within the 2nd and 3rd scale. The Complimentary Technology Quality for Kronos is overall satisfactory as more than 85% of the employees agreed that the Internet is adequate.

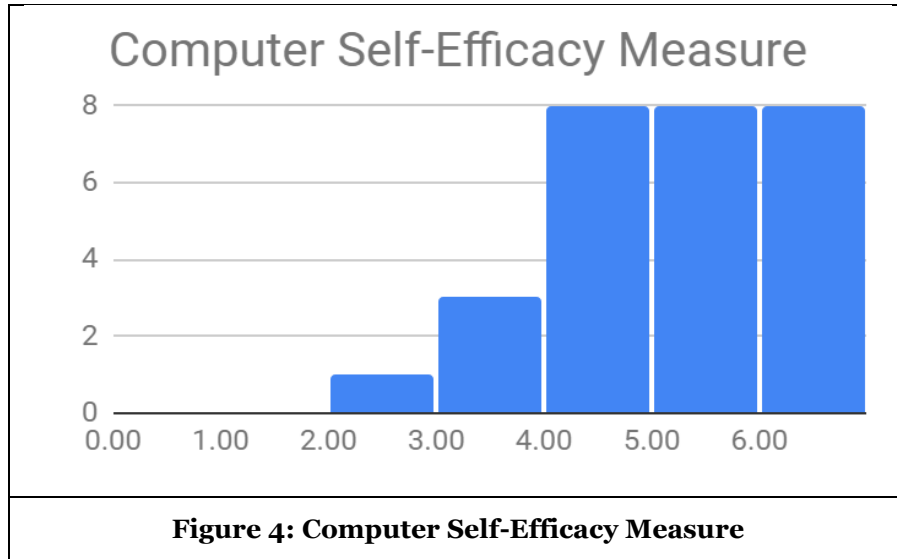


Figure 4: Shows the respondents different opinions on how they can manage to use Kronos without any major help. With an average of 5.23, 24 of 30 employees agreed that they are able to use Kronos without any major help; they were from the neutral to 7th scale. 4 employees disagreed that Kronos was easy to manage who ranged from the 2nd to 4th scale. Kronos is very easy to manage for the majority of Transparent BPO employees.



Figure 5: Shows Transparent BPO employees' opinions on their satisfaction of the service provided by Kronos. The opinions were spread out across and 10 of 30 employees were neutral with the service provided. 12 employees agree that they were satisfied with the maintenance of Kronos, which were within the 5th to

7th scale. 4 employees disagreed that the service was satisfactory which ranged from the 1st to 4 scales. Therefore, the service quality provided by Kronos is fairly satisfactory.

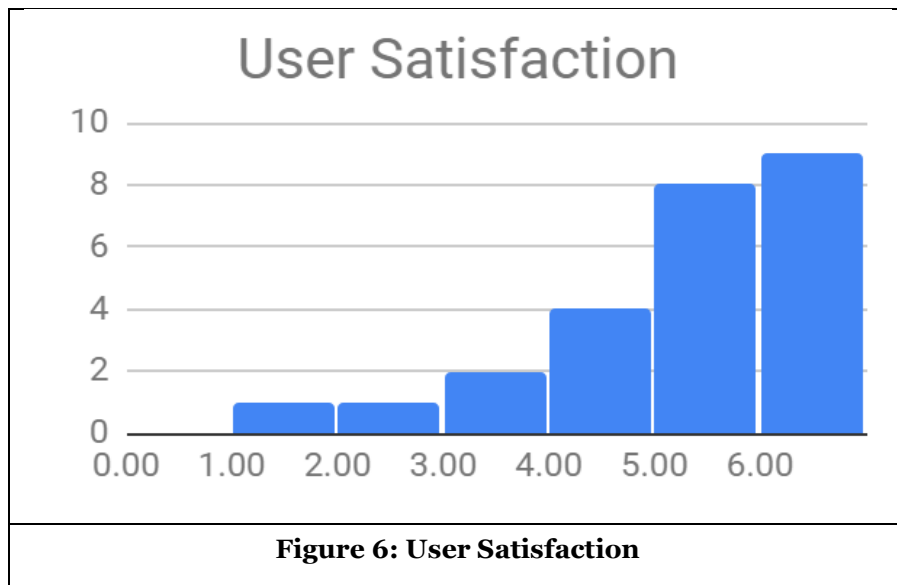


Figure 6: Shows the various opinions of Transparent BPO employees' on their satisfaction of Kronos. The satisfaction is fairly high as is consistently going up as 21 of 30 employees agreed that they are satisfied with the use of the information system, which were within the neutral to 7th scale. Nonetheless, there were 4 respondents who are not satisfied with the usage of Kronos, which were from the 1st to 4th scale.

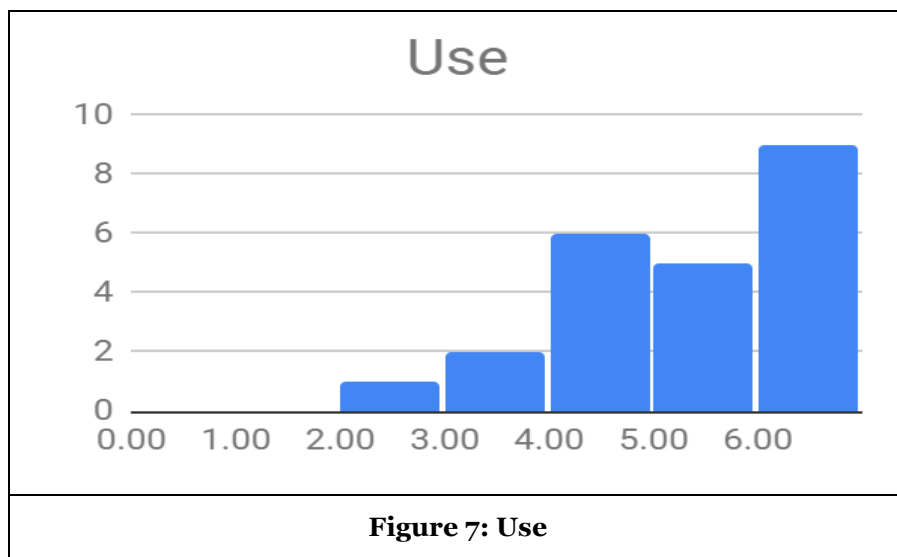


Figure 7: Shows the distinct opinions of the respondent's use of Kronos and how it aids them in performing tasks. With an average of 5.32, 9 respondents strongly agreed that the use of Kronos aids them and are knowledgeable to use the information system. 11 employees moderately agreed that the system is useful and they were within the neutral to 6th scale. However, 3 employees disagreed that they dependent on the use of Kronos to perform tasks, within the 2nd to 4th scale. Hence, the use of Kronos for Transparent BPO employees is moderate.

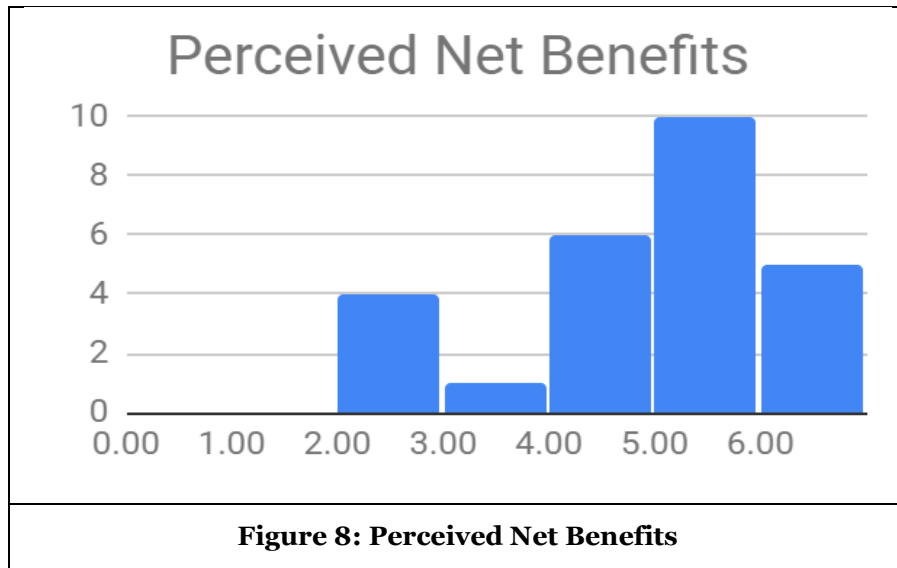


Figure 8: Shows the distribution of opinions of Kronos enhancing the overall job performance for Transparent BPO employees. The overall benefits are dispersed as only 5 employees strongly agreed that Kronos enhance their job performance. 16 employees were neutral to agreeing that Kronos adds value to their performance within the neutral to 6 scales. 5 respondents disagreed that Kronos adds value to their job productivity.

Discussion

It can be concluded that Kronos provides the adequate information to Transparent BPO employees'. Service Quality and Use were the second highest constructs with 5.32 and 5.31 respectively. Consecutively, User Satisfaction, Computer Self-Efficacy and Complimentary Technology Quality followed with 5.27, 5.23 and 5.20 average that shows users are moderately satisfied with the use of Kronos and agree that the use of Internet compliments the use of the system and they can relatively mange in using the Information System on their own. System Quality and the Overall Net Benefits were the constructs with the lowest average of 5.11, which shows that there is room for improvement and that the system can be enhanced. The Net Perceived Benefits with an average of 5.11 was very low that shows a very mild satisfaction of the system and it can be deduced that the system is fairly effective for Transparent BPO employees. To conclude the overall average of the constructs is 5.26 and shows that Kronos is fairly effective to Transparent BPO.

In regards to the variances, the average for Information Quality is 5.52 due to the fact that employees do not understand the value of Kronos and the information it provides, as Managers are the ones who benefit the most from Information Quality. System Quality averages at 5.11, which illustrates that Kronos is not as easy to use as expected; it has moderate user friendliness and interactive features. Complimentary Technology Quality averages at 5.20, which indicates that Transparent BPO has all the necessary hardware and Internet access available to their employees to do their jobs.

Computer Self-Efficacy Measure averages at 5.23 and measures whether the users are competent and confident in using the system. This average is high and therefore indicates that employees are knowledgeable about how to use the system. Service Quality averages at 5.32 and indicates that the IT technicians are excellent in maintaining the system and providing services on how to use the system effectively. User Satisfaction averages at 5.27 and measures the user impression of the system, this average indicates that users have a positive view of Kronos and the information it provides.

Use averages at 5.31 this indicates that the employees, mainly Agents, do not understand the value of Kronos and therefore do not view it as valuable to them. The Perceived Net Benefits has an average of 5.11, with 5.0 being the minimum to determine success, it indicates that Kronos is moderately successful and adds value.

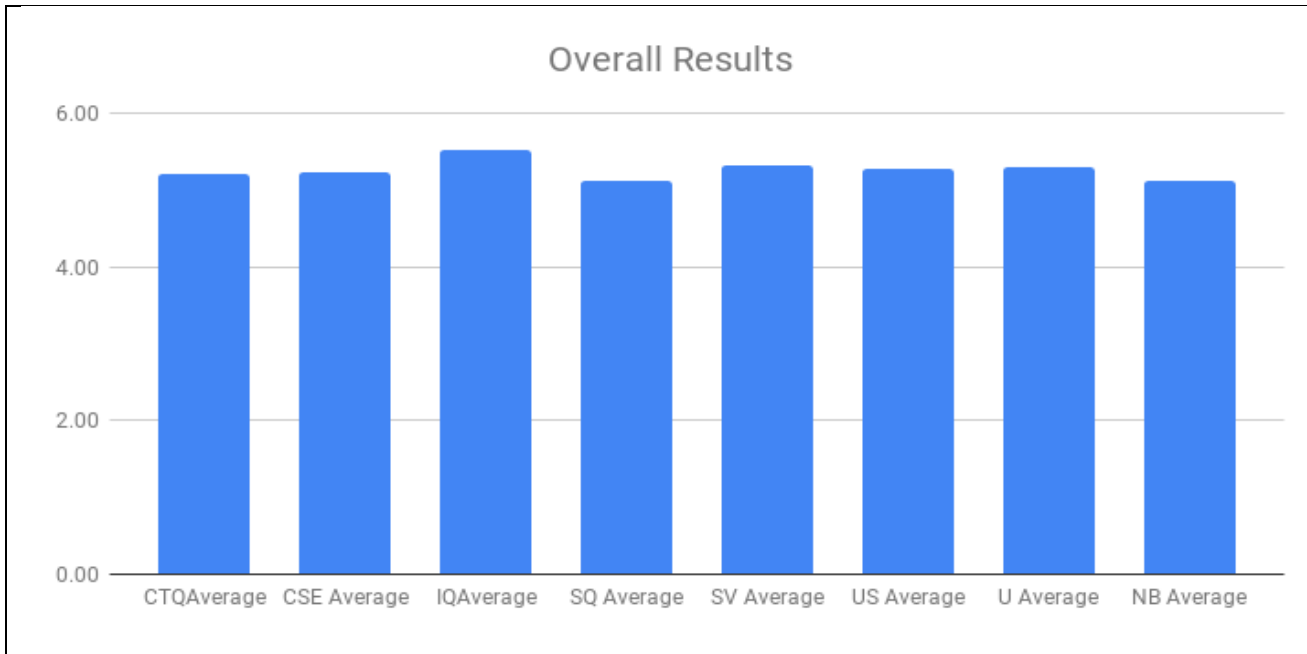


Figure 9: Average of the Overall Results

Figure 9: Shows the various averages of the 8 constructs used to evaluate the effectiveness of the Kronos system used by Transparent BPO employees. The constructs averages ranged from 5.0 to 5.60, which the Information Quality construct ranged the highest with a 5.53.

The data gathered indicates that while employees are unaware of the value Kronos adds to the organization and its clients, it does provide value and is useful to Transparent BPO, the work they do and the campaigns they run.

Conclusion

The research conducted supported the hypothesis that the information system, Kronos, adds value to Transparent BPO. Using the DeLone and McLean (2003) model, we updated it with previously mentioned hypothesis to construct a success measurement model.

The department where people are trained do not understand how to use Kronos. Therefore, it is management's responsibility to properly train their employees on the importance of Kronos. Only managers understand the full use of it, which leaves employees at a loss as to what value they add to the organization.

The information quality and service quality should have been within the same range, however, there was a great difference between them, as employees sans Managers were not satisfied with the service being provided. Managers find it more useful to them as it assists them in completing their work whereas employees just view it as a timesheet. The lowest was system quality; this supports the conclusion that the

managers need to improve system quality by encouraging employees to be involved in the development of the information system. This involvement would encourage them to have a more positive outlook on the IS which will positively affect User Satisfaction and with this employees will understand the importance of Kronos which will also positively affect service quality.

We recommend for management to properly train their employees in how to use it and management needs to be involved in helping the organization's culture understand why the IS is important.

Limitations

A limitation was that most respondents did not understand the purpose of the research even though it was thoroughly explained to them. They did not see the benefit to them and therefore it had no importance. This also affected how the surveys were filled.

The research had several factors that affected the end results. A major factor was the time frame and the sample size. The time was a constraint since it did not allow us to use a wider scope of the sample size, which should be 60 or more respondents to be able to test our hypothesis and more accurately determine how effective Kronos is for Transparent BPO employees. In addition, the sample size consisted of only one program to conduct the research. Transparent BPO has more than 10 programs that uses Kronos; therefore, to acquire more substantial data it would require involving all programs across the three locations in order to test the hypothesis.

Future Research

For future research it would be beneficial to expand the amount of surveys in order to gather a more clear understanding of how employees across Transparent BPO view Kronos. This would allow the researchers to utilize SPSS and Smart PLS to do hypothesis testing. A recommendation for Transparent BPO is to educate their employees on the importance of Kronos so that they can be involved and aid in its effectiveness. Lastly, the respondents were mostly agents who are not the ones that directly benefit from Kronos as can be seen in the results, instead the management staff are the ones who directly benefit hence, the sample size in future research will be catered to them.

References

- Al-Shibly, H. (2011). Human resources information systems success assessment: An integrative model. *Australian Journal of Basic and Applied Sciences*, 5(5), 157-169.
- Bailey, James E., and Sammy W. Pearson. "Development of a tool for measuring and analyzing computer user satisfaction." *Management science* 29.5 (1983): 530-545.
- Balaban, I., Mu, E., & Divjak, B. (2013). Development of an electronic Portfolio system success model: An information systems approach. *Computers & Education*, 60 (1), 396-411.
- Chang, H. H., Wang, Y. H., & Yang, W. Y. (2009). The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value. *Total Quality Management*, 20 (4), 423-443.
- Compeau, Deborah R., and Christopher A. Higgins. "Computer Self-Efficacy: Development of a Measure and Initial Test." *MIS Quarterly*, vol. 19, no. 2, 1995, pp. 189–211. *JSTOR*, www.jstor.org/stable/249688
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems* , 19 (4), 9-30.
- Hasan, Yaser, et al. The Impact of Management Information Systems Adoption in Managerial Decision Making: A Review. 2019, pdfs.semanticscholar.org/2466/1fbd3e78641e6afdoadb9c1ebd2c7482437d.pdf. Accessed 14 July 2019.
- Journal of Management Information Systems / Spring 2003, Vol. 19, No. 4, pp. 9–30.*
- Laudon, K., & Laudon, J. (n.d.). *Management Information Systems*. (15). Pearson Education, Inc.
- Levy, Y., & Ellis, T. J. (2006). A Systems Approach to Conduct an Effective Literature Review in Support of Information Systems Research. (E. Cohen, Ed.) *Informind Science Journal* , 9, 181-212.
- Lin, W. T., & Shao, B. B. (2000). The relationship between user participation and system success: a simultaneous contingency approach. *Information and Management* (37), 283-295.
- Miller, William B. *Building and Effective Information System Function*. www.jstor.org/stable/249334?seq=1#page_scan_tab_contents. Accessed 14 July 2019.
- Rosca, Doina & Banica, Logica & Mirela, SIRBU. (2010). Building Successful Information Systems – making.
- Sabherwal, Rajiv, Anand Jeyaraj and Charles Chowa. "Information System Success: Individual and Organizational Determinants." *Management Science* 52.12 (2006): 1849-1864.
- 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.
- Teece, D. J. (1988). Capturing value from technological innovation: Integration, strategic partnering, and licensing decisions. *Interfaces*, 18(3), 46-61.
- Weedmark, David. *The History of Management Information Systems*. Bizfluent, 2019, bizfluent.com/about-5444925-history-management-information-systems.html. Accessed 14 July 2019.

Appendix

Questionnaire – Kronos System (Transparent BPO Employees)

Purpose

This questionnaire asks for information about experience with Kronos' System and how effective it is to you as a user. The company has multiple clients and runs simultaneous campaigns throughout the year. We would like to measure the use and effectiveness of your information system as it relates to meeting business objectives for your clients and your organizations policies.

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 <input type="checkbox"/> Female <input type="checkbox"/>
Please indicate your age:	<20 <input type="checkbox"/> 20 - 25 <input type="checkbox"/> 26-35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> >55 <input type="checkbox"/>
Please indicate highest education level attained:	PhD <input type="checkbox"/> Masters <input type="checkbox"/> Bachelors <input type="checkbox"/> Associates <input type="checkbox"/> High School <input type="checkbox"/> Primary School <input type="checkbox"/>
Please indicate your working experience:	None <input type="checkbox"/> 1 - 3 <input type="checkbox"/> 4 - 6 <input type="checkbox"/> 7 -10 <input type="checkbox"/> >10 <input type="checkbox"/>
Please indicate your position at BPO:	Agent <input type="checkbox"/> Supervisor <input type="checkbox"/> Team Leader <input type="checkbox"/> Manager <input type="checkbox"/>
Please indicate the number of hours you work per week:	< 40 <input type="checkbox"/> 40 <input type="checkbox"/> 45 <input type="checkbox"/> > 46 <input type="checkbox"/>
Please write down your department's name:	

Indicate your agreement with each statement by rating it from (1) strongly disagree, (4) neutral and (7) strongly agree.

2. Information Quality	Disagree ----- Agree
IQ1: Kronos system provides information that is exactly what you need	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
IQ2: Kronos system provides information you need at the right time	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
IQ3: Kronos system provides information that is relevant to your job	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
IQ4: Kronos system provides sufficient information	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
IQ5: Kronos system provides information that is easy to understand	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
IQ6: Kronos system provides up-to-date information	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>

3. System Quality		Disagree ----- Agree
SQ1: Kronos system is easy to use	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
SQ2: Kronos system is user-friendly	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
SQ3: Kronos system provides interactive features between users and the system	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
4. Complementary Technology Quality		Disagree ----- Agree
CTQ1: The software on the device (desktop computer, laptop) used to access Kronos is adequate	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
CTQ2: The device hardware (desktop computer, laptop, mobile device) used to Kronos MIS is adequate	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
CTQ3: The speed of the Internet connection used to access the MIS is adequate	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
CTQ4: The reliability of the Internet connection used to access the MIS is adequate.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
5. Service Quality		Disagree ----- Agree
SV1: The support staff keeps Kronos system software up to date	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
SV2: When users have a problem Kronos system support staff show a sincere interest in solving it	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
SV3: Kronos system support staff respond promptly when users have a problem	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
SV4: Kronos system support staff tell users exactly when services will be performed	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
6. User Satisfaction		Disagree ----- Agree
US1: You have a positive attitude towards Kronos Kronosystem function.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
US2: You think that Kronos is useful	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
US3: Kronos has met your expectations	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
US4: You are satisfied with Kronos	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
US5: Most of the users bring a positive attitude or evaluation towards Kronos	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
7. Use		Never ----- Often
U1: Your frequency of use of Kronos is high	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	
U2: You depend upon heavily on Kronos	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>	

U3: You were able to complete a task using Kronos even when there was no one around to tell you what to do.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
U4: You have the knowledge necessary to use Kronos	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
8. Perceived Net Benefits	Disagree ----- Agree
NB1: Kronos helps you improve your job performance	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
NB2: Kronos helps the organization save time and costs	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
NB3: Kronos helps the organization to achieve its goals	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
NB4: Using Kronos improves your job productivity	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
NB5: Overall, using Kronos enhances recruitment and performance management	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
9. Computer Self-Efficacy Measure	Disagree ----- Agree
I could complete the job using the information system if:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE1: there was no one around to tell me what to do as I go	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE2: I had never used an information system like it before	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE3: I had only the information management for reference	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE4: I had seen someone else using the information system before trying it myself	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE5: I could call someone for help if I get stuck	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE6: Someone else had helped me get started	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE7: I had a lot of time to complete the job for which the information system was provided	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE9: Someone showed me how to do it first	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>
CSE10: I had used similar information systems before this one to do the same job	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/>

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

Thank you for your participation.