

Evaluating the effectiveness of CDK Global among the employees at Belize Estate Company

Melissa Usher
University of Belize
College Street, West Landivar
2013110644@ubstudents.edu.bz

Andrea Garcia
University of Belize
College Street, West Landivar
2005112853@ubstudents.edu.bz

Jennifer Awich
University of Belize
College Street, West Landivar
2011110855@ubstudents.edu.bz

Alex Flowers
University of Belize
College Street, West Landivar
2011111438@ubstudents.edu.bz

Abstract

This study describes the Information System (IS) Success Model by DeLone and McLean, which comprises of six dimensions: information quality, system quality, service quality, use, user satisfaction and perceived net benefits. Even though this model has been used in various studies in measuring the success of Information Systems, they're few companies that utilizes such model in measuring the success of CDK Global. The research conducted at Belize Estate Company (BEC) concentrated on DeLone and McLean's six dimensions with a goal to discover a correlation between the Dealer Management system and successful communication among the employees of the company. This paper portrays whether CDK Global is sufficiently used at BEC, its qualities, and shortcomings. A total of thirty (30) surveys were collected from the employees at BEC to determine the overall evaluation of the utilization of CDK Global. Overall, it can be concluded that the general attitude toward CDK Global is positive. The information quality of CDK is generally perceived as very effective. The system quality itself is exceptional and user-friendly. The overall design of the Enterprise software is satisfactory. However, the quality of complementary technology is average. The consistency and deliverance needs to be improved. CDK's Global service quality is very efficient and effective, and the software does meet the expectations of majority of its users. Information Quality, Complementary Technology, User Satisfaction, and Perceived Net Benefits, the System Quality and Service Quality scores were consistent and these variables are working simultaneously well.

Keywords: Information system, Information system success model, CDK Global, Technology complementary assets.

Introduction

In this digital era, technology is constantly changing at a fast and remarkable rate. Organizations have now been forced to adapt and become more technologically efficient. According to (Techopedia.com, 2019), Management Information System is defined as “a broadly used and applied term for a three-resource system required for effective organization management. The resources are people, information and technology.” When implemented efficiently, the investment in a management information system have been successful and beneficial to businesses around the world.

Management information systems plays a crucial role in an organization's functions, performance, productivity and profitability. Information and communication technology have become the standard for organizations and often determines the success of an organization. One of the issues with investing in a management information system is the lack of proper research to determine whether the system will be beneficial to the company's objectives.

BEC was acquired by the Bowen Group in 1983. The Bowen group was founded by Sir. Barry Bowen. Belize Estate Company was involved in logging/sawmill industry, chicle industry, and insurance industry. The company has also been involved in land conservation and other social responsibility aspects. Belize Estate Company are also ship brokers and have been for over 70 years. They are the agents for two major shipping lines, Carol and NSC groups.

BEC Ltd. are agents for Ford Motor Company, Kia Motors (vehicles & spares), Johnnie Walker, British Ropes, Edelman, Fel-Pro, Poulan Saws, Lister-Petter, TRW, Wagner, Warsop etc. This group will be focusing on BEC in particular the dealership for Ford Motor Company and Kia Motors. In 1993, BEC won a sales award from for the highest volume of sales among dealers within the Worldwide Direct Market Operations.

Due to the large scale of operations of BEC (dealership), the company has employed a Management Information System. The system they use is CDK Global. CDK Global has a singular focus, whereby their information system makes it easier for their employees to conduct dealerships of all types to excel, using the developing integrated technology that optimizes, streamlines, and assists daily operations — all backed by data-derived business insight. The purpose of this study is to establish a correlation between the software that BEC utilizes and the effectiveness of the software that BEC uses in regards to functions, performance, productivity and profitability.

Literature Review

Researchers have determined various models to clarify what makes some IS successful. Davis' (1989), Technology Acceptance Model (TAM), utilized the Theory of Reasoned Action and Theory of Planned Behavior (Fishbein and Ajzen, 1975) to clarify why some IS are more promptly acknowledged by clients than others. Acknowledgment, nonetheless, isn't comparable to progress, in spite of the fact that acknowledgment of a data framework is a vital precondition to progress. Early endeavors to characterize data framework achievement were not well characterized because of the perplexing, reliant, and multi-dimensional nature of IS achievement. To address this issue, DeLone and McLean (1992) conducted a review of the research published during the period 1981–1987.

The theoretical framework mainly focuses on the 1992 and 2003 DeLone and McLean IS Success Model (D&M IS). According to DeLone & McLean (2003), the IS Success Model is a framework and model for measuring the complex-dependent variable in Information System (IS) research. The measurement of IS success or effectiveness is critical to our understanding of the value and efficacy of IS management actions and IS investments. They confirmed that the dependent variable in management information system research is a particularly important issue because if IS research wants to make a contribution to the world

of practices, a well-defined outcome measurement is essential. Although the original model was published in 1992, it was based on theoretical and empirical research and since then the role of IS has changed and progressed during the last decade.

The updated D&M IS including arrows to demonstrate proposed associations among success dimensions in a process sense, but does not show negative signs for those associations in a casual sense. The nature of these causal associations should be hypothesized within the context of the study.

DeLone and Mclean presented an alternate taxonomy to understand the different dimensions of Information systems success. The intention is to make the IS success research more comprehensible by providing a properly defined outcome measure that can be used to evaluate IS practice, policies, and procedures. The researchers used a catalogue developed by Richard Mason in 1978. The was based on the Shannon and Weaver's Information Theory, in which the ultimate goal is the successful transmission of information. This can be affected by three potential complications. These complications can be categorized into three different levels:

Level A – This is the technical level. This describes how precisely symbols can be communicated.

Level B – This is the semantic level. In this level, the accuracy of how symbols are depicting the message being transmitted is described.

Level C – This is the effectiveness level. This level describes how effectively the message being transmitted.

From these three (3) levels of information problems, Mason developed a framework for measuring the output of an IS. Level A, the technical level, is described as production. Level B, semantic level, is described as the product level. Level C, the effectiveness level, is categorized into three levels. These categories are “receipt, influence on recipient, and influence on system.” The first level, receipt, is defined as how the receiver accepts the message that is transmitted. The second level, influence on recipient, is defined as the effect the message has on the receiver. The final level, influence on system, is defined as how the message influences the system. Bits, characters, physical words, lines, or even data banks are used to measure the technical level output. Natural linguistic forms (i.e. logical words, sentence expression, written messages, texts, and documents) and forms with truth value (i.e. statements, data records, data files, reports, and queries) are used as measurements for semantic level.

The influence level can be measured in terms of acceptance (i.e. number of items read by the recipient, number of items considered relevant or acceptable), retain-ability, integration (i.e. questions of comparison), evaluation, and application of the information attained. Additionally, the application of the information received may or may not influence the recipient's behavior and therefore may or may not affect the system.

Contended that there were six (6) central point in IS achievement Delone and Mclean explicitly, stated the quality uniqueness of the IS itself (information quality), the nature of the efficiency of the IS (system quality), usage of the yield of the IS (use), the IS client's reaction to the IS (client fulfillment), the impact of the IS on the conduct of the client (singular effect) and the impact of the IS on hierarchical execution (authoritative effect). In view of both procedure and causal contemplation, these six extents of achievement are proposed to be interrelated instead of autonomous. This has significant ramifications for the estimation, examination, and revealing of IS achievement in observational investigations (Delone and Mclean, 2003). With this classification the two creators endeavored to recognize, sort and investigate the IS achievement measure that had been distributed in a few diaries somewhere in the range of 1981 and 1988. Richard Mason in 1978 built up the utilization of arrangement which depended on Claude Shannon and Weaver's Information Theory in 1949.

When taking a look at research that was done previously, the classifications presented in the 1992 paper showed a progressively thorough perspective on data framework achievement, it was additionally an increasingly composed, increasingly consistent and sound IS look into which given elective clarifications to those apparently conflicting discoveries in later IS inquire about outcomes. Different investigates expressed

that Delone and McLean's work makes a few significant commitments to the comprehension of IS achievement.

The specialized dimension identifies with how well a framework transmits the images of correspondence, the semantic dimension concerns with the clarification and understanding of importance by the recipient in respect to the expected significance of the sender, and the adequacy level concerns how well the significance conveyed to the collector influences his/her genuine conduct. In light of work by Shannon and Weaver (1949) and Mason (1978), Delone and Mclean noticed that the impact of data on its beneficiary can be estimated at a specialized dimension, a semantic dimension, or a viability level. There are five phases to the procedure of correspondence as per Mason (1978), which are the creation of data, the item itself, the beneficiary of data, the impact it has on the beneficiary and the impact data has on the response of the system.

Methodology

The nature of the research is quantitative. The researchers will seek to determine the effectiveness of CDK Global in the working environment at BEC. The instrument being used to collect data from the targeted population is Google Forms.

The IS was selected to study the success when using the IS Success Model implemented by William H. Delone and Emphraim R. McLean in 1992. The systems' success was determined by evaluating the relationship between information systems on the six dimensions of the model focusing on information quality, system quality, service quality, usage intentions, user satisfaction and overall system benefits (Delone & McLean, 2003). In this study, changes were made to the traditional model given that Belize is considered a developing country. It can be concluded that Belize lacks the necessary complementary assets needed to truly achieve IS success. In this regard, the research studied the six dimensions of the model along with the addition of testing the available complementary asses and its reliability, efficiency and overall effectiveness.

Figure 1. The Research Model



Hypothesis

H1. Complementary technology quality will positively impact system quality.

H2. System quality will positively impact user satisfaction.

H3. Information quality will positively impact user satisfaction.

H4. Service quality will positively impact user satisfaction.

H5. Use will positively impact user satisfaction. H6. Information quality will positively impact use.

H7. System quality will positively impact use.

H8. Service quality will positively impact use.

H9. User satisfaction will positively impact perceived net benefit.

H10. Use will positively impact perceived net benefit

Description of Participants

BEC has approximately one hundred (100) employees. The study was carried out with the employees using convenience sampling. Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher.

Population & Sample Size

The populations used for the research are the employees who are the users of CDK Global. The research was done through the use of a quantitative survey. A total of thirty (30) random employees were chosen to participate in the research.

Instrument

Google forms were used to gather information from the respondents (See Appendix A). The six (6) dimensions of the DeLone and McLean Model were used, in order to test true information systems Success of CDK Global. Because Belize is a developing country, complementary assets were also included. The questionnaire consists of forty-four (44) close ended questions divided into two (2) sections. Section one consists of four (4) questions requesting demographic information such as: gender, age, education level, and years of work experience. Section two consists of forty (40) questions subdivided into eight (8) categories of the D&M IS which are: complementary technology quality, system quality, computer self-efficacy measure, Service Quality, User Satisfaction, Use and Perceive Net Benefit. In section two (2) the Likert Scale was used to measure the opinions of the respondents. An ordinal scale was used to rank from one (1) to seven (7) as follows: one (1) strongly disagree and seven (7) strongly agree.

The information collected from the questionnaires will allow the researchers to attempt to extend the DeLone and McLean model to the developing world to determine the systems effectiveness.

To guarantee the legitimacy of the examination, estimation scales for the quantitative information accumulation were predominantly evoked from recently confirmed instruments. The Bailey and Person (1983) seven item scale with a couple of changes in accordance with fit the particular substance of BEC. Bailey and Person's instrument is the standard instrument in the IS field, since it has been widely acknowledged and utilized by a few specialists. The legitimacy and the dependability of the instrument have been tested.

Table 1 Definition of concepts and variables used in Figure 1

Concept/Variable	Definitions
Information System (Implicit in the model)	The information system of interest is either some aspect of an application of information technology (IT), one individual application, a group of applications, or an application of one type of IT
Net Benefits	Is the idealized comprehensive measure of the sum of all past and expected future benefits, less all past and expected future cost attributed to the use of an information technology application
Use	Use means using the system. It is expected that resources such as human effort will be consumed as the system is used.
System Quality	Is considered in whether or not there are “bugs” in the system, the consistency of the user interface, ease of use, quality of documentation, and sometimes quality of maintainability of the program code.
Information Quality	Is concerned with such issues as the relevance, timeliness, accuracy, of information generated by an information system.
User Satisfaction	Is a subjective evaluation of the various consequences evaluated on a pleasant-unpleasant continuum.
Service Quality	Service quality directly impacts usage intentions and user satisfaction with the system, which, in turn, impact the net benefits produced by the system

Table 2. The measurement items for questionnaires

Construct	Survey Question	Source
Information Quality	IQ1: The CDK provides information that is exactly what you need IQ2: The CDK provides information you need at the right time IQ3: The CDK provide information that is relevant to you job IQ4: The CDK provides sufficient information IQ5: The CDK provides information that is easy to understand IQ6: The CDK provides up-to-date information	Bailey and Person (1983)
System Quality	SQ1: Is CDK easy to use? SQ2: Is CDK user friendly? SQ3: Does CDK provides high-speed information access? SQ4: Does CDK provides interactive features between users and the system?	Alshibly, (2011)

Complementary Technology Quality	<p>CTQ1: The software on the device (desktop computer, laptop, mobile, device) used to access CDK adequate</p> <p>CTQ2: The device hardware (desktop computer, laptop, mobile device) used to access CDK is adequate.</p> <p>CTQ3: Is the speed of the internet connection used to access CDK adequate?</p> <p>CTQ4: The reliability of the internet connection used to access CDK is adequate.</p>	Teece, D. J. Yip (1992)
Computer Self-Efficacy Measures	<p>CSMQ1: I could complete the job using CDK if there was no one around to tell me what to do as I go.</p> <p>CSMQ2: I could complete the job using CDK if I had never uses a BS like it before.</p> <p>CSMQ3: I could complete the job using CDK if I had only the BS manuals for reference</p> <p>CSMQ4: I could complete the job using CDK if I had seen someone else using the BS before trying it myself.</p> <p>CSMQ5: I could complete the job using CDK if I could call someone for help if I got stuck.</p> <p>CSMQ6: I could complete the job using CDK if someone else had helped me get started</p> <p>CSMQ7: I could complete the job using CDK if I had a lot of time to complete the job for which the BS was provided.</p> <p>CSMQ8: I could complete the job using CDK if I had just built-in help facility for assistance.</p> <p>CSMQ9: I could complete the job using CDK if someone showed me how to do it first.</p>	Cassidy, S., & Eachus, P. (2002)

Service Quality	<p>SQ1: The support staff keep CDK software up to date.</p> <p>SQ2: When users have a problem, CDK support staff show a sincere interest in solving it.</p> <p>SQ3: CDK support staff respond promptly when users have a problem.</p> <p>SQ4: CDK staff tell users exactly when services will be performed.</p>	Change et al., (2009)
User Satisfaction	<p>US1: Most of the users bring a positive attitude or evaluation towards CDK function.</p> <p>US2: You think that the perceived utility about CDK is high.</p> <p>US3: CDK has met your expectations.</p> <p>US4: You are satisfied with CDK</p>	Seddon and Yip (1992)
User	<p>U1: The frequency of use with CDK is high</p> <p>U2: You depend upon CDK</p> <p>U3: I was able to complete a task using CDK even if there was no one around to tell me what to do as I go</p> <p>U4: I have the knowledge necessary to use CDK</p>	Balaban et al., (2013) Rai et al., (2002)
Perceived Net	<p>NB1: CDK helps you improve your job performance.</p>	Alshibly,

Benefits	NB2: CDK helps the organization save cost. NB3: CDK helps the organization achieve its goal. NB4: CDK improves the assessment and training. NB5: Using CDK in job increases my productivity NB6: Overall, using system Performance enhances recruitment and performance management	(2011); Tansley et al, (2001)
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The data for this study were collected from a sample of individuals that work in the accounts, parts and service dept. at Belize Estate Company. The method of the research was to determine the effectiveness of how CDK Global is, it give the researches to use their own judgment to answer the question.

This exploration was directed from a quantitative point of view. The sample measure for this examination was 30 representatives from BEC. For this proposition the accompanying techniques were utilized to acquire the data:

Essential information: Google Forms were used to acquire information from BEC representatives. Members were chosen utilizing the unintentional testing strategy where every specialist conveyed to representatives adjacent, out of 30 participants at BEC all were usable, which yield a responsive rate of 99% percent.

Characteristic	Number	Percentage
Gender		
Male	18	60%
Female	12	40%
Age		
Less Than 25	4	13.33%
From 25 to 35	14	46.66%
Over 35 to 45	2	6.66%
Over 45 to 55	8	26.67%
Older than 55	2	6.66%
Working Experience		

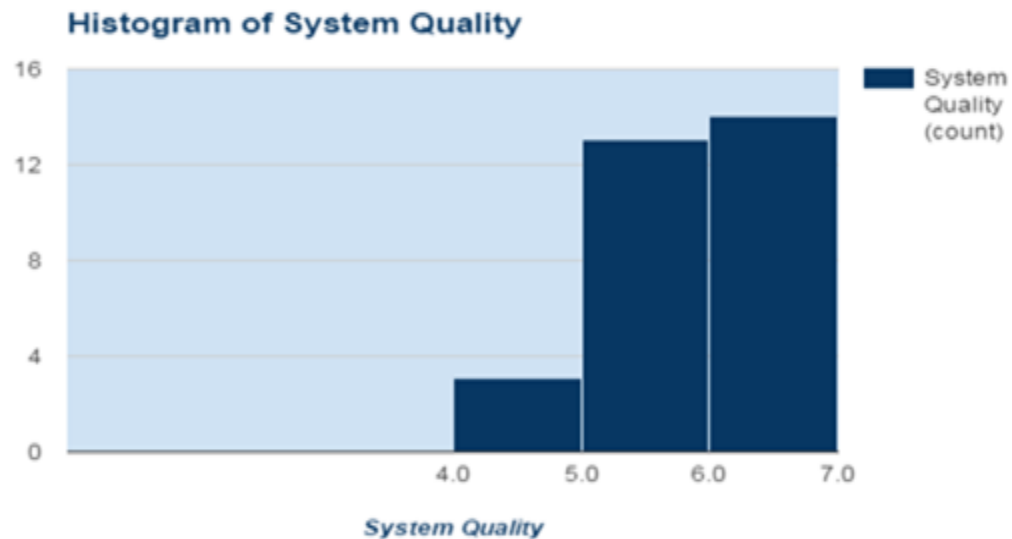
<5 years	8	26.67%
5-10 years	7	23.33%
11-15 year	11	36.67%
>15 years	4	13.33%
Education Level		
High School	9	30%
Associates	13	43.33%
Bachelor	8	26.67%
Masters	0	0%

Analysis Data and Research Results

The primary purpose of the study was to see the correlation between the software utilized at BEC and its effectiveness in terms of functions, performance, productivity and profitability. Questionnaires were distributed to the employees at BEC and the results of the issued questionnaires were displayed through the use of Histograms.

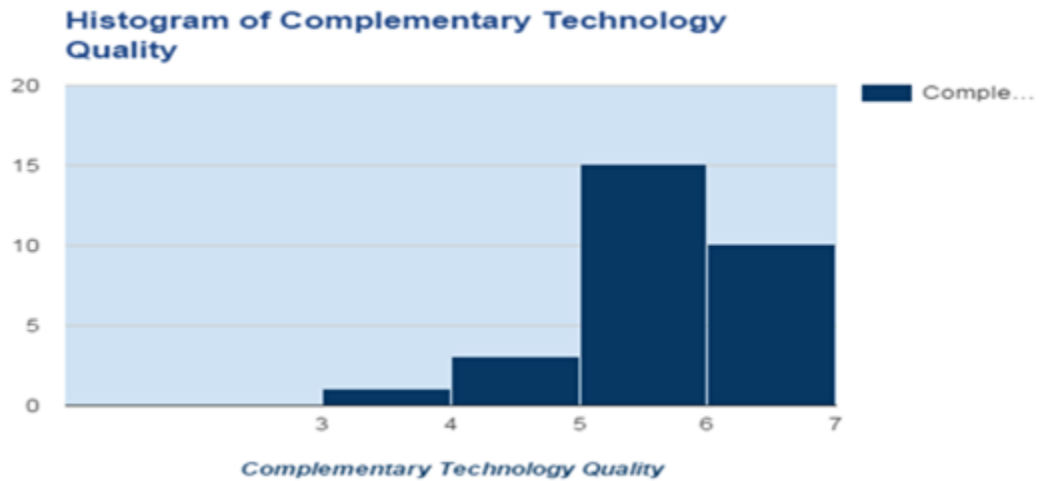


The above chart clearly demonstrates, that the information quality of CDK Global is viewed to be very effective. Majority of the respondents are in agreement, that CDK's Global information quality meets its expected standards, however, only a few respondents disagree.



As depicted in the above chart, most respondents would agree that the system quality of the CDK Global is exceptional. Moreover, respondents agree with CDK Global software to being user-friendly and are satisfied

with the overall design of the Enterprise software.



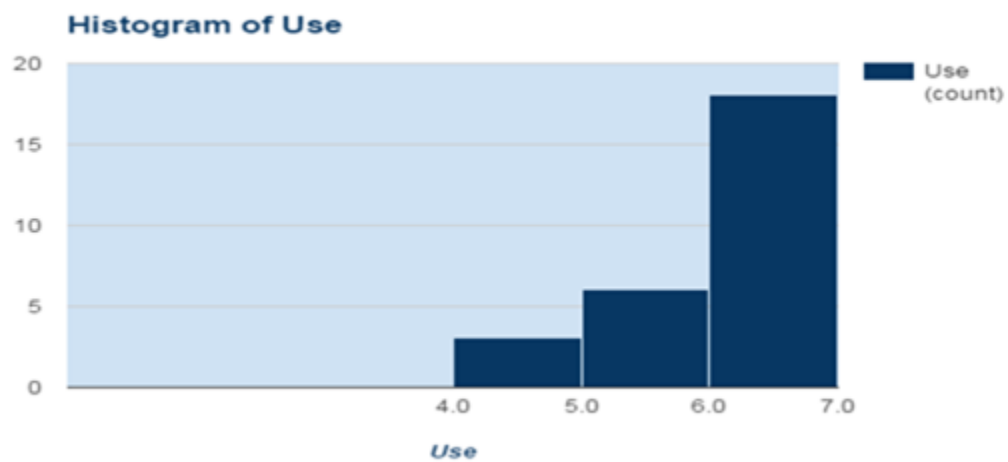
The above chart depicts, that complementary technology quality has a large variance, however, most respondents agree that the quality is average. Also, respondents agree that the complementary technology needs improvement especially in areas such as consistency and deliverance.



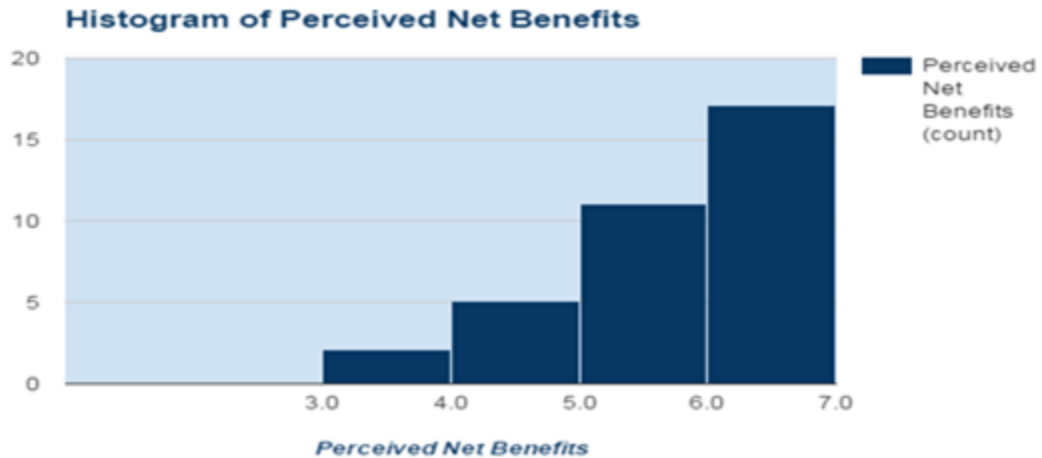
The above chart demonstrates, that the service quality of CDK Global is exceptional. Majority of the respondents agree that CDK's Global service quality is very efficient and effective. Improvements, however, are still needed in some areas.



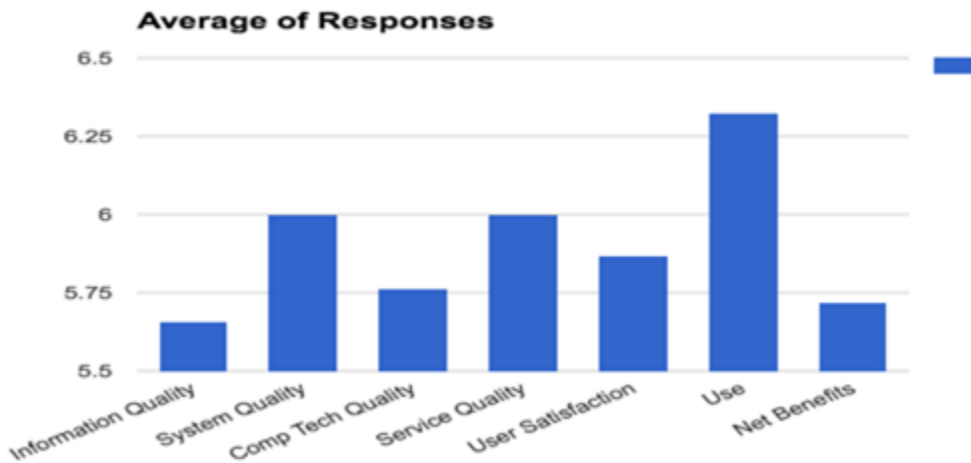
As depicted in the chart above, the user satisfaction rate for CDK Global is significant. Majority of respondents agree that CDK's Global software meets their expectations and only a few were disagree with using the software.



The chart above depicts, a very high usage of CDK's Global software. Also, majority of respondents agree that they have a high dependency on CDK's Global software. Respondents are able to complete their tasks without assistance.



Respondents agree that CDK’s Global software helps the organization to achieve its goal and is ranked as very efficient and effective.



The above chart depicts, that most respondents agree that the use of CDK’s Global software is very effective. As compared too Information Quality, Complementary Technology, User Satisfaction, and Perceived Net Benefits, the System Quality and Service Quality scores were consistent, which means that respondents seem to be in agreement, that such variables are working simultaneously well.

Conclusion

The outcomes showed that there is a positive input on the System Quality, Service Quality, Information Quality, and Perceived Net Benefits with regards to the data arrangement of CDK. Base on the finding the speculated connection among Delone and Mclean (2003) six measurements were upheld in this examination. The Delone and Mclean IS Success model outlines that the goal is to have a high seen net advantage, at BEC the net advantage was sure, proposing that the representatives of BEC have a fair net advantage of the CDK.

This exploration gives significant data as it identifies with the financial arrangement of BEC. As per the Delone and Mclean model the net apparent advantages is the way to deciding IS accomplishment just as different measurements are likewise expected to give a superior comprehension of the achievement of BEC. Data framework, framework use, client fulfillment, quality framework, administration quality, and corresponding innovation quality are on the whole contributing components that impact whether there is net advantages.

Limitation

There were a few impediments in doing the examination. A portion of the confinements were. There were restricted data on the web about CDK and dealership management system. Additionally we had wanted more time but because of time and leaves the researchers needed to utilize weekends.

Future Research

There were a couple of suggestions if under any circumstances anybody needs to query about any parts/invoice or service at BEC later on. They are time in gathering information by means of study. Assistance from a staff that is legitimately engaged with the data framework would be of extraordinary help. Keep away from tarrying. Finally, get as much data conceivable about the framework. The commitment that this exploration has on the DEALERSHIP system at BEC was very helpful. Furthermore research is important to make the examination progressively exact.

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