The Critical Factors that influencing Web-Based DSS Successin Online Shopping Context

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Abstract—*This research aimed to examine the main factors that influence the success of Web-Based Decision Support Systems in online shopping context. It investigated a set of factors which are; online shopping system quality, data quality, knowledge management, consumer decision making satisfaction, and perceived net benefit. A questionnaire was distributed to a sample of (140) respondents to collect primary data, & based on a convenience sample the response rate was about 82%. Furthermore, the findings were analyzed using the Statistical Package for Social Software (SPSS), indicated that online shopping system quality, data quality, and knowledge management have a positive & significant influence on the consumer decision making satisfaction, and there is mutual effect between consumer decision making satisfaction, and perceived net benefit. In other words, all research variables have significant effect on success of web-based DSS in online shopping context.Based on the research findings & conclusions, a number ofrecommendations & future research suggestions are proposed.*

Keywords —*Critical success factors; Web-based decision support systems; Decision making satisfaction; Perceived net benefit; Online shopping*

I. THEORETICAL BACKGROUND

The usage of Internet has grown rapidly over the past years and it has become a common means for delivering and trading information, services, and goods (Albarq, 2006) cited in Delafrooz, (2009). However, the web in particular and the Internet as a mother network became vital area to manage and develop the technical capabilities of decision support systems (DSS). Also, online shopping has become very popular in the last few years. There are many of online shops available all around the Internet, where Customers can purchase any commodity that they want as cars, books, electronics, jewelry, clothing and many other products while sitting comfortably at their home (Janik, 2007). In the past, DSS applications have generally been implemented in commercial environments where users are employees of the firm. With the advent of web-based DSS, the user community is no longer limited to the managers and experts working on business-related problems, but beyond that to the ordinary users and customers (Bharati & Chaudhury, 2004). Recently, the web has now become the platform of choice for building consumer DSS. According to Bharati & Chaudhury, (2004) DSS on the web has precipitated three major changes to the environment where DSS is being employed: a change in the user community, a change in problem domains, and a change in the underlying technology architecture. These changes in DSS have made it incumbent on the DSS researchers to reexamine the factors that influence efficacy and success of DSS in this new environment (Bharati & Chaudhury, 2004).

An example of a web-based DSS for customers is found at www.amazon.com, www.dell.com, www.overstock.com, www.myidaman.com, www.shopping.com, and www.tabo.ps and others, as online shopping websites, where customers can choose the kind of commodity or service. These and other self-service information technologies that aid in decision-making are became quite prevalent. These web-based DSS are being used, but there are little researches that have evaluated these systems from the perspective of users. Thus, more studies are needed that focuses on evaluating web-based DSS in online shopping context and exploring the critical factors influencing web-based DSS success in this field.

This paper investigate these web-based DSS, with a focus on factors that affect decision making satisfaction and in turn, perceived net benefit for customers, that is to say measuring the success of web-based DSS through decision making satisfaction and perceived net benefit in online shopping context. Although there are various factors which contribute in making purchase decisions but this study focuses on five factors i.e. online shopping system quality, data quality, knowledge management, consumer decision making satisfaction, and perceived net benefit.Also, this study used existing model that explain and predict information systems (IS) success it's Delone & McLean, (2003). However, this success model need to be updated to recurrent industry developments because by updating existing IS success model, practitioners can be achieve a better understanding for web-based DSS success. Therefore, the main aim of this research is to investigate a set of factors influencing the success of web-based DSS within the context of online shopping.

A. perceived net benefit

According to Marafie, (2008) it is said by Brown, et al., (2003) The perceived net benefits of online shopping in relation to traditional store shopping are one of the driving forces in the adoption. Convenience factors such as ease in purchase and time saving could be considered as perceive benefits of online shopping. Also, the products are available 24 hours a day and 7 days a week. Most importantly, the e-retailers offering wide range of products, ease of ordering, payment facility, and timely delivery could be motivating factor for attracting online buyers.

As known, net benefits added as new construct to the updated DeLone & McLean (2003) model. The construct includes and replaces two variables previously found in the DeLone & McLean (1992) model: individual impact and organizational impact. These are defined as the system impact on an individual (user) and organizational performance, respectively. According to Holley, (2011) Critics of the model point out the Restriction of these two variables, arguing that the impacts of a system can span a wide range of stakeholders - consumers, work groups (e.g. Ishman (1998)), industries (e.g. Clemons et al. (1993)), even society (e.g. Seddon (1997)). Accordingly, the DeLone & McLean (2003) replace the two "impact constructs" with the more generic construct net benefits.

According to Delone & McLean, (2003) the impacts of IS have evolved beyond the immediate user, where some of researchers have suggested additional IS impact measures, such as work group impacts, Inter-organizational and industry impacts, consumer impacts, and societal impacts. Clearly, there is a continuum of ever-increasing entities, from individuals to national economic accounts, which could be affected by IS activity. The choice of where the impacts should be measured will depend on the system or systems being evaluated and their purposes. Rather than complicate the model with more success measures, Delone & McLean Preferred to move in the opposite direction and group all the "impact" measures into a single impact or benefit category called "net benefits." We can study net benefits at the individual level, where the customer can benefit from the system in terms of increased information, lower prices, ease of purchase, etc. Accordingly, in present research, we will adopt the net benefits as measurement Factor for web-based DSS success in online shopping context.

B. Consumer decision-making satisfaction

User satisfaction is the most general perceptual measure of information systems success (Seddon, 1997). In the e-commerce environment it is an important means of measuring customers' opinions of the e-commerce system (DeLone & McLean, 2003). Customers in this study refer to only those who are familiarity with online shopping systems.

Many of studies that emphasized decision performance typically downplayed or ignored the level satisfaction of the Web-based DSS users. With the growth of competitive Web retailing, however, understanding how to satisfy customers who obtain their information or services from web sites will be critical for establishing long-term client relationships, which consequently increases profitability. Therefore, understanding how online shopping users formulate satisfaction when obtaining information and services is of great importance to internet business. However, based on literature review and related works, there are very few studies that systematically examined antecedents variables to satisfaction of users obtaining their information and services from Web-based DSS in online shopping context (Gudigantala, et al., 2011).

According to Saha, (2008) User satisfaction is the most common measure of success determination, and many researchers have developed and tested several standardized instruments to measure satisfaction as (DeLone & McLean, 1992, 2004; Rai et al., 2002; Crowston et al., 2006).

Although several authors have defined satisfaction, there is no single universally accepted definition (Giese & Cote, 2000). DeLone & McLean (1992) defined satisfaction as "Recipient Response to the Use of the Output of an Information System."

A researcher must define the concept according to the context when multiple definitions exist for the construct; and also define the measurement criteria for the construct according to the chosen definition and the scope of research. In the present study, satisfaction was considered as a citizen's evaluative judgment of overall use of the online shopping service.

According to Saha, (2008) in information system success and e-commerce success, different scholars developed antecedents of satisfaction, such as system quality, information quality, service quality, perceived usefulness, perceived ease of use, and trust (DeLone & McLean, 1992, 2004, Seddon & Kiew, 1996, Seddon, 1997).

In this current research we explore critical success factors influencing decision making satisfaction with web-based DSS which refers to the contentment of the consumer with the particular DSS application used. It is noted that decision making satisfaction significantly correlated with perceived net benefit where the most important reasons for decision making satisfaction are to achieve some or all of the benefits that expected from the decision making. Also, Achievement of benefits and satisfy the desires will have the effect on decision making satisfaction. In other words, there is a mutual effect between decision making satisfaction and perceived net

benefit. Accordingly, we will adopt consumer decision making satisfaction as other measuring factor for web-based DSS success in online shopping context.

C. Online shopping system quality

There are different types of e-Commerce websites that focus on different areas of business activities. The most common type of e-Commerce website is business web portal (Wei, 2012).

A great number of new websites have been launched every day. Ones with similar content will not have the same degree of quality. If the quality is poor, the user will simply leave the website and go elsewhere. Generally, there is no second chance to get a user back to the website especially in online shopping context. Therefore, in order to improve the quality of a website. The quality of a website makes a website profitable, user friendly and accessible, and it also offers useful and reliable information, providing good design and visual appearance to meet the users' needs and expectations (Zhou, 2009).

In fact, since the website quality process became a particularly valuable topic which is ongoing and commercially researched. Although quality of website has valuable background and been well developed in recent years, a big question is "why is the quality of websites still poor and lack of quality characteristics cause user dissatisfaction in most websites." (Zhou, 2009).The application domains of websites are developing widely. Websites are becoming the preferred media instrument for information search, company presentation, shopping, entertainment, education, and social contacts. Traditional quality of websites issues does not fit the new multiple-technology websites application (Zhou, 2009).

In the Internet environment, System Quality measures the desire characteristics of an e-commerce system (DeLone & McLean, 2003, 2004). It is important to evaluate Web site functionality that focuses on the online service functions it provides.In the context of the present study, we changed system quality by online shopping system quality and defined it as follows: "online shopping system quality measures the desired functionality and performance characteristics of online shopping system".

According to Stevens, (2008) many studies reported, a company's website is the key tool for the user's communication and it is the primary interface when searching for Information and/or products online. If an organization's website is difficult to use, it will project a poor image on the Internet and will weaken the organizations position.Therefore, it is important that an online shopping system possesses a qualitative good website.

Online systems are measured in many studies. Measuring goes from online system interface up to the entire purchase experience. In this thesis, online shopping system quality will be approached from a more technical view and the objective is to know what consumers expect of the online shopping system they use and their experience; which attributes are important if a consumer makes his judgment about the quality? For measuring online shopping system quality many academic researches exist, but the outcomes are mostly fragmented and only discussing the meaning of some aspects of online system quality, but no scales to measure users' perceived online shopping system quality are available.

In summary, the dimensions of the researchers are quite wide. These differences arise mostly because they all did a survey with a somewhat different focus and their methodological approaches are varied. In this research, online shopping system quality is defined as the users' evaluation of the online shopping system features meeting users' needs. This definition is important to detain the domain of online shopping system quality.

Therefore not all the existing literature is mentioned, but only the relevant literature from which sample items for the web quality construct can be taken. Overall, four dimensions to measure online shopping system quality are mentioned in return: Ease of use, Flexibility, Associative, and Integration. In this research these dimensions are used to measure online shopping system quality.

D. Data quality

Information Quality is concerned with issues such as the relevance, timeliness, and accuracy of the information generated by an information system (DeLone & McLean, 2003; 2004).

As System Quality variable, information quality has antecedents in the IS literature, widely used and argued in Large number of studies. DeLone & McLean (1992) builds their Information Quality factor on work dating back to 1949 based to communication theory. The information quality factor was originally built up and popularized by DeLone & McLean (1992). Like the System Quality factor the Information Quality factor has widely been used within the IS success literature as they said some researchers in Johansson & Gustafsson (2009) (Wang et al. 1995; Wand, 1996; Clark 2007, Wixom & Todd 2005; Ramamurthy et al. 2007) indicating that it is not a specific factor only affecting Data Warehouse, thus, making it interesting in a model within online shopping area as our research area.

According to Johansson & Gustafsson (2009) it is said by Seddon (1997) that not all systems have the ability to produce information, thus, not making it possible to use this factor. This clear from the model that Wixom & Watson (2001) presents where that they have excluded the information system factor,or rather changed it to Data

Quality. Because the term Data Quality was more appropriate when discussing data warehouse (DW) system success and because the DW is producing data rather than information.

Based on previous, we will Integrates and merge Information Quality and Data Quality. So, we will refer to this concept as Data Quality even though some authors denote it as Information Quality. According to Johansson & Gustafsson (2009) it is said by Wixom & Watson (2001) the Data Quality factor, have constructed out of the following dimensions: accuracy, comprehensiveness, consistency and completeness of the data. The Data Quality factor had a significant impact on perceived net benefits and since the data quality variable was not DW explicit we believed that the same result could be achieved in our research field.

In terms of data quality, the online shopping system has to be able to reduce the level of uncertainty of the customer. Since the interaction between customer and system is done through the Internet, in the majority of cases, there are not physical links between the two entities. The customer has to believe what the online shopping system is presenting (Perez-Mira, 2010).

As result, Information search and information evaluation are important in a consumer buying process. The website containing high value information on the product highlighting about its benefits and details will help the visitor make a decision about purchasing the product (Pervaiz, and Sudha, 2010).

In the context of the present study, we defined data quality as follows: Data quality measures the characteristics of Data provided by an online shopping system.

E. Knowledge management

In this highly competitive economy, online shopping systems providers are struggling to survive and compete. One of the factors employed in those systems is knowledge management (KM) (Nantapanuwat, et al., 2010).According to Nantapanuwat, et al., (2010) It is said by Alavi (2000) The high quality of KM is expected to help e-commerce firms to achieve sustainable competitive advantages by well utilizing the existing knowledge base.

Knowledge is a complex mix of concepts, ideas, theories, rules and procedures that Permanent acts and decisions. KM means working to maximize the efficient use of intellectual capital in business activity. And KM associate to function planning, organizing, directing and available knowledge and investment-ups in order to maximize the added value of products and services for the organization and work to gain strategic competitive advantage confirmed (Al-Takreety, 2004).

According to Fernandez et al., (2004) the definitions of KM range from the simple and straightforward doing what is needed to get the most out of knowledge resources. As the world becomes more globally connected our daily economic and social lives are becoming more and more knowledge-driven.

According to Woolf, (1990) knowledge is organized information applicable to problem solving. According to Turban, (1992) knowledge is information that has been organized and analyzed to make it understandable and applicable to problem solving or decision making; or, knowledge is reasoning about information and data to actively enable performance, problem-solving, decision-making, learning, and teaching.

Generally a KM system is based on a particular 'domain of knowledge'. This domain can reflect a scientific discipline. Knowledge outside of the principal domain can be used to manipulate the domain knowledge to assist in the decision making process. This assisting knowledge is classified as 'decision support techniques' and decision support software'. KM can mean different things to an organization depending upon the nature of the initiative. KM, it's truly a practice or discipline that involves people, processes and technology. And, if implemented correctly with cultural buy-in from users and management, plus clearly defined goals, a KM initiative can improve the productivity and efficiency of an entire organization.

Often KM practices relating to service and support can be defined as knowledge-powered problem resolution - using a knowledge base, knowledge sharing, collaboration and knowledge reuse to efficiently solve customer questions (Tobin, 2003).

Customers and end-users also benefit when they have direct access to a knowledge base to solve their own issues without ever contacting an agent. A growing number of people now prefer self-service to live interaction, at least for certain problem types. For some people, self-service fits perfectly into their lifestyle. They are in a hurry and they need a specific piece of information and that's all they want (Tobin, 2003).

KM has become an important theme as managers realize that much of their firm's value depends on ability to create and manage knowledge. To transform information into knowledge a firm must use additional resources to discover patterns, rules, and context where the knowledge works (Supyuenyong & Islam, 2006; Laudon & Laudon, 2006; McLeod & Schell, 2006).

The importance of information and communications technology (ICT), especially of the Internet in the purchase decision making in online shopping context, has greatly increased in recent years.

According to Maswera et al., (2006) the Internet has led to the rapid growth of electronic commerce (e-commerce) because of its ability to reach every corner of the world and also provide an unprecedented level of connectivity and the ability to communicate efficiently at modest cost.

According to Maswera et al., (2006) it is said by Grover and Davenport (2001) knowledge is defined as the most valuable form of content in a continuum starting with data, encompassing information, and ending at knowledge. Therefore, information collected from customers obtains greater value when it is converted into knowledge. Based on the above, we can say that there is a potential impact the knowledge management on consumer decision making satisfaction, In other words, the researcher expect that the KM is one of critical success factors influence the web-based DSS in online shopping field.

II. PREVIOUS STUDIES

Web based applications are being widely used by global enterprises for online shopping because goods are becoming increasingly easy to deliver, cheaper, and easier to choose (Lee & Chung, 2005). These applications are seen as vehicles for improving customer interest, improving product perception, shopping experience, customer service and customer risk in considering shopping mall design (Gasmelseid, 2006).

The potential of DSS as computerized tools in assisting decision-making process has been attracting some researchers for the last years to improve decisions in online shopping. Most phases in online shopping involve crucial decisions that need to be made either by consumer or client (Mohemad et al., 2010). Previous researches that implemented decision-making concept in the area of online shopping and e-commerce will review.

Forgionne & Newman, (2007) who found that creativity-enhanced concept is superior to traditional DSS approaches in guiding the decision-maker towards an effective policy or strategy. In addition, Cowie & Burstei, (2007) also addressed the issue of quality of data that was considered as an important factor influencing the quality of the decision by implement of the DSS.

In thesis for Johansson & Gustafsson, (2009) they has concentrated on building a cumulative theoretical framework of Information Systems research applicable to the field of DSS, starting from Wixom & Watson's research model from (2001). Via a multi method entailing the built up theoretical framework and two expert interviews a research model was designed, which subsequently was tested and evaluated through a survey in order find the answer to which critical success factors that significantly affects end users perceived net benefits as dependent variable for Measuring the success of a DSS post-implementation. By analyzing the survey result, this study identified three factors that significantly affect end users perceived net benefits, namely Data Quality, Problem Match and Support Quality.

According to Bharat & Chaudhury, (2004), and based on their research that endeavors to understand factors that impact decision-making satisfaction in web-based DSS's. The information quality and system quality influence decision-making satisfaction, while information presentation does not have an effect on decision-making satisfaction. Their research has examined the perceptions of users on decision-making satisfaction and, in doing so, has validated part of the proposed model using the data.Based on their Recommendation, Further studies should also be conducted using other web-based DSS so as to test if the results of the present study can be extended to other situations.

The research results of Nosrati, (2008) suggest that web site quality has a strong impact on satisfaction and also e-trust has a reasonable impact on quality and through quality affects satisfaction.

A summary of some of the previous studies related "factors affecting web-based DSS success in online shopping context" are listed in the next table.

SUMMARY OF PREVIOUS STUDIES

Authors	Purpose	Data sources	Major results
Lisa Y. Chen (2013)	To Explore the relationships between the mobile shopping system quality, purchase intention, and organizational performance based on the extended IS success model.	This research model surveyed 217 marketers in Taiwan to measure their perception of m-shopping quality.	It suggested that the m-shopping system's quality, information quality, and service quality are important antecedents for measuring m-shopping system success.
Aldhmour & Eleyan, (2012)	To examine the main factors that influences the successful adoption of Decision SupportSystems (DSS) in the Aqaba Special Economic Zone Authority (ASEZA).	A questionnaire was distributed to a sample of (161) respondents to collect primary data, & based on aConvenience sample the response rate was about 79%.	The results indicated that PU & IT infrastructures have a positive & significant influence on the successful adoption of DSS.
Nazir, Tayyab, Sajid, Rashid, & Javed, (2012)	To review the factors felt reservation of consumers in online shopping in Pakistan.	A survey was conducted and the 120 questionnaires were distributed among the students of different universities and the general public.	There are some factors such as psychological factors, social factors emotional factors, and the privacy factors which affect the buyer attitudes of online purchases.
Wei, (2012)	To examine success factors for transactional e-Commerce Websites focusing on technical and business contexts.	An empirical study was conducted, interviewing 8 e-Commerce professionals and 52 end users. Primary data was collected from surveys and interviews to verify the hypotheses.	The success factors which determine e-Commerce development are usability and performance, security, technical support, web design, web content and system development process.

Authors	Purpose	Data sources	Major results
Holley, (2011)	To provide knowledge into how such FDSS are used to support financial risk assessment at financial institutions.	A combination of semi-structured interviews and survey questionnaires. Quantitative analysis is to a small degree to complement and strengthen the qualitative analysis with focus on answers provided by participants on standardized survey questionnaires.	While some important factors remain inconclusive, the researcher findings show that the FDSS evaluated at the Swedish National Debt Office are reasonably successful.
Pérez-Mira, (2010)	To analyzes the DeLone and McLean Model of IS Success at the organizational level of analysis in the E-commerce environment.	The data for this study were collected using the Internet Retailer Top 500 Guide for the 2008 year. From the Top 500 firms, only 448 were included in the study.	The results of the study provide support for utilizing the DeLone and McLean Model of IS Success to explain the dimensions and relationships of Information Systems Success at the organizational level.
Li, (2010)	To explore Factors that affect students' decision making on buying computers: online or in retail shops.	This research uses mixed methodology, which includes quantitative and qualitative methods, and the information has been collected by survey and interview. A total of 92 students responded to the survey and 9 students were interviewed.	By reviewing literature some factors which affect students such as, price, convenience, efficiency, product range, service and safety.
Shaukat & Zafar, (2010)	To identify the impact ofsociological & organizational factors on ITAdoption.	The primary data was collected through in-depth interviews & field surveys of 48 companies, 24 in manufacturing sector (12 local & 12 foreign) & 24 in banking sector (12 local & 12 foreign), in Pakistani companies.	Found that OS impacts the adoption of IT.
Johansson & Gustafsson, (2009)	To investigate Critical Success Factors affecting Decision Support System Success, from an end-user perspective.	By using Interview participants and Web-based survey tools.	This study identified three factors that significantly affect end-users perceived net benefits, namely Data Quality, Problem Match and Support Quality.
Sharkey, Acton & Conboy, (2009)	To Model the Effects of Decision Tools in Online Shopping.	They propose to investigate the methods by experiment and survey manipulating the methods of decision support provided and measuring the effects on the consumer decision process.	The results of this research will make it easier to decide what decision support tools are appropriate at what stages of the consumer decision process.
Rezaei et al, (2009)	To investigate the influence of organizational factors on MIS success.	Survey questionnaires weregathered from 132 ExtensionManagers from Iran's Agricultural Extension Providers.	Found that all the organizational factors (department structure, IS infrastructure & MS) are significantly correlated to the success of IS.
Brown & Jayakody, (2008)	To test and Validate of a Revised Conceptual Model for B2C e-Commerce Success.	Data gathered from 166 online consumers in South Africa.	7 interrelated dimensions of B2C e-commerce success were confirmed, namely service quality, system quality, information quality, trust, perceived usefulness, user satisfaction and continuance intentions.
Nosrati, (2008)	To gain a better understanding of the impact of web site quality factors on customer satisfaction.	Quantitative survey is used as data collection method from customers' experiences in online book shopping.	Quality has a strong impact on satisfaction.

III. PROBLEM STATEMENT

The current research attempts to investigate and explore the critical success factors that influence decision making satisfaction for internet users who are familiarity with online shopping field. Although there are various factors which contribute in making online shopping decisions but this study focuses on five factors i.e. online shopping system quality, data quality, knowledge management, consumer decision making satisfaction, and perceived net benefit.

Also, this research will use existing models that explain and predict information systems (IS) success as Delone & McLean, (2003). However, these success models need to be updated to recurrent industry developments. Essentially this research argues that by updating existing IS success models, a better understanding of web-based DSS practitioner success can be achieved.

We believe that the E-commerce environment and Specifically the online shopping field is a unique setting to study and develop the Delone and McLean's model of IS Success because the system itself is essential to the business, without it, there would not be any business-customer interaction. In other words, online shopping

system is different from other types of systems implemented because its use is volitional instead of mandatory (Perez-Mira, 2010). This research attempts to answer the following main question: "What are the main critical success factors that influence the consumer decision making satisfaction and perceived net benefit in online shopping context"?

IV. RESEARCH AIM AND OBJECTIVES

The main objective of this study is to gain a deeper understanding about Critical Success Factors that influence the consumer Decision-Making Satisfaction and in turn, perceived net benefit in online shopping context, also this study can help DSS designers and providers to provide DSS more successful. In turn, increase the satisfaction and perceived net benefit (i.e. system success).

V. RESEARCH MODEL

To study the main factors influencing successful of web-based DSS, the researcher relies on previous studies, the Delone& McLean, (1992, 2003) models&his observations in building the proposed model below.

Delone and McLean's (1992) were reported IS success model suggests system quality and information quality singularly and jointly affect both use and user satisfaction. Use and user satisfaction are direct antecedents of individual impact. Lastly, the impact on individual performance should eventually have some organizational impact.

Considerable prior research endeavors to examine the effectiveness of IS success, evaluation, andacceptance. Many researchers attempt to examine some or all of the relationships in the originalIS success model as proposed by Delone and McLean in 1992, as shown in Figure (1).
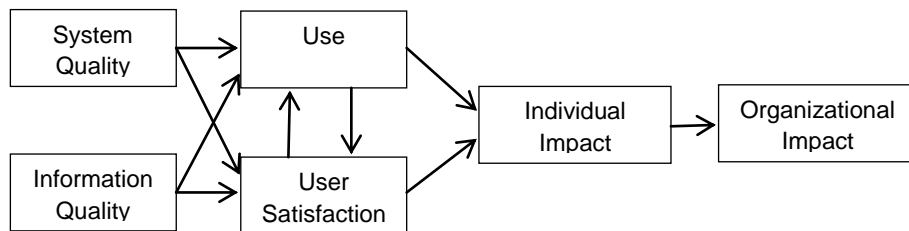

Figure 1: Delone and McLean IS success model (1992).

Delone& McLean (2003) later refined their much-cited model based on comments offered by academia over the preceding decade. The quality of IS can be measured based on the dimensions of information quality and system quality as well as a portion of service quality (Delone& McLean, 2003, 2004). As shown in Figure (2), the necessity of service quality along with system and information quality as additional components of IS success to reflect the changing nature of IS as required is successful electronic commerce (e-commerce) systems.
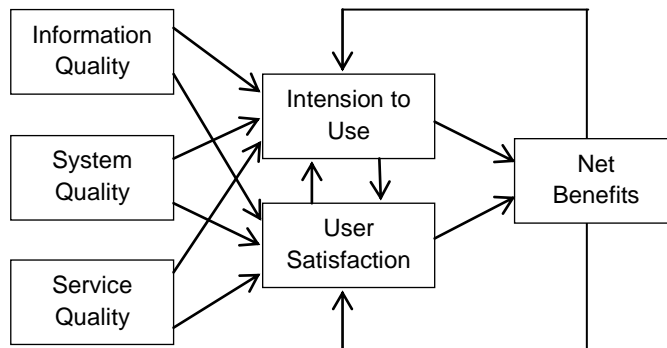

Figure 2: Updating Delone and McLean IS success model (2003).

Based on the above, the following conceptual model is proposed, which incorporates concepts from earlier models to be applied to testing in the area of online shopping and other fields. This model is conceptually based on the IS success model Delone& McLean (2003) which explains the impact of IS at the individual and organizational levels. The dependent constructs in the model is "consumer decision making satisfaction and Perceived Net Benefit" and the independent constructs are: online shopping system quality, data quality, and Knowledge Management, as shown in Figure (3).
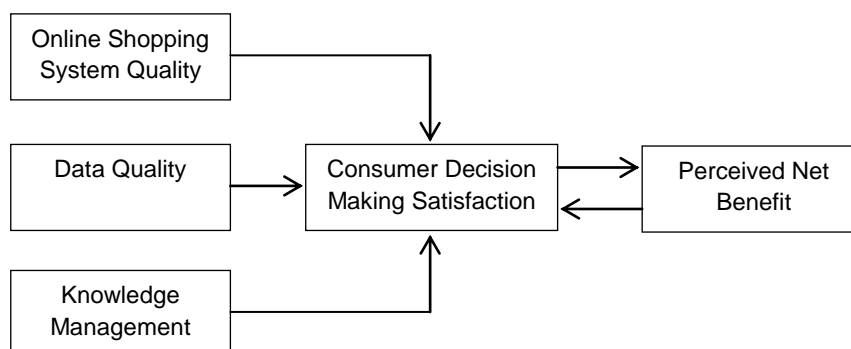
Figure3: Proposed Research Model

In this study, Web-Based DSS success in online shopping context is defined through consumer decision-making satisfaction and perceived net benefit. Consumer decision-making satisfaction is proposed to be determined by online shopping system quality, data quality, and knowledge management, in turn, consumer decision-making satisfaction and perceived net benefit have mutual effect. Therefore, the hypotheses can be generated as follows:

H1: Online Shopping System Quality positively affects Consumer Decision Making Satisfaction.
H2: Data Quality positively affects Consumer Decision Making Satisfaction.
H3: Knowledge Management positively affects Consumer Decision Making Satisfaction.
H4:A high level of Consumer Decision Making Satisfaction is associated with a high level of Perceived Net Benefit.
H5:A high level of Perceived Net Benefit is associated with a high level of Consumer Decision Making Satisfaction.

VI. RESEARCH IMPORTANCE

This study is initiated recognizing a need for research into an area, and it is theoretically important on several levels, especially, this study will addresses an area that has been largely ignored in literature of online shopping.
In light of that, the research significant can be derived from the following:

1. This research may represent a starting point for further research to cover other factors affecting web-based DSS success in online shopping context.
2. The results would help designers and online shopping services providers understand the key issues that influence citizen's need and decision making satisfaction with this service and they can use these quality criteria to judge their service delivery process.
3. By answering the overall research question, we might enlighten web-based DSS-vendors about what parts of the post-implementation phase they should concentrate on to increase the success of the system and end users decision making satisfaction.
4. This research intends to build upon the updated IS success models of Delone and McLean (1992, 2003) as has been applied in the arena of web-based DSS. So, this research will evaluate the applicability of the model in the context of online shopping. The research intends to extend the present theoretical model by incorporating new independent variables that may exist in its application specific context (online shopping) and examine and establish new relationships that may emerge as theoretical contribution.

VII. DESIGN AND METHODOLOGY

The researcher uses a deductive approach which is more likely to work with quantitative data in order to answer the questions about relationships among measured variables with the purpose of explaining, predicting & controlling phenomena. Thus, the aim of a deductive approach is to generalize from a sample to a population (Leedy&Ormrod, 2001).
The design was quantitative because the data took a numerical form. That is, by employing a deductive approach with a quantitative research method, the researcher has been able to measure & analyze the relationship between influencing factors & the successful of web-based DSS in online shopping context. This approach also allows for testing the research hypotheses & generalizing the research findings to the population (Zikmund, 2003).
The methodological approach in this research is a descriptive one, because the researcher attempts to identify, explain variables of this research & to describe the relationships between these variables in order to provide a picture of a particular phenomenon, but not to ferret out cause-effect relationships (Churchill & Iacobucci, 2002).
According to Yin (1994) there is one main reason for using the survey strategy, which other strategies cannot provide. For example, a number of the research questions in this study are related to who, what, when, where,

how many or how much, & to what extent. These are appropriate for surveys, while the question type using how & why are suitable for a case study (Yin, 1994). The nature of questions in this research being investigated, for instance is "What are the main critical success factors that influence the consumer decision making satisfaction in online shopping context"? & according to the previous studies it is appropriate to use a survey-based research approach.

The procedure of selecting (170) internet users who are familiarity with online shopping field was based on the convenience sampling method, as it is considered the best way of getting some basic information quickly & efficiently (Sekaran, 2006). The researcher distributed (170) questionnaires, (140) questionnaires were returned & were valid for analysis; these questionnaires were distributed to internet users who are familiarity with online shopping systems in Gaza strip.

VIII. DATA ANALYSIS AND RESULTS

The collected data were analyzed by Statistical Package for the Social Sciences (SPSS) software. The statistical analysis included descriptive statistical analysis, Pearson's correlation coefficients, Cronbach's alpha, Split-Half and Multiple Regressions to examine the hypotheses and to verify the relationships between variables.

All items of instrument are achieved significant correlations with the total average of the scale and total average of variables at significant level less than 0.01 as shown in table (1).

All variables of web-based DSS success are achieved significant correlations with the total average of the scale at significant level less than 0.01 as shown in table (2). It's clear from table (1) and table (2) that the internal consistency validity is achieved.In this study, Cronbach's alpha and Split-Half are used to estimate the reliability and internal consistency of the questionnaire.

As shown in Table 3, the reliabilities of all independent and dependent variables were all exceed 0.70 as suggested by Nunnally (1978).

As shown in Table 4. In this study, Multiple Regressions is used to test the hypotheses. Based on the results of multiple regression analysis, the overall coefficient of multiple Determination for Hypothesis 1, 2, and 3 are found as R^2 =0.558, Adj-R^2 =0.548, F=57.274, P=0.000. The results suggest that online shopping system quality (P =0.029, Beta = 0.159, t=2.212) has a statistically significant effect on consumer decision making satisfaction (hypothesis 1 is supported).With respect to Hypothesis 2, the results indicated that data quality (P =0.000, _ = 0.455, t=6.363) has a significant effect on consumer decision making satisfaction. In addition, knowledge management (P =0.000, _ = 0.297, t=4.562) has a significant effect on consumer decision making satisfaction (hypothesis 2 and hypothesis 3 are supported).

Results in Table (4) shows that VIF for all independent variables ranged between (1.305- 1.582), which are less than the limited valued (10) & Tolerance for all independent variables ranged between (.632- .766), which are greater than (0.10). This indicates that there was no effect between independent variables (Multi-collinearity).

Based on the results of multiple regression analysis as shown in Tables (5), the overall coefficient of multiple Determination for Hypothesis 4 is found as R^2 =0.481, Adj-R^2 =0. .477, F=127.991, P=0.000. The results suggest that consumer decision making satisfaction (P =0.000, Beta = 0.694, t=11.313) has a statistically significant effect on perceived net benefit (hypothesis 4 is supported).

Based on the results of multiple regression analysis as shown in Tables (6), the overall coefficient of multiple Determination for Hypothesis 5 is found as R^2 =0.481, Adj-R^2 =0.477, F=127.991, P=0.000. The results suggest that perceived net benefit (P =0.000, Beta = 0.694, t=11.313) has a statistically significant effect on consumer decision making satisfaction (hypothesis 5 is supported).

IX. CONCLUSIONS AND RECOMMENDATIONS

The propositions presented in this paper an opportunity for further investigation in the web-based DSS evaluation with focus on critical success factors influencing Web-Based DSS in Online Shopping Context, and In light of the research objectives & empirical results, & in order to answer the research questions outlined at thebeginning of this research, the researcher has reached the following conclusions:

1- Online shopping system quality, data quality, and knowledge management have a positive effect on the consumer decision making satisfaction at successful of web-based DSS in the context of online shopping.

2- A high level of consumer decision making satisfaction is associated with a high level of perceived net benefit. And vice versa, a high level of perceived net benefit is associated with a high level of consumer decision making satisfaction. In other words, there is mutual effect between consumer decision making satisfaction and perceived net benefit at web-based DSS in online shopping field.

3- The proposed model should be of interest to IS practitioners in general and DSS practitioners in particular and academic community. For the practitioner community, the model will enhance their understandings on the factors that contribute of DSS success and enlighten DSS-vendors about what parts of the post-implementation phase they should concentrate on to increase the success of the system and end users decision making satisfaction. For

the academic community, the proposed model provides ample research opportunity to validate in order to support or refute the proposed propositions.

4- We recommend other researchers for the work of more empirical studies on the proposed model in communities that have a weakness in the field of online shopping to measure the success of web-based DSS in the field of online shopping. Also, to know and anticipate the factors that affect the acceptance of online shopping idea by citizen's especially in countries that in initiative stage of construction and implementation of online shopping systems.

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Table 1: The correlation coefficient between each item and the total degree of the scale and the total degree of variables

Variables	Items	Correlation of Item-Total	Total Degree of Variables	Variables	Items	Correlation of Item-Total	Total Degree of Variables
webqual	webqual1	0.58**	0.71**	kmqual	kmqual1	0.43**	0.62**
	webqual2	0.50**	0.60**		kmqual2	0.44**	0.52**
	webqual3	0.48**	0.49**		kmqual3	0.64**	0.68**
	webqual4	0.46**	0.51**		kmqual4	0.42**	0.56**
	webqual5	0.44**	0.47**		kmqual5	0.49**	0.55**
	webqual6	0.55**	0.57**		kmqual6	0.46**	0.49**
	webqual7	0.42**	0.43**		kmqual7	0.59**	0.62**
	webqual8	0.68**	0.69**		kmqual8	0.47**	0.61**
	webqual9	0.42**	0.48**		kmqual9	0.45**	0.65**
	webqual10	0.49**	0.51**		kmqual10	0.43**	0.45**
	webqual11	0.54**	0.67**	dmsat	dmsat1	0.57**	0.73**
	webqual12	0.53**	0.59**		dmsat2	0.62**	0.77**
	webqual13	0.43**	0.54**		dmsat3	0.67**	0.76**
	webqual14	0.51**	0.61**		dmsat4	0.65**	0.74**
datqual	datqual1	0.51**	0.58**		dmsat5	0.41*	0.48**
	datqual2	0.42**	0.64**		dmsat6	0.57**	0.63**
	datqual3	0.44**	0.45**		dmsat7	0.59**	0.70**
	datqual4	0.57**	0.58**	benef	benef1	0.64**	0.71**
	datqual5	0.51**	0.62**		benef2	0.66**	0.67**
	datqual6	0.43**	0.44**		benef3	0.51**	0.56**
	datqual7	0.51**	0.62**		benef4	0.49**	0.68**
	datqual8	0.59**	0.71**		benef5	0.51**	0.76**
	datqual9	0.47**	0.58**		benef6	0.63**	0.86**

Table 2: Correlation between independent and dependent variables

		total	webqual	datqual	kmqual	dmsat	benef
total	Pearson Correlation	1	.831**	.804**	.687**	.851**	.795**
webqual	Pearson Correlation	.831**	1	.570**	.431**	.546**	.580**
datqual	Pearson Correlation	.804**	.570**	1	.425**	.672**	.547**
kmqual	Pearson Correlation	.687**	.431**	.425**	1	.559**	.399**
dmsat	Pearson Correlation	.851**	.546**	.672**	.559**	1	.694**
benef	Pearson Correlation	.795**	.580**	.547**	.399**	.694**	1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3: Reliability of the questionnaire

Variables	No. of Item	Cronbach's Alpha	Split – Half Coefficient	Skewness	
				Statistic	Std. Error
webqual	14	.887	.826	-.521	.205
datqual	9	.883	.816	-.651	.205
kmqual	10	.903	.852	.471	.205
dmsat	7	.869	.785	-1.221	.205
benef	6	.891	.820	-.496	.205

Table 4: Results of multiple regression analysis for variables

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747a	.558	.548	.30732

a. Predictors: (Constant), Kmqual, Datqual, Webqual
b. Dependent Variable: Dmsat

Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.228	3	5.409	57.274	.000a
	Residual	12.845	136	.094		
	Total	29.073	139			

a. Predictors: (Constant), Kmqual, Datqual, Webqual
b. Dependent Variable: Dmsat

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-.728	.373		-1.960	.050					
	Webqual	.202	.091	.159	2.212	.029	.546	.186	.126	.632	1.582
	Datqual	.541	.085	.455	6.363	.000	.672	.479	.363	.636	1.574
	Kmqual	.426	.093	.297	4.562	.000	.559	.364	.260	.766	1.305

a. Dependent Variable: Dmsat

Table 5: Results of multiple regression analysis for variables

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.694a	.481	.477	.37281

a. Predictors: (Constant), Dmsat
b. Dependent Variable: Benef

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.789	1	17.789	127.991	.000a
	Residual	19.180	138	.139		
	Total	36.969	139			

a. Predictors: (Constant), Dmsat
b. Dependent Variable: Benef

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF

1	(Constant)	.903	.266		3.398	.001					
	Dmsat	.782	.069	.694	11.313	.000	.694	.694	.694	1.000	1.000

a. Dependent Variable: Benef

Table 6: Results of multiple regression analysis for variables

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.694a	.481	.477	.33061

a. Predictors: (Constant), Benef
b. Dependent Variable: Dmsat

Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.989	1	13.989	127.991	.000a
	Residual	15.083	138	.109		
	Total	29.073	139			

a. Predictors: (Constant), Benef
b. Dependent Variable: Dmsat

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.425	.213		6.680	.000					
	Benef	.615	.054	.694	11.313	.000	.694	.694	.694	1.000	1.000

a. Dependent Variable: Dmsat