An Empirical Evaluation of the Role of Information Quality on IS Success in the Indian Financial Services Sector

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Abstract
Background: The importance of information quality to current business practices has long drawn attention of practitioners and academicians.
Aim: This paper aims to broaden the understanding about information quality as a critical factor through which information technology spreads its influences on the banking success. In the context of Indian banking, this study examines how banking technology has benefited through information quality.
Method: A research framework and associated hypotheses are proposed. An empirical survey was conducted and questionnaires were distributed to 600 bankers.
Analysis: A total of 499 valid observations was collected and analyzed using multiple regression using OLS technique
Conclusions: The results suggest that information quality has positive effects on the banking success.

Keywords: IS success, Information Quality, Research framework, User Satisfaction, Net benefits, Indian banks.
Paper type: Research Paper

Introduction

The role of information technology in contemporary organizations continues to expand in scope and complexity and has a dramatic effect on business operations. Information systems are widely used in the banking sector, these systems are particularly appropriate because banking organizations are, by their nature, information intensive. India's banking sector is growing at a fast pace. It has become one of the most preferred banking destinations in the world. Whether it is the wide distribution network of the public sector banks (PSBs), or the first-mover technology advantage taken by the private banks, this new age of banking has brought forth opportunities as well as challenges. Also, given the fact that 75 per cent of the financial sector assets come from banking services, this industry plays a pivotal role in governing the economy.

Banks need to constantly look for innovative services which offer customers the convenience of transacting from anywhere, at any time and using delivery channels more suitable for them. These are frontiers which would add value to the services offered to customers and at the same time act as a means for increasing the profits for banks too. The collapse of geographical distances necessitates the banks to have good quality information. Technology plays an increasingly important role in the development of new services and more efficient management of the institutional structures of banks.

But it does not ensure good quality of information. Banking corporations simply forget to check the quality of their data, directing all their attention to the identification, extraction and information load, the result of which has been dramatic, and companies have come to question the quality of the information produced by the IT in which they are investing or intending to invest. The Indian banking industry was chosen as the object of this study because of its heavy investment in, and extensive use of IT, as well as the fact that information represents a key element influencing the performance and success of organizations in the sector.

Background and Previous Research:
As the field of information systems grows, the banking information system literature has not matured to meet the needs of practice. One particular area that is in urgent need of further exploration is the information systems success in the banking sector. In the current environment, with the substantial investment in information systems and the push to develop performance-based banking organizations, banking managers are handicapped by a lack of appropriate instruments to measure the success of information systems and, in turn, are unable to justify investment in existing and future information systems. Moreover, most, if not all, of the empirical evidence on information system effectiveness and its associated factors is confined to the use of data from developed countries. The findings of such research cannot necessarily be generalized to other environments where the social, economic, and cultural characteristics are different. Such evidence needs to be validated by using cross-cultural research before it can be used to manage global information systems effectively (Khalil and Elkordy, 1997). But the present success methods have not brought out the real worth of IT instead contributed to the phenomenon called the "IT investment – paradox", or the "IT Black Hole". Large sums are invested in IT, and seem to be swallowed by a large black hole without rendering any returns. This productivity paradox hype has resulted in search for alternative ways of assessing information technology success through other quality constructs, namely, Information Quality, System Quality, Service Quality, User Satisfaction and Net benefits.

The work by DeLone & McLean was the earliest attempt to organize efforts at measuring IS performance. Based on the communications research of Shannon and Weaver (1949) and the information "influence theory" of Mason (1978), as well an empirical management information systems (MIS) research studies from 1981-1987, they categorized IS success into six major dimensions: System Quality, Information Quality, Use, User Satisfaction, Individual Impact, and Organizational Impact. They suggested that, with these six factors, all the critical elements that determine the success of an implementation can be measured. Each of the factors explores a distinctly different domain and each of these domains has been noted to have a significant effect on the subsequent domain.

Impact assessment is essential to supply the feedback needed for the effective management and continuous improvement of the IS function Systematic measurements are needed to guide management action. Without quantitative feedback, managers are dependent upon only experience, intuition, and judgment. As firms become more complex, global, and fast-paced, relying on experience and intuition alone is increasingly problematic (Singleton et. al., 1998). Managers define what is important to the organization and manifest corporate culture in their assessment choices Strassman (1990). The relationship between IS performance and organizational performance should be more carefully explored. It is clear that IS assessment is vital to the organization. As the original IS success model needed further validation, DeLone and McLean proposed an updated model in 2003, again based on a literature review. They added Service Quality (e.g., IS support) as another important dimension. In addition, they added Intention to Use as an alternative measure because an

attitude is worthwhile to measure in some context. Finally, they combined Individual and Organizational Impact to one dimension, named Net Benefits; to broaden the impacts of IS also to groups, industries and nations, depending on the context. Based on these thoughts, we adopted the IS success model of DeLone and McLean as the starting point for formulating our impact assessment framework of information quality in banking.

Information Quality (IQ)
Information Quality (IQ) refers to the quality of the information the system produces and to the degree this information output matches the needs of the users in terms of accuracy, reliability, relevance, completeness and precision of information Bailey and Pearson(1983), Weill (1989). So, users assess the value of the information with respect to desired characteristics such as accuracy, meaningfulness, completeness, and, timeliness.

Dimensions of Information Quality
Information Quality (IQ) refers to the quality of the information the system produces and to the degree this information output matches the needs of the users in terms of accuracy, reliability, relevance, completeness and precision of information (Bailey and Pearson, 1983; Wang and Strong (1996). Information quality is not an entirely new concept, but it has gained increasing attention during the last few years. The concept of data quality has been used to a greater extent earlier than the concept of information quality.

DeLone and McLean (1992) described information quality as "measures of information system output" and states information quality measures of IS output rather than measure the quality of the system performance. However, other 1S researchers have preferred to focus on the quality of the information system output, namely, the quality of the information that the system produces, primarily in the form of reports. According to Lee and Strong (2003), data are produced by a process that starts with the collection of raw data and ends with the utilization of information products by consumers working on various tasks. The main generating sources of accounting information in bank activity are: client accounts, bank accounts and bank computerized programs (which deal both with accounting data, statistical data, bank management, etc). Information quality describes the attributes of the information that result in customer satisfaction. Wang and Strong (1996) define 'data quality' briefly as "data that are fit for use by data consumers".

In this study, Information Quality (IQ) is defined as *'the judgment of the degree to which the stakeholders are provided with information of excellent quality in an easily usable and understandable format that reflects real conditions'.*

Although it is a relatively new area of study, there has been a gradual advance in the field of Information Quality (IQ). Since the 1990s, debate on this topic has largely come to focus on two lines of study: one that focuses on the administrative/strategic aspects of IS, as in the work of McGee *et al.* (1994) and Davenport *et al.* (1998), and another that highlights technological/operational aspects, related to data quality, led by Richard Wang (1998), among others. Nevertheless, great efforts have been made to solve the IQ problems in the academic and business worlds, as there is a critical need for a methodology that can be used to determine to what degree organizations develop information products and services of quality for their users. Investments in IT have had a significant impact on the banking industry. These investments in IT, however, do not ensure the good quality of the information. Companies have come to question the quality of the information produced by the IT in which they are investing or intending to invest. Banking organisations simply forget to check the quality of their data, directing all their attention to the identification, extraction and information load, the result of which has been dramatic (Ana Lucia Moura, 2006). The 2009, RBI report on trend and progress of banking in India concludes by noting

that *'With 'computerization of commercial banks having reached a plateau (even with regard to adoption of CBS),it has become possible to bring about a paradigm shift in the data flow and information sharing arrangements by harnessing the benefits of IT resources. The system should help in leveraging benefits'.* Wang and Strong (1996) took an empirical approach to study data quality and developed a hierarchical framework with four data quality categories and fifteen dimensions (i) intrinsic data quality consisting of accuracy, objectivity, believability and reputation; (ii) contextual data quality consisting of value-added, relevancy, timeliness, completeness and appropriate amount of data; (iii) representational data quality consisting of interpretability, ease of understanding, representational consistency and concise representation and (iv) accessibility data quality consisting of accessibility and access security. They justify their framework by the fact that a data quality framework had not existed before – and one was needed to enable measurement, analysis and improvement of data quality in a valid way. Their framework provides a basis for deciding which aspects of data quality to use in any research study. This framework has been used effectively in industry and government. Earlier, most studies were based on a small set of quality attributes that were commonly selected (for instance, accuracy only). Pipino, *et al.* (2002) considered data-quality dimensions such as completeness, correctness, system currency, storage time, and volatility. Caballero *et al.* (2004) reports that information quality has already become a decisive factor in information -dependent business. However, data and information quality goes beyond the definition of data quality dimensions and there is still lack of an integrative framework, which can guide organizations in the assessment and improvement of data and information quality in a coordinated and global way. It has been noted that information quality should always be considered in terms of "use-based information quality". This is particularly important in e-banking systems because ignoring information presentation and delivery aspects will create problems in terms of irrelevant information disorientation and cognitive overhead. The literature is also silent on these factors. This needs to be probed further in this research context. Rainer and Watson (1995) used accuracy, timeliness, conciseness, convenience, and relevance of the information as measures of information quality. Bailey and Pearson (1983) identified nine characteristics of Information Quality – accuracy, precision, currency, output timeliness, reliability, completeness, conciseness, format and relevance. Srinivasan (1985) added understandability and Mahmood and Medewitz (1985) added report usefulness. Given the relatively mature markets where the information quality scales have been developed, it seems unlikely that these measures would be applicable to India without adaptation. From the literature, it is evident that IS success studies are not exploring the field of the present IQ research domain, which has grown and contributed new models and frameworks. Unfortunately most of the IS success studies are not citing these new researches nor incorporating IQ success dimension. An attempt is made to bridge this gap in this study.

However, based on the financial service context, the following measures are identified for information quality construct in the study: *Accuracy, Completeness, Accessibility, Timeliness, Format, Consistency, Data Transfer, Data Error, Security, Integration (See Table).*

The literature survey of studies based on D&M also shows mixed effect of Information Quality on User Satisfaction and impacts. While McGill *et al.* (2003), Sedera *et al.* (2004), Windsor and Pryor (2000), and Sedon and Kiew (1996) have shown a positive impact of information quality on User Satisfaction.

Prior evidence in the research literature supports the notion that lack of attention to information quality problems leads to substantial losses, measured in both human and economic terms, either of which constitutes a negative organizational outcome. Information

quality has been the subject of research for many years. Although it is a relatively new area of study, there has been a gradual advance in the field of Information Quality (IQ). Since the 1990s, debate on this topic has largely come to focus on two lines of study: one that focuses on the administrative/strategic aspects of IS, and another that highlights technological/operational aspects, related to data quality, led by Richard Wang, at Massachusetts Institute of Technology(MIT), among others. Nevertheless, great efforts have been made to solve the IQ problems in the academic and business worlds, as there is a critical need for a methodology that can be used to determine to what degree organizations develop information products and services of quality for their users.

Little is known about information quality perceptions in India, because research focus has primarily been on developed countries (Herbig and Genestre, 1996).

User Satisfaction (US):
As discussed by DeLone and McLean(1992), user satisfaction is probably the most widely used single measure of IS success and they provided a summary of the studies and a list of the measures used in measuring user satisfaction.US continue to be the most commonly used success measure and is regarded as a surrogate measure for IS success. But this construct alone cannot fully measure IS success and should be complemented with other indicators of IS success.

Dimensions of User Satisfaction
DeLone and McLean (1992) describe user satisfaction as "recipient response to the use of the output of an information system". User Satisfaction is probably the most widely used measure of an information system's success. DeLone and McLean (1992) stated that: "… user satisfaction or user information satisfaction is probably the most widely used single measure of IS success. The reasons for this are threefold. First "satisfaction "has a high degree of face validity. It is hard to deny the success of a system which its users say that they like. Second, the development of the Bailey and Pearson instrument and its derivatives has provided a reliable tool for measuring satisfaction and for making comparisons among studies. The third reason for the appeal of satisfaction as a success measure is that most of the other measures are so poor; they are either conceptually weak or empirically difficult to obtain." User satisfaction is an important criterion for measuring the success of IS. Though indirect, it is the most prevalent measure of IS success due to its applicability and ease of use (Mahmood *et al.*, 2000).

User satisfaction is defined in this study as '*the extent to which users believe the information system available to them is useful in terms of information requirements and their response.* The concept is used to refer both to the information system function and to a single information system application without always making clear the distinction between the two. Most of the measures of user satisfaction with the information system function suffer from severe limitations as a measure of user satisfaction with a single application. Based on literature review 6 measures of user satisfaction and an overall satisfaction measure is used in the study (see Table 1) based on Chin *et al* . (2002) and Livari (2005).

Table 1: Dimensions of user satisfaction

Dimension
Terrible------------Wonderful
Difficult----------- Easy
Frustrating-------- Satisfying
Inadequate-------- Adequate
Dull ---------------Stimulating
Rigid----------------Flexible
Overall Satisfaction

Net Benefits:
This dimension measures the positive effects of information system DeLone and McLean (2003). DeLone and McLean (1992), indicate that the subject of each study must define the context in which these benefits will occur. In the case of banking individual and organizational benefits constitute the net benefit construct.

Dimensions of Net Benefits
In the original DeLone and McLean model, the variable *individual impact* measured the result of the information system on end users. This then directly affected the *organisation impact* of the information system. However, in the revised model rather than measuring the impact on individual stakeholders and the organisation as a whole as two separate variables, D&M argue a single measure *Net Benefits* is more appropriate. The new variable measures the benefits to both the individual user and the organisation. Rather than considering only the impact on the individual and the organization, they note that the effects of many current information systems now extend beyond the organization, with impact on customers, suppliers, industry and even on society. Instead of including a measure at all these levels, the authors group the impact measures into a single category called 'net benefits'. This term, they state, is in their opinion the most accurate descriptor of information system success.

The use of 'net benefits', the authors concede, raises the issues that need to addressed by the individual researchers, that is: what qualifies as a benefit? for whom? , and at what level should this be considered (individual, manager, senior management)? They suggest that the answers to these questions will depend on the particular system, its context and whose perspective of success is being considered. Finally, inclusion of the word 'net' is stressed as important, a few system developments are wholly positive, without some negative consequences for some individuals or groups. Whereas in the original model individual and organizational impact was affected by *User Satisfaction* and *Use*, they had no feedback to these variables. In the revised model, *Net Benefits* has a feedback effect on both *User Satisfaction* and *Intention to Use/Use*. For example if the *Net Benefit* of an information system is declining, *User Satisfaction* and *Intention to Use/Use* will also decline. *Thus net benefit is an advantage or good, something produced with the assistance of IS/IT.*

Research Gap:
Investments in Information Technology have had a significant impact on banking industry. Technology plays a pivotal role in providing fast and better services. But it does not

guarantee good information flow. There exists good scope for analyzing the reasons and to suggest ways and means to improve the information quality content in the banking. Secondly the infancy of information quality study has led to a blind faith in the information systems and its outputs that have resulted in bad quality decisions and wrong accountings. This necessitates the need to link information quality with that of the information system success factors.

Methodology: Research Framework and Hypotheses
Evidences in the literature establishing the relationship between the management of information quality and organizational outcomes has been limited and sparse with much of the evidence being anecdotal. A research framework is proposed for investigating the relationship based on revised D&M model and Information Quality literature. Figure (1) presents the research framework of the study.
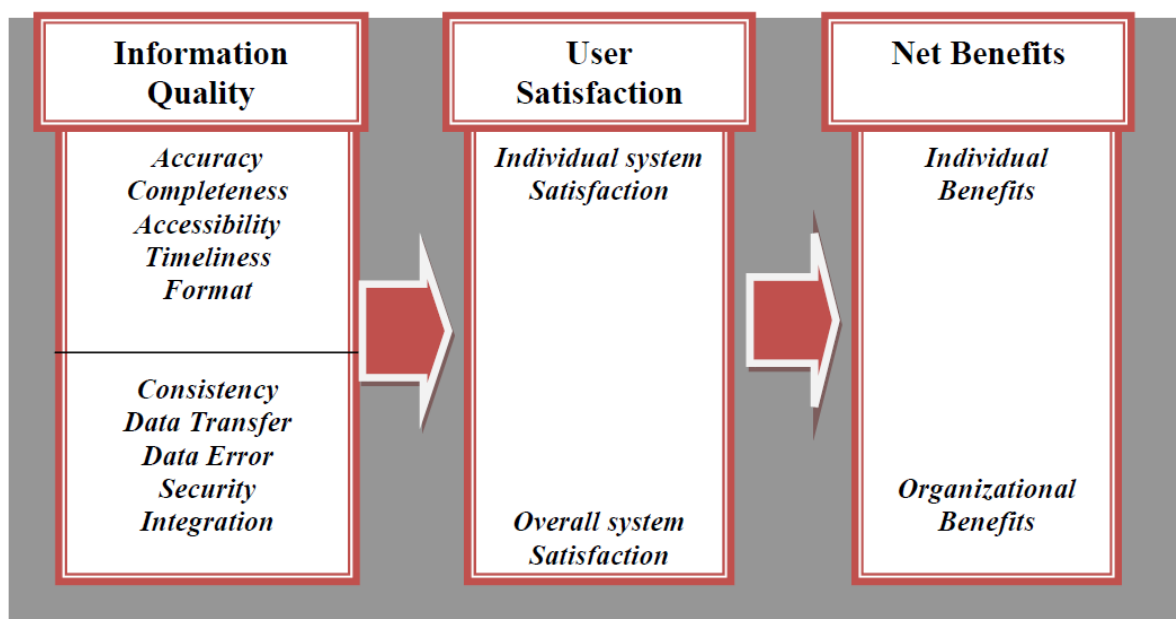

Figure 1: Research Framework

Research Framework shows the relationship that is hypothesized among the variables Information Quality, User Satisfaction, and Net Benefits. From the literature review of IT success, Information Quality and research framework, the following hypotheses are presented.

H_{o1}: *There is no significant effect of Information Quality on Net Benefits*
H_{o2}: *There is no significant effect of User Satisfaction on Net Benefits.*
H_{o3}: *There is no significant effect of Information Quality on User Satisfaction*

If the research framework can distinguish the difference between Information Quality, User Satisfaction, and Net Benefits, framework can be accepted by rejecting the null hypotheses.

Data
Data were collected from the leading banks in India as per the banking classification of Reserve Bank of India (RBI).As per the classification structure of RBI, banks have been classified as, Public sector banks, Old private sector banks, New generation banks, and ,

Foreign banks. The sample of this study is restricted to the first three categories of the banks in India.

Instrument Design:
The structured questionnaire was based on academic and practitioner oriented literature and interviews. The data were secured by means of a four page self administered questionnaire as part of a wider examination of the Information Technology evaluation in the Indian financial service industry.

Data collection and sample:
Data was gathered using the structured questionnaire employing a five point likert type scales .The questionnaire was administered directly by approaching the concerned banks and self distributed among the target group. The questionnaire was also accompanied by a covering letter explaining the purpose of the research and assuring the respondents that answers would remain confidential. We have also indicated that we would provide the summary of the findings if they desire so. Three groups of population, namely, IT managers, IT implementers and IT counter frontline staff were equally proportioned for sample selection. Table (1) shows the breakdown of sample sizes and response rates for the banks and the branches. The substantially high response rate was due in part to the bank management's encouragement to participate and the genuine interest of the target group. No non-response issues surfaced in any subsequent discussions with bank personnel after the survey was collected.

Table 2: Response Rate of survey

BANKS	NO:SUBJECTS	NO:OF RESPONDENTS	RESPONSE RATE
1.Public sector banks	150	84	84%
2.Old private banks	150	96	96%
3.New generation banks	150	90	90%

Questionnaire Reliability
The questionnaire items were based on existing items from the validated instruments found in the research literature. Many of the survey items had been widely validated in a variety of populations and organizational settings, while others had been validated in more limited contexts. But still statistical tests were conducted to validate the instrument in the financial industry context. Cronbach's alpha a measure of construct reliability was computed and almost all items of information quality, user satisfaction and net benefits shows alpha coefficients ranged from 0.68 to o.97.As a rule alphas of 0.70 or above represent satisfactory reliability of the items measuring the dimensions. Thus the Information quality has an alpha score of. .742 with 10 items, user satisfaction has .638 with 7 items, and net benefits have .748 with 20 items.

Data Analysis and Results
Ordinary least squares regression was primarily used to evaluate the research hypotheses. The OLS regression method is intended for causal-predictive analysis and to explain the dynamic relationships. Regression analysis was conducted to test the hypotheses H_{o1} to H_{o3}, in each case step wise as well as linear regression analysis was performed using SPSS software. Stepwise multiple regressions are considered appropriate for exploratory studies. Stepwise selection adds variables in the order of their contributions, yet tests the significance of each variable already added, removing them if it is determined that they no longer provide a significant contribution, resulting in the potential for a more parsimonious regression model. The end result of each

regression is an equation of the form: Y = ß1 X1+ ß2x2 + e (Equation 1) where ß1 = a particular independent variable and Y1 = an instance of a dependent variable. Each beta coefficient (ß) represents the standardized weighted contribution of a particular independent variable in predicting the value of a dependent variable .Before interpreting a multiple regression equation, it is important to consider the tolerance value, which is a measure of multicollinearity ranging from 0 to 1. Values of less than 0.1 are indicative of a multicollinearity problem. The output of the regression analysis consisted of three parts: the model summary, an ANOVA table, and a set of coefficients. In the model summary, the values for multiple correlation (R), the squared multiple correlation (R^2), and the adjusted squared multiple correlation (R^2_{adj}) were reviewed to assess how well the model predicted the dependent variable. In particular, R^2 and its adjusted variant (R^2_{adj}) were used to assess the total contribution of the independent variables. Both R and R^2 tend to overestimate the contribution, especially with small sample sizes, in which cases R^2_{adj} is considered to be more representative of the true contribution. The ANOVA table presented the F-test and level of significance for each step generated, reporting the degree to which the relationship was linear. A significant F-test is indicative of a linear relationship, hence a significant prediction. Finally, the set of coefficients was examined to consider the unstandardized coefficients (B), the standardized coefficients (ß), the t values and significance values. From the available set of variables we have three models to be tested for accepting or rejecting the hypotheses.

To evaluate H_{o1} and H_{o2}, a multiple regression analysis was performed to determine which of the independent variables (Information Quality or User Satisfaction or both) were predictors of Net Benefits. Regression results shows Information Quality and User Satisfaction are significant predictors of Net Benefits R^2=.376, R^2_{adj}=.372 and F=80.532.This explains 37.2% of the variance in Net Benefits. A summary of the regression model is presented in the Table (2), (3), and (4).Analysis of the residuals revealed no evidence of violations of the assumptions of linearity, normality, or homoscedasticity, hence the results of the multiple regression analysis are accepted as tenable and the null hypotheses H_{o1} and H_{o2} are rejected.

Table 3: Summary - Predictors: US, IQ

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.613(a)	.376	.372	.51024

a Predictors: (Constant), US, IQ

Table 4: ANOVA - Predictors: US, IQ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.933	2	20.966	80.532	.000(a)
	Residual	69.513	267	.260		
	Total	111.446	269			

a Predictors: (Constant), US, IQ
b Dependent Variable: NB

Table 5: Coefficients- Predictors: US, IQ

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	1.284	.211		6.077	.000
	IQ	.558	.058	.527	9.625	.000
	US	.165	.059	.153	2.801	.005

A Dependent Variable: NB

To evaluate H_{o3}, a multiple regression analysis was conducted to determine whether there is any significant effect of Information Quality on User Satisfaction. Regression results shows Information Quality as a significant predictors of User Satisfaction R^2=.219, R^2_{adj}=.216 and F=75.282.This explains 21.6% of the variance in User Satisfaction. A summary of the regression model is presented in the Table (5), (6), and, (7). Analysis of the residuals revealed no evidence of violations of the assumptions of linearity, normality, or homoscedasticity, hence the results of the multiple regression analysis are accepted as tenable and the null hypotheses H_o3 null is rejected.

Table 6: Summary - IQ ON US

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.468(a)	.219	.216	.53005

a Predictors: (Constant), IQ

Table 7: ANOVA- IQ ON US

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.151	1	21.151	75.282	.000(a)
	Residual	75.295	268	.281		
	Total	96.446	269			

a Predictors: (Constant), IQ   b Dependent Variable: US

Table 8: Coefficients - IQ on US

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta	Tolerance	VIF	B	Std. Error
1	(Constant)	1.962	.184		10.676	.000		
	IQ	.461	.053	.468	8.677	.000	1.000	1.000

a Dependent Variable: US

Discussion and Conclusions
As noted above, each of the three hypotheses was supported with statistically significant results. For most of these analyses, although anywhere from one to three independent variables were specified, all variables provided a sufficient contribution for prediction of dependent variable.

This study contributes to the body of knowledge in two ways. First, it presents a conceptual frame work of the relationship between information quality and organizational outcomes (Net benefits), including empirical evidence regarding the validity of this framework. Second, it provides empirical details regarding the nature of user perceptions of the

relationship between information quality and organizational outcomes. These contributions are expected to benefit both researchers and practitioners. Researchers can benefit by applying the conceptual frame work in the conduct of similar research in other organizational settings, and in the conduct of research extending the frame work and investigating different aspects of the framework in more specific contexts. Practitioners can benefit by applying the results of the analysis to their own information quality management decisions with an understanding of how those decisions relate to the organization's strategic outcome. Information quality is presented in terms of its theoretical roots in information and quality, and in terms of contemporary research addressing formal definitions, measurement techniques, management approaches, and contributing factors. IS success is presented in terms of its theoretical roots of communication theory, and in terms of contemporary research of D&M model. Thus this research reveals an important gap in the research literature, in that the linkage between information quality and organizational output through user satisfaction has only been minimally examined to date, with relatively little theoretical grounding. The research sets forth a contextual framework within which information quality strategy research can be viewed, and it establishes a research framework for examining a set of strategic relationships between information quality aspects and organizational outcomes

Limitations and Future Research

Survey research is limited by the extent to which the responses accurately reflect the perspectives of the participants, and the extent to which those perspectives reflect the real-world situation under investigation. These limitations can be mitigated through rigorous attention to the design of the survey instrument and the extent of the limitation can be assessed by analyzing the construct validity of the instrument .Limitations of the Statistical Analysis Techniques in this Study is another concern area. Multiple regression analysis was the primary technique used in this study. This technique is based on a number of assumptions regarding the data. In those cases where the assumptions could not be met through such transformations, the statistical power of the analysis was reduced, and any interpretations were limited accordingly. Another limitation is regarding the frame work used. As discussed the frame work is based on Delone and Mclean revised model. One of the peculiarities of this model is that it is a process model as well as causal model. These factors were not analyzed in this study and left out for future research.

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