

Information Quality and its Impact on the Marketing Performance in Industrial Jordanian Corporations-Field Study

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Abstract

Purpose - Information quality IQ is a vital asset to marketing .The purpose of this paper is to investigate the impact of information quality (IQ) on the marketing performance in industrial Jordanian corporations. Design/methodology/approach – The paper is structured in two parts. It begins with the study drew IQ characteristics from the literature pool, followed by a description of marketing performance in particular. Then, in the second part, it develops the proposed model and questionnaire was designed sample that consisted of marketing directors in industrial Jordanian public joint stock companies. This questionnaire included (25) items with the aim of collecting primary data from the study sample, which consisted of (54) marketing directors. Finally, concluding remarks are presented. Research limitations/implications – It is hoped that this contribution may encourage research, particularly in terms of testing the model’s content and sequence, as well as the effect of Influencing factors. The study presents a mechanism for researchers and practitioners to test the impact of information quality on marketing performance, and the level of impact which it generates. Practical implications- the paper demonstrates the role of the independent variable (information quality) and its impact on the dependent variable (the marketing performance) – will provide a guideline for the industrial sector administration in building up a culture that is concerned with the excellence of marketing performance and reinforcing competitiveness. Originality/value – This paper applied an IQ model, and used the value focus approach in assessing IQ characteristics that effect marketing performance and presented expands the existing dimensions as it encompasses new evaluative dimensions (Time dimension, content dimension and the dimension of formality.) and propose the individual differences in workers’ perception towards information quality and its importance in achieving the desired marketing performance.

Keywords: Information quality, Marketing performance, industrial Jordanian public companies.

Introduction:

Information today is considered as one of the most important resources of modern organizations, and as a primary strategic resource, which the effectiveness of administrative processes depends on, such as the processes of planning, supervision and organization, and other managerial processes ...etc. Thus, the organizations aimed to computerize their information in order to assist them in achieving the competitive advantage, reinforcing their abilities in improving their performance and achieving their organizational objectives. Information as a primary means needed to achieve adjustment, uniformity and accuracy in getting the administrative tasks done. Information contributes in solving uncertainty of the available alternatives for decision-maker towards the available alternatives, in order increasing the quality of administrative decisions and their validity, helping the organization achieving efficiency in exploiting the available resources successfully. Enterprises need to manage information quality to respond to rapidly and continuously changing environments, and managerial challenges at all organization levels, demanding the highest levels of performance and competitive position of organizations due to a number of factors mainly the limitation of available resources, and strategic transformations in the orientations of governmental organizations in focusing in various aspects of technology, especially those are related to informatics.

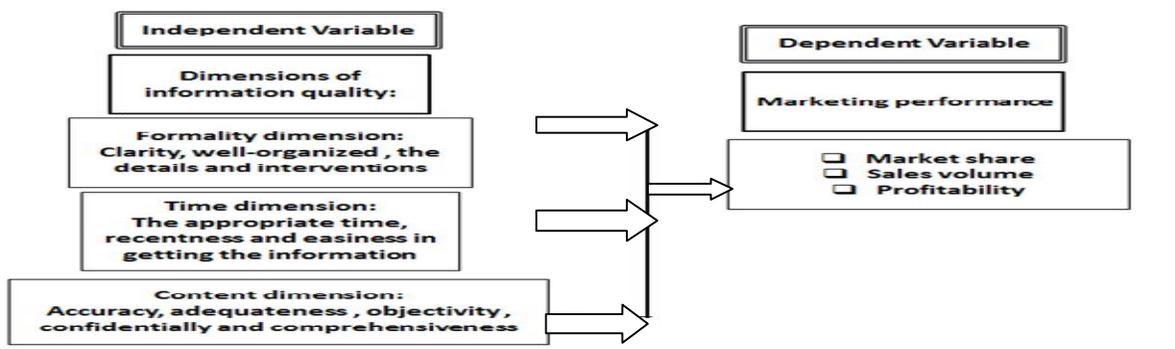
There is a transformation from traditional organizations to organizations which apply constant learning based on knowledge and information. This transformation indicates to the necessity of developing methods and techniques of achieving work which will contribute in rising organizational efficiency in performance.

Problem definition

Information plays a distinctive role in organization. That's because it is the main engine to develop performance and its efficiency. That's through its capability in assisting the organizations' management in making decision, planning, research and development, or in the overall activities that it performs. The information plays a distinctive role in organizations because of its being the main engine of improvement and effective performance, including the ability to help organizations in preparing and taking decisions, planning, developing, and in the overall activities of the organization. In this research study, a model is developed to assess the impact of information quality and its characteristics on marketing performance in industrial Jordanian corporations. This sector was chosen as a possible empirical case due to the increase attention were given in to information characteristics and dimensions in marketing operations. In improving marketing performance of organizations, they need strategies, methods and tools that guarantee, providing the upper limit of the required information quality. The concept of marketing performance is linked with human resources because human resources are considered as the most important input and resource in organizations in the era of information and knowledge and a prime element in nowadays competition. This study will propose the individual differences in workers' perception towards information quality and its importance in achieving the desired marketing performance, depending on the workers' demographical variables and according to their functional differences. These differences are the ones expected to have an impact on the individual sample.

Research model and hypotheses:

Figure number (1) presents the study model. The independent variable, which is represented through the information quality, it has been identified based on the (Wilson, T. D. (2002), (Bocij, et al ,2006), (Ashill & Jobber, 2001), and (Al-Najjar, 2013). As for the dependent variable which is represented through marketing performance, it was identified based on (Hashem, 2006) study.



- **The first main hypothesis:** There's no effect with statistical significance at the significance level of ($P \leq 0.05$) for the formality level of information quality upon the marketing performance in Industrial Jordanian corporations
- **The second main hypothesis:** There's no effect with statistical significance at the significance level of ($P \leq 0.05$) for the time dimension of the information quality on marketing performance in Industrial Jordanian corporations
- **The third main hypothesis:** There's no effect with statistical significance at the significance level of ($P \leq 0.05$) for the content dimension of the information quality on marketing performance in Industrial Jordanian corporations.

The theoretical framework and previous studies:

Differentiation in the concepts of data, information and knowledge:

Many authors and writers pointed out that there's a difference between the concept of data and the concept of information. Data is considered as abstract signs and symbols that are significant, mathematical or linguistics which needs to be processed in order to transform them into information.

As for information, it is perceived as data that are linked and integrated with other data in various methods, in order to produce a new meaning. Information is just a group of data which were subjected to interpretation, analyzing, processing and organizing in a specialized way, and that's in the aim of reaching out a target (McLeado & Schell, 2007). As for (Pollard, 2010), he perceives information as data that were organized to give a meaning and a value to its recipient. While knowledge is seen as it forms the final outcome of the use and investment of information. This knowledge is the one that contributes in adding something new and innovative which was not known before, or can add something that helps to expand or modify previous knowledge.

Also, knowledge helps to extract information from data (Fernandez et al., 2004).(Turban, et al, 2002). Stated that knowledge consists of information that were organized and processed to transform it into comprehension, experience, cumulated education, and the agreement between, instinct, thoughts, laws, and procedures, which all will lead to knowledge and applying it to solve a problem. (Daft, 2000) stated that knowledge is the gist of obtaining information, after linking it with other information which were analyzed, interpreted and compared with what's meant to be understood. The intellectual capital of the organization is considered as a mixture of its employees' personal knowledge and the organizational knowledge. As for the organizational knowledge, they are Intellectual assets which can retrieve, share and have the ability to be reused in the organization, such as operations, best practices, patent, models and software and commercial experience...etc. Also, the organizational knowledge represents a great part of the intangible assets of the organization, and that has reinforced the strategic importance of intellectual capital, and has increased the amount of expenditure of the organizational resources with the aim of collecting, storing and protecting these assets (Jessica, 1998).

The relationship between information and knowledge, the knowledge is the capability to deal with information and hire it in order to achieve a certain goal. So, through that we can say that knowledge is information that are organized and can be used in solving problems (Gordon, & Gordon, 1999). However, there are many barriers and obstacles in the processes of transforming individuals' knowledge into organizational knowledge, and in using the organizational knowledge efficiently. There are examples about these barriers and obstacles, such as the culture of hoarding knowledge without sharing it with others, and the insecurity of exchanging workers' experiences, in addition of the usefulness of that upon the effectiveness of employees and organizations performance. A second kind of barrier is the information quality - this problem arises due to the increase in the unnecessary content in knowledge stores and due to the non-existence of a measurement scale for the information quality. These are considered as dangerous problems, especially when building up a knowledge base, because these problems will have a negative impact upon the processes of sharing or growing the organizational knowledge. (Jessica, 1998)

The concept of information and information quality:

Many researchers and authors provided definitions for information. One of these important definitions is that information is data that has been processed for the aim of making a decision and delivering facts and concepts to individuals in the aim of increasing their knowledge. The information is considered as data that were subjected to processing, analyzing, and interpretation in the aim of extracting comparison, indicators and relationships which relates facts, ideas and phenomena with each other(Loudon&Laudon,2002).Also, they are data that are given the feature of validity and presented for a certain aim. (O'Brien & Marakas, 2011) pointed out that information is data that is subject to processing in the aim of giving it a value and make it beneficial for the organization and for the users, information as data and facts that we obtain them through observation, experiment and education, also these data and facts superior to ideas and opinions. Bingham, etal (2005) pointed out that there are two main sources for information, which are: Primary resources, such as documents which include the basis of good information, or the perception of known ideas and facts. As for secondary sources, they are the sources which their material and their content depend on the primary sources, And coordinated in the aim of achieving certain objectives. The concept of information quality was developed in the accounting literature. As the concern were on ensuring the credibility of the data.

This concern turned towards managing data as one of the assets which follow up the developments in the database technology in the seventies and its use in companies which have relational databases (Vermeer, 2000). It is possible for the information to become worthless, if it wasn't managed through a quality life cycle for information and if it wasn't organized to be useable. Also, maintaining a high quality content that is constantly renewed, especially with the recent information is considered crucial for the business intelligence in organizations, and that's to magnify its value (Jessica, 1998). The concept of information quality is the degree in which the information provides a value through, to its users and to the organization in general (Chaffey, &Wood, 2005).

(Long, 2011) has defined information quality as it is a group of characteristics, such as accuracy, inquiry, completeness, adequacy and the appropriate time.

Dimensions of information quality

Many previous studies have tackled the various dimensions of information quality. (ArAzy et al., 2011) identified the criteria of information quality through accuracy, comprehensiveness, clarity, speed, ease, Integration, adequacy, objectivity and impartiality, being measurable and confidentiality and integrity of the relevant information. Many researchers and authors had divided the quality of information into three main dimensions, which are: (1) Time dimension, which include (timing, circulation, recentness, recurrence and the period of time (Wilson, 2002) (2) Content dimension? the dimension of content, which include: (accuracy, validity, reliability, realism, adequacy, comprehensiveness, conciseness and extension. (Bocij, et al, 2006). And, (3) Formality dimension the dimension of formality, which includes: (clarity, well-organized, flexible, presentable, details and multimedia.(Ashill & Jobber, 2001).Miller has stated that the characteristics of information quality is divided into four dimensions, and as following: (1) The essential dimension, which refers to accuracy, credibility, objectivity and authenticity, (2) The contextual dimension, which refers to the appropriate time, the adequacy of information and its completeness, and (3) The dimension of formality, which refers presenting information in way that is understandable and interpretable , and in way that is consistent and briefed and (4) The dimension of accessibility, which measures security, the system availability, easiness of operating, and privileges (Miller, 2005).

The concept of marketing performance

It is the level at which the company achieves its objective goals. In this study, in order to measure the marketing performance, we will rely on profitability, sales volume, share and market. Various organizations are trying to achieve goals in its marketing plan, and that's in order to increase its market share and to grow constantly in the target market. Thus, it monitors its performance constantly by using various means. It also evaluates its own performance from a strategic point of view and it modifies its plans in a form that fits the developments that it faces. Many authors have approved the following measurements to measure the company's marketing performance: 1- Market measurements 2-Share 3-Sales and Customers' Satisfaction 4-Growth of creativity, 5-Innovation. (Ambler, et al, 2004), (Aggarwal & Gupta, 2006) , (Clark, 1999), (Eusebio, et al., 2006). The marketing performance measurements on the level of the company were directed towards testing productivity in the marketing efforts of the company, with the aim of producing positive financial outputs. These studies were designed carefully, in order to provide guidance for managers to enable them from identifying their markets and concluding the marketing knowledge and the right knowledge of finance and accounting theories. In this study, it was focused on a questionnaire about the development in some marketing performance indicators, such as the market share, the volume size and the mental image of the customer.

The relationship between information quality and marketing

Achieving a competitive advantage arises from satisfying customers in a way that is better, faster and cheaper than other competing products and items. That requires providing data and information about what they need from these consumer items, products, and developments that are occurring in their tastes and habits (Carpenter et al., 2002) in order to modify the marketing plan in accordance with that. One of the most important issues that the organizations should give attention to is the quality characteristics of information which customers prefer, in order to develop the provided the quality that is provided to information. There are varying perceptions towards quality between information providers and consumers. Thus, organizations must define information quality in accordance with the expectations and needs of the consumers and users of information. As failure in that will lead to a waste in reaching the requested improvement, because it doesn't meet the expectations of target clients (Toften & Rustad, 2005).The consumers desire to simplify the processes of processing information and lowering possible risks and maintaining cognitive consistency(Jagdish & Parvatiyar, 2005).

It is referring to the possibility of reinforcing the consumer's trust in marketing through using technologies, such as technical information providers (Ally & Yair, 2014). Also, Jeffrey suggested that the quality of information can lower the status of uncertainty in investors' information about securities value and/or lower the adverse selection between investor's when trading stocks, which will contribute in decreasing the risks of public liquidity. (Jeffrey Ng, 2008).

Methodology

In this study, the researcher uses the descriptive, analytical approach, where theoretical framework depends on periodicals, books, and electronic articles, while fieldwork is covered by designing a questionnaire to serve the study objectives.

Data Collection Methods

- 1 – **Primary source:** the study questionnaire that was designed and distributed to sample subjects.
- 2 – **Secondary sources:** books, references, previous studies on that handle study topic.

Population and Sampling

The population of the study has been marketing managers of Jordanian industrial corporations, representing (70) corporations. (54) Questionnaires were retrieved, landing at (77.14) percent of the sample size.

Reliability Test:

A Cronbach Alpha test has been used to ascertain instrument reliability. The value has been $\alpha = 0.914$ for the questionnaire. All values are accepted since they are more than 60% (Malhotra, 2004).

Also α for each variable is above 0.60 due to the following table:

Variable	α
Time dimension	0.908
Dimension of formality	0.889
Content dimension	0.641
Marketing performance	0.696

Questionnaire Design

The questionnaire has consisted of two main sections; the first has included participants' demographic (education, experience and Age), while the second section has included information that are regarding the recognizing of information quality variable (1-13) and marketing performance variable (14-18).

5-points (Likert) scale has been used as follows: (5) points strongly agree, (4) points agree, (3) points neutral, (2) points disagree, (1) point strongly disagrees.

Statistical Treatment Methods:

To analyze the collected data through the questionnaire, "SPSS" statistical package program has been used. The following statistical methods have been used:

- Frequencies and percentages
- Means and standard deviations
- Multiple Regression test

Analysis and Discussion

Frequency and percentages have been computed for the sample's characteristics.

Table (1): Sample's Distribution According to Demographic Information

Category	Frequency	Percentage%
Education		
High School or less	-	-
Diploma	1	1.9
Bachelor	45	83.3
High studies	8	14.8
Total	54	100%
Experience		
5 years or less	8	14.8
6-10 years	13	24.1
11-15 years	18	33.3
Above 15 years	15	27.8
Total	54	100.0%
Age		
Less than 30 years	12	22.2
30-40 years	24	44.4
41-50 years	18	33.3
More than 50 years	-	-
Total	54	100%

From the table above, it is illustrated that 1.9% of the sample has a diploma, 83.3% of the sample has bachelor degree, and the rest have higher studies. Also, it shows that less than 5 years is (14.8%). (6-8years) is (%24.1), (11-15years) is (33.3%) and above 15 years is (27.8%) percent. Finally, it is found that the majority of the sample (44.4%) is between 30-40 years old.

Table 2: Means and Standard Deviations for the variables

N0.	Variable	Mean	S. Deviation
	Time dimension	4.3241	.59604
	Dimension of formality	4.3380	.56040
	Content dimension	4.7185	.37167
	Marketing performance	4.5037	.49715

This table (2) indicates that there are positive attitudes toward the above variables because their means are above the mean of the scale (3).

Collinearity statistics test

Multicollinearity between the independent variables is checked using the Collinearity statistics: Tolerance and Variance Inflation Factor (VIF). Tolerance is the amount of variance in an independent variable that is not explained by other independent variables. VIF measures how much the variance of the regression coefficient is inflated by multicollinearity. The minimum acceptable cutoff value for tolerance is typically (0.10). The maximum acceptable cutoff value for the VIF is (10). In other words, to indicate no problem with multicollinearity tolerance value should not be less than (0.10) while VIF value should not be more than (10). (Belsley, et al. 2005).

Table 3: Collinearity statistics test

Model	Collinearity Statistics	
	Tolerance	VIF
Time dimension	.186	5.379
dimension of formality	.153	6.515
content dimension	.566	1.766

As we see in table 3 , VIF values for each independent variable is less than 10, with tolerance ranges between (0.186-0.566). This means that there is no occurrence for any multicollinearity problem between the independent variables

Hypotheses Testing

There are hypotheses for each study, so the hypotheses of this study are:

Multiple regressions is used to test this hypothesis, the results of regression the independent variables against marketing performance can be seen in table 8

Table4 shows that R (0.91) is the correlation of the independent variables and Marketing performance.

Also it is found that R Square (0.828), which is the explained variance, is actually the square of the multiple R (0.91)². What the results mean is that (82.8%) of the variance (R-Square) in the O Marketing performance has been significantly explained by the independent variables.

Table 4 :Test of Ho

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910a	.828	.818	.21232

Table 5, the ANOVA table shows that the F value of (80.19) is significant at (0.05) level. Thus, hypothesis is rejected. So there is significant

Table 5: ANOVA table for Ho

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.845	3	3.615	80.190	.000a
	Residual	2.254	50	.045		
	Total	13.099	53			

Table 10: Coefficients table for Ho

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.236	.450		-.523	.603		
	Time dimension	.234	.113	.281	2.066	.044	.186	5.379
	dimension of formality	.473	.133	.533	3.562	.001	.153	6.515
	content dimension	.355	.104	.265	3.400	.001	.566	1.766

Also, according to the coefficient table it is found that t_value for each independent variable is significant at 0.05 levels that means there is a significant effect of each variable on the dependent variable. As shown in detail for each sub hypothesis in the following hypothesis.

Conclusion:

This study aimed to tackle the issue of information quality impact on marketing performance industrial Jordanian companies. We found that there is a great impact for information quality on marketing performance through the companies studied. This result asserts and corresponds with each of the following studies: (Toften & Rustad, 2005), (Ally & Yair, 2014) and (Jeffrey, 2008). We concluded that the marketing managers in the under studied companies realizes the importance of information quality through their high percentage of approval on the importance of each dimension of it (Time dimension, content dimension and the dimension of formality). This result is correspondent with the result of (Miller, 2005). It was concluded that the dimension of formality is the most influential dimension on the marketing performance, followed by the dimension of content, and they are both followed by the time dimension. That can be attributed to link that the formality dimension has with (clarity, well-organization, flexibility, preventability, details and multimedia) in the marketing information, and that is considered necessary and important in relation to making marketing decisions.

It was also concluded that marketing information quality has the feature of easiness in accessibility by the marketing managers. Also, the marketing information is available at the appropriate time and through the desires sequence to make the decision. That explains the great impact the quality information has on marketing performance in industrial Jordanian companies. In the light of the previous results, the researcher recommends the following

Recommendations:

Establish a unit for managing specialized information quality, which work on building up proper foundations to manage information quality in industrial facilities according to their needs and requirements. These studies also recommend making a long-term strategic planning for information quality and employ it to improve the marketing performance level in industrial facilities. It is also recommended for the senior management to adopt the concept of information quality in all of its dimensions, and to work on establishing the principle of sharing information. It is also very important when applying information quality, to apply it through using assistive technology, according to the nature of the facility and its needs. In addition, it is recommended to avoid managerial crises that results from the low level of information quality, through having the required instruments, mechanisms and principles that are needed to make the decisions which based on the dimensions of information quality. That should be done in a way that contributes in enhancing marketing performance.

Also, it is recommended to improve the cooperation and communication between the administrative units that are in the same facility and also to improve these two between facilities that are concerned with information management. It is also recommended to improve the level of information quality and its exchange between these facilities. It is also necessary to update the methods and means that are used to evaluate information quality. It is also recommended to develop the standards of evaluation for information quality dimensions in the facility. It is also necessary to raise the level of trust between employers and their employees. It is also recommended to improve the organizational culture in relation to the importance of information quality, and link it with the marketing performance and functional performance. Also, it is very important to conduct other studies about the same topic through applying it on other industrial sectors, and in a way that will contribute in displaying the information quality in organizations.

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