THE IMPACT OF INFORMATION QUALITY ON THE MARKETING STRATEGIC ORIENTATION A STUDY ON FEASAL ISLAMIC BANKS IN SUDAN

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Abstract

The study aims to investigate the impact of information quality on marketing strategic orientation, the study used descriptive and analysis methods, The study applied survey for data collection, (250) questionnaires were distributed, (223) are returned, (202) questionnaires are valid for analysis about (80.8%) of the sample size, Several statistical methods have been used to analysis the data. The findings that the information quality dimensions impact on marketing strategic orientation dimensions. In addition, there is no evidence of supporting that there is not positive and significantly relationship between some variables. For future, the study recommends to apply in difference dimensions of MIS requirements on the difference dimensions of MSO dimensions in other sectors.

Keywords: Information Quality dimensions, Marketing Strategic Orientation style

1. Introduction:

Some of Sudanese economists and experts pointed out that (97%) of the A monetary mass outside the banking system, equivalent to (82.200) billion pounds, traded outside the banks, and that only (3%) of the cash mass inside the banks is equivalent to (3.900) Billion, They pointed out that this is a negative indicator of the circulation of money and recommended the need for electronic system, so this research works to verify the impact of the requirements of information management systems on the strategic approach to marketing.

Some economists stressed that Sudan is going through a very critical economic phase, slowing growth, economic activity and the inability of fiscal policies to adapt, especially as the policies announced by the economic program do not exist on the ground Faisal Islamic Bank (Sudan) has received many awards and financial certificates, which means that the bank is in line with the requirements of banks in the Sudan. Some financial problems have arisen in the country, some of which may be due to financial and economic policies. In the recommendations that there are other factors affecting the possibilities of banks such as technology requirements or information quality or strategic direction, and this research is to explain and verify the extent of the impact of the information quality that can impact marketing strategic orientation at this

stage The banks have lost their jobs in the management of economic life in Sudan, and Faisal Islamic Bank is one of the largest banks in Sudan.

Sudan commercial banks faced many problems started since three years ago, the problem developing in unstable environment, and it direct most business organizations to keep up with change to avoid risks by choosing its strategic orientations. Sudan commercial banks faced many problems started since three years ago, the problem developing in unstable environment, and it direct most business organizations to keep up with change to avoid risks by choosing its strategic orientations we notice that the financial system was destroyed through the strategic orientation of banks The study therefore seeks to establish the extent to which management information systems and information quality have influenced marketing strategic orientation of Sudan commercial banks 2015-2020.

Concepts of Information quality;

There are various definitions for information quality provided by reviewing literature; however, Gustavsson & Jonsson, (2008 defines information quality as concept of 'fitness for use'. Further, there is an abundance of attributes and dimensions that have been identified in the literature that explain information quality in more measurable terms. According to Gustavsson, & Johnson (2008) the attributes of information quality are complete, concise, reliable, timely valid, accessible, appropriate amount, credible relevant, up to date and understandable. Quality management is important in any establishment since it enhances and supports organization's performance and profitability in the long run. Subsequently, quality has been a focus of many successful establishments all over the world, drawing the attention of scholars and researchers alike. Most establishments nowadays place emphasis on quality as witnessed by the rise in the number of businesses applying for quality certification such as the ISO 9001 Standard, the Quality Management Systems (QMS).

 (Vanden, 2008) asserts that Information quality is the outputs the information system produces, which can be in the form of reports or online screens. (Miller, 2005) have used the constructs of accuracy, completeness, currency, and format for information quality; the additional construct used by these authors – format – is related to the presentation layout of information outputs (Jason, et al. 2011) define four dimensions of information quality: accuracy, completeness, consistency, and currency. Accuracy is agreement with an attribute about a real world entity, a value stored in another database, or the result of an arithmetic computation. Completeness is to be defined with respect to some specific application, and it refers to whether all of the data relevant to that application are present. While consistency refers to an absence of conflict between two datasets, currency refers to up-to-date information. Researchers have used a variety of attributes for information quality.

Information quality dimensions:

1) Information quality; an information quality (IQ) is the quality of the content of information systems, the fitness for use of the information provided as; (completeness, accuracy, format, currency, and relevancy).

2) IQ- Completeness; the extent to which data are of sufficient breadth, depth, and scope for the task at hand by (Raed and, Marwa, 2014).

3) IQ- Accuracy; the extent to which data are correct, reliable, and certified free of error (Raed and, Marwa, 2014).

4) IQ-Format; the information system provides well-formatted information that is well presented, clearly, easily understood and used (Harrison, 2016)

5) IQ- Currency; the extent to which data are recent, current, information always up-to-date (Naser & Suzana, 2016).

6) IQ- Relevancy; the extent to which data are applicable and helpful for the task at hand (Naser & Suzana, 2016).

Strategic orientation:

One of the most important pillars that has major implications for an organization's structure, activities, investments, relations with the market, and performance is strategy (Valos and Bednall, 2010. Having a strategy helps organizations find solutions to problems, creat capabilities, and improve business performance (Sarker, and Palit, 2015) by allowing organizations and the managers to gather specific resources, recognize opportunities for providing valued products and services, and to convey those products and services for higher profits (Al-Ansaari, et al. 2015. Adopting the best strategy out there requires organizations to coordinate their approaches in establishing industry positions and/or by relying on its resources, competences, and capabilities in an effort to achieve a fit with their internal and external environments and in turn achieve a sustained competitive advantage and improved business efficiency. In order to achieve these goals, organizations need to focus on their strategic orientation since strategic orientation guides the direction that a firm intends to pursue in order to monitor its activities for better business performance (Gao, et al. 2007. Therefore, strategic orientation of the firm reflects its operational, marketing, and entrepreneurial posture. By doing so, a firm achieves its goals in markets by taking risks, investing in innovation, becoming proactive, and developing future-oriented foresight (Kumar, et al. 2012. Strategic orientation has received wide spread attention from management, marketing, and entrepreneurship scholars. However, no universally accepted definition of strategic orientation exists. The very nature of orientation is a matter of debate, and different streams of literature have developed diverse concepts. Orientation refers to the general or lasting direction of thought, inclination, or interest . Strategic orientation refers to the manner in which a firm adapts to its external environment (Avci, et al. 2011).

Marketing Strategic orientation (MSO):

Strategic: means the direction and scope of public sector over the long-term through its configuration of resources within a changing environment to meet the needs of the markets and to fulfill stockholder's expectations (Johnson and Scholes, 2003, p: 56). In the context of the study, strategy means the courses of action adopted by Nawassco including the allocation of resources necessary for carrying out its goals.

Marketing Strategic orientation dimensions:

1. MSO- Defensivenesss: Organizations use simple methods to defend their competitors' products (such as constructing defensive barriers, reducing attacks, and increasing expected retaliation), protecting, or maintaining a core or technological force. Thus, the level of the Organization's work can depend on its ability to maintain its dominance within its sphere, with less attention to development outside this specific area by (Tomas. F. and et. al, 2018)

2. MSO - Proactiveness: It is a proactive approach to uncover markets in order to exploit opportunities. This dimension is an essential element for creative behavior, it reflects the organization's perception of opportunities, how they are invested and how to face changes in the competitive environment. The advantage of this dimension is the achievement of competitive advantage due to the effectiveness of organizations in creating new products and markets. Therefore, the organization can lead the market and use one of the competing porter strategies. It can be the first in the field of competition. Its workers are characterized by innovation and creativity (Henri Hakala, 2013)

3. MSO- Analysis: This strategic analysis and planning reflects the ability to build knowledge for the organization and achieve organizational learning. The advantage of this dimension is the organization's ability to solve the problems it faces and to know all the internal and external environmental contexts. It helps to allocate resources better and targets a specific goal in the environment by formulating and implementing the Organization's strategy based on market opportunities and avoiding environmental threats (Morga & Strong 2003, p; 166)

4. Reactor Strategic orientation: These firms do not have a consistent product-market orientation and only respond to competitive circumstance when forced to do so in a characteristically inconsistent and unstable manner. Their behavior is unstable and their decisions are oriented towards the short as opposed to the long term. They do not attempt to maintain an already acquired defined product/market domain, nor do they try to capitalize on viable environmental opportunities or take true risks. (Umut Avci & et al, 2016, p; 148).

The Research Questions

In order to fill some of the above research gaps, this study addresses the following question, and the one specific research question for the individual articles are:

Does the information quality impact on marketing strategic orientation?

Objectives of the Study:

1) To evaluate how information quality factors influenced strategic orientation in the bank.
2) To know the relationship between information quality and marketing strategic orientation style.
3) To measure the information quality and it impact on marketing strategic orientation.
4) To investigate that the banks manager respect information quality implementation and marketing strategic orientation.
5) To provide top management of banks with information quality which concerned with the strategic orientation methods.

Significance of the Study:

The study gains its important theoretical and practical from the following factors:

This study is expected to add to the following areas of knowledge about management information system:

1) This study expands the domains of information quality and the bank by integrating an important of bank with marketing strategic orientation.
2) Enrich the library with literature on information quality, and strategic marketing orientation patterns.
3) The study may enrich theories from information quality in under developing countries perspective.
4) The results of this study are expected to help managers of commercial banks to recognize the importance of information quality enhancing Business strategic marketing orientation.
5) This study will assist decision maker in Faisal Islamic Bank not to rely on experience of marketing strategic orientation only, but to rely information quality in their marketing strategic orientation to support by the findings.

Research Gap Identified:

Previous studies have suggested that organizations need to study the information quality characteristics as variable of success factor in many different studies

The information quality variable found a great significant from the researcher according to Harrison (2016) study the impact of information quality on customer relationship management in two dimention; (perceived customer relationship investment and perceived customer relationship quality), while Naser and Suzana (2016) show the management accounting system with IQ (Content, Accuracy, Format, Ease of use) and mediates the end users' satisfaction between IQ and OP. Raed Mohammed and Marwa, (2014) show the impact on the quality of information: (accuracy of information, comprehensiveness of information, timing of information) on creative of leadership. From other part Moauyad and Salman (2013) study the relationship between (information quality) as dependent a variable described as (interpreting variable) which based on number of criteria which are; (accuracy, utility, effectiveness, forecasting and efficiency) to evaluate information quality. Whereas the strategic decisions represented dependent a variable of the study.

Research Gaps Identified:

The first research gapes of the study:

The information quality variable found a great significant from the researcher according to Scholastica, et al. (2017) this study was to establish the effect of information systems support capabilities on hotel performance in Nairobi Kenya using information quality as a moderator. When Farid, et al, (2017) analyze the influence of system quality and information quality on net benefit through user satisfaction as mediation as mediation. From other opinion; Modathir and Abdel Hafiez, (2016) dealt with the impact of organization capabilities (upper management

capabilities towards the use of information technology tools, capabilities of information systems and technological capabilities) on the quality of an information; (accuracy information comprehensiveness, information flexibility, clarity of information, timely timing, creative advice) in Sudanese commercial banks. From other part Harrison (2016) study the impact of information quality on customer relationship management in two dimention; (perceived customer relationship investment and perceived customer relationship quality), while Naser and Suzana (2016) show the management accounting system with IQ (Content, Accuracy, Format, Ease of use) and mediates the end users' satisfaction between IQ and OP. Raed Mohammed and, Marwa, (2014) show the impact on the quality of information: (accuracy of information, comprehensiveness of information, timing of information) on creative of leadership . Moauyad and Salman (2013) study the relationship between (information quality) as dependent a variable described as (interpreting variable) which based on number of criteria which are; (accuracy, utility, effectiveness, forecasting and efficiency) to evaluate information quality. Whereas the strategic decisions represented dependent a variable of the study. Mouzhi Ge, (2009) study the information quality dimention; (intrinsic information quality, intrinsic information quality, contextual information quality, representational information quality, accessiblity information quality) on inventory decision-making, Forslund and Jonsson, (2007) study the impact of forecast information quality dimension; (In time, Accurate, Convenient to access, Reliable) on supply chain performance dimension as; (corrective actions, preventive actions, customer service). At the end not ffinaly Maher, et. al, (2007) studied the extend of information quality produced by Computerized Management Information Systems.

From the empirical literature review three gaps were identified. Gap number one is that most of the literatures reviewed, their main focus and measurement factor were based on the independent variable which is IQ and didn't go deep on measuring the project success variables whereby the researcher has measured project success in terms of achieving project deadline, quality.

Several studies and authors have emphasized the importance of information quality but they do not explain the impact of the available (IQ) as the independent variable impact on the (MSO), how available information quality may have many characters, or how different information quality dimensions may impact the usefulness of (MSO), for that research on information quality and marketing strategic orientation is very rarely.

The second research gapes of the study:

The marketing strategic orientation dimensions variables found a great significant from the researcher according to Tomas. F. and et. al, (2018) study the relationship between strategic orientation dimensions; (competitive analysis, aggressiveness, Defensivenesss, futurity, proactiveness, and riskiness) influences the level of hotel outsourcing and its Impact on Organizational Performance (Financial performance, and Non-financial performance). Basim Abbas and et. al, (2018) study and investigate the impact of strategic orientation dimensions (customer orientation, competitor orientation and inter functional coordination) and external environment (market turbulence and competitive intensity) have influence on organizational commitment.

Obeidat, B.Y. (2016) this study aims to know the effect of strategic orientation on organizational performance: The Mediating Role of Innovation. This study aimed to examine the effect of both strategic orientation and innovation on organizational performance. It also examined whether innovation acted as a mediator between strategic orientation and organizational performance. Umut Avci & et al, (2016) study the Strategic orientation (analyzer, reactor, prospector, and defender) and performance of tourism firms Financial Performance: (occupancy /sales, market share, cost, and profitability) and Non-Financial Performance; (customer satisfaction, customer loyalty, employee satisfaction, employee turnover, company image): evidence from a developing country.

Tahani,(2015) this study aimed to identify the measure the impact of the strategic orientation (proactive, Reactive) on the marketing performance and Firm's Characteristics as moderating Khartoum State, Test relationship between proactive strategic orientation and marketing behavior, and test relationship between defense strategic orientation and marketing strategy.

Kayhan Tajeddini, (2015) customer orientation, learning orientation, and new service development: an empirical investigation of the Swiss hotel industry. Hasan, et. al, (2015) this study measure, investigate and understand the relationship between three variable; strategic orientations (market orientation, entrepreneurial orientation), and technology orientation with innovation capability. Innovation capability with market performance in ASEM. Joanna, et al, (2014) this research investigates the relationship between two constructs: strategic orientation (market orientation, learning orientation, and entrepreneurial orientation) and innovation of Small and medium size enterprise.

Sany, et al, (2014) study the relationship between key elements of market orientation critical success factors (market intelligence, customer focus, and market dissemination) and organizational performance on Malaysian Small Medium Enterprises. Ngatno, et al, (2014) study is to find out the impact of responsive customer orientation, proactive customer orientation, responsive competitor orientation and proactive competitor orientation on service innovation and rural credit bank performance in Central Java. Henri Hakala, (2013) investigate the relationship between entrepreneurial orientation (EO) and learning orientation (LO) separately on two dimensions of performance (profitability and growth) Entrepreneurial and learning orientation: effects on growth and profitability in the software sector. Marios, et al, (2012) study develops and empirically tests a model that links alternative strategic orientations with firm performance, through the mediating effect of marketing capabilities. Hasnanywati ,(2010) study the correlations between the QS firms' strategic orientation (Prospector and Defender) and efforts in strategic planning process, Involvement, Formality.

Luminita (2010) analyses the influence of the dimensions of strategic orientation (aggressiveness, analysis, Defensivenesss, futurity, proactiveness, riskiness) on firm performance and its size. Amir Grinstein (2008) study market orientation, strategic marketing, business performance, statistical analysis. Tim and Devinney, (2005) study the market orientation (reactive and proactive) with, performance and mediating effect of market orientation the relationship between the competitive advantage. Market orientation dimensions; (reactive and proactive) mediating the relationship between competitive advantage and

performance. Podolfo, et al, (2001) study relationship between market orientation level (prospectors, analyzers, defenders, reactors) with competitive strategies in industrial firms, also study the relationship between market orientation level (prospectors, analyzers, defenders, reactors) with company performance in industrial firms.

We found that the researchers in their previous studies above mentioned their main focus and measurement factor were based on the independent variable specifically advocated the use of information quality (information completeness, information accuracy, information format, information currency, and information relevancy) as independent variable. The adoption of different strategic orientations such as innovation orientation, technology orientation, entrepreneurial orientation, quality orientation, and productivity orientation. For the purpose of this study, three types of market strategic orientation will be looked into further: (Defensiveness, reactiveness, analysis, and reactor).

We find that the previous studies reviewed the variables of the study in terms of different dimensions and in different organizations and in different environments, and this study is the only study according to the researcher's knowledge has been collected three variables and different dimensions in one study and it was new scientific contribution to the field of management information system.

Measurements:

Identify the items that used to measure the study in the questionnaire used by previous studies in refereed journals and periodicals. The researcher adopted the questionnaire (closed) which determined the responses allowed for each question**,** (Likert, 1932were rated on five-point Likert-type scales, from (strongly disagree to strongly agree), the measurement in this study will be five items evaluating on five -point scale where (1= strongly disagree), (2= disagree), (3= Not certain), (4= agree), and (5= strongly agree).

Measures were adapted from previously established scales when available. Revisions were completed to appropriately adjust for the context of this study. A pretest was undertaken to determine specific dimensions used to assess information quality, and details of the anticipated dimensions are discussed in the following section**.**

Table 1: Reliability coefficients for each variable after the factor analysis

Variables	Dimension	items	Measured by
Information Quality	Completeness	5	Raed and, Marwa, 2014)
	Accuracy	5	Raed and, Marwa, 2014)
	Format		(Harrison, 2016)
	Currency	5	(Naser & Suzana, 2016)
	Relevancy	4	(Lee, Strong, Kahn and Wang, 2002)
Marketing Strategic Orientation	Defensivenesss	5	(Tomas. F. and et. al, 2018)
	Proactiveness	3	(Henri Hakala, 2013)
	Analysis	5	(Morga & Strong 2003)
	Reactor	5	(Umut Avci& et al, 2016)

Source: The researchers, 2022.

Reliability of the study tool:

Table: 2 Reliability Test for the pilot sample

| Type	Variables	Dimension	items	Cronbach's Alpha
Independent	Information Quality	IQ-Completeness	4	0.808
		IQ-Accuracy	4	0.829
		IQ-Format	4	0.901
		IQ-Currency	4	0.837
		IQ-Relevancy	5	0.912
Dependent	Marketing Strategic Orientation	MSO-Defensiveness	4	0.863
		MSO-Proactiveness	4	0.818
		MSO-Analysis	4	0.903
		MSO-Reactor	4	0.877

Source: The researchers, 2022.

The results contained in Table (2) indicate that the reliability coefficients for the dimensions of Information Quality dimensions ranged between ranged between (0.818 - 0.912), while the reliability coefficients for Marketing Strategic Orientation dimensions were (0.818-0.903), and the total was (0.90). These values are considered acceptable for the purposes of this study.

Research model:

This model was prepared depended on previous studies, as their independent variable study dealt with different points of view and different dimensions. This model showed the relationship between information quality and strategic orientation factors.

Figure: (1)
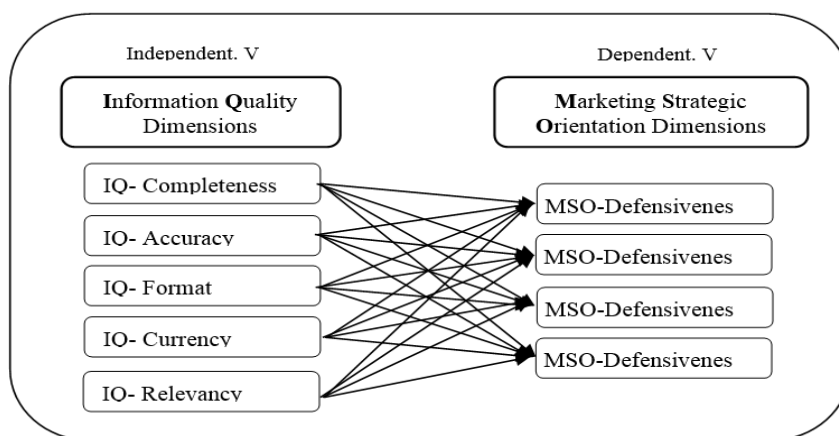
Source: prepared by researchers according to the previous studies, 2022

1.14 The Responses Rate:

Feasal Islamic Bank in Khartoum state (1997) distributed to cover the state, therefore a self-administered survey was sent to (250) direct Feasal Islamic Bank (a varies type of branches) in Khartoum State, (223) total of returned questionnaires, (17) unfilled questionnaire were returned, (4) questionnaire were partially filled, (27) questionnaires not returned, (202) total usable questionnaires.

2. Factor Analysis:

Factor Analysis (FA) is a simple variate technique for analyzing the structure of interrelationships among a large number of variables by defining sets of variables that are highly interrelated (Hair et al., 2009).

2.1. Factor analysis for dependent variable;

Table (4) showed that the matrix appeared in (4) factors and values of the first rotation contributions more than (0.5), the saturation greater than (0.5), The factor analysis of the terms of the independent variables was performed three times, and the (**cut off point**) was used less than (0.475), Some of variables items with (**cross loading**) were also deleted. This process resulted in the deletion of a number of items for each variable.

2.2. Factor analysis for independent variable (IQ);

The information quality (IQ) used as **dependent** variable and its dimensions are (information completeness, information accuracy, information format, information currency, and information relevancy)**.**

Statistical Analysis Program (SPSS V.23) and obtained the rotation matrix shown in the table (4).

Table (4) shown all the remaining items has more than recommended value of at least 0.5 in measure of sample adequacy (MSA) with (KMO) (above the recommended minimum level of (0.60), and Bartlett's test of sphericity is significant (p<.05). Thus, the items are appropriate for factor analysis. The matrix showed that the primary analysis process divided the independent variables (4) variables of (5) factors, which is known in the study model instead of (4) as it is known in the preliminary study variables (before the factor analysis process was done).

Table (5) also showed the items that used in the measurement of variables and the name of the corresponding variable when entering the data and whether it deleted or not. As result of this process (factor analysis) has deleted some of items for each variable. Where the first factor includes names of variables (Comp1, Comp2, Comp3, Comp4, Form4), the second factor it includes names of variables (Accu1, Accu2, Accu3, Accu4, Form2, Form2), the third factor includes names of variables (Curr1, Curr2, Curr3, Curr4, Form3), the fourth factor includes names (Rele1, Rele2, Rele3, Rele4,).

According to the literature and theories we naming the first factor is (IQ-Completeness) with measured of the reliability of value of the Cronbach's alpha score over (0.724), and the second factor naming (IQ-Accuracy) with measured of the reliability of value of the Cronbach's alpha score over (0.811), and the third factor naming (IQ-Currency) with measured of the reliability of value of the Cronbach's alpha score over (0.922), and the fourth factor naming (IQ-Relevancy) with measured of the reliability of value of the Cronbach's alpha score over (0.827). The measured of reliability of the respondents and the value of the Cronbach's alpha, after the factor analysis and values are considered acceptable for the purposes of this study.

The reliability of the respondents and the Alpha-Cronbach's value, after the factor analysis process, found that it was appropriate, acceptable and highly reliable.

Also the table (4) showed that the factor analysis process has (omitted) some items of measuring the factors of Information Quality (IQ), and the item that deleted is the name of the corresponding variables (Rele5). Alpha Cronbach's coefficient for this factor (0.876).

The items of the questionnaire and the names of the corresponding variables in the analysis of the variable Information Quality dimensions

Table (4): Factor analysis for independent variable (Information Quality) dimensions

Variables	Code	Items	Results	Factor1	Factor2	Factor3	Factor4
. Completeness	Comp1	The MIS used provide a complete set of information.	Not delete	**.862**	.122	.078	.323
	Comp2	The MIS used produce comprehensive information.	Not delete	**.807**	.362	.153	.198
	Comp3	The information provision corresponds to the user's needs	Not delete	**.713**	.422	.423	.276
	Comp4	The information provided by the MIS is useful.	Not delete	**.647**	.007	.081	.233
Accuracy	Accu1	The MIS used in this branch produce correct information.	Not delete	.112	**.703**	.227	.254
	Accu2	There are few errors in the information obtained from the MIS.	Not delete	.324	**.811**	.105	.319
	Accu3	The information provided by the MIS is accurate	Not delete	.276	**.907**	.410	.408
	Accu4	The MIS used provide information that is not contradictory	Not delete	.390	**.750**	.192	.322
Format	Form1	The information provided by the MIS well formatted.	Not delete	.337	.113	.433	**.664**

	Form2	The information provided by the MIS well laid out.	Not delete	.199	**.767**	.255	.212
	Form3	The information provided by the MIS is clearly presented on the screen	Not delete	.402	.311	**.770**	.055
	Form4	The MIS presents information that is easy to understand and use.	Not delete	**.932**	.430	.232	.139
Currency	Curr1	The MIS provide the most recent information.	Not delete	.006	.222	**.708**	.121
	Curr2	The MIS produce the most current information.	Not delete	.333	.187	**.905**	.069
	Curr3	The information from the MIS is always up-to-date.	Not delete	.366	.143	**.821**	.403
	Curr4	The information is processed and delivered rapidly immediately.	Not delete	.202	.243	**.736**	.162
Relevancy	Rele1	Information is applicable for decision-making.	Not delete	.304	.304	.221	**.767**
	Rele2	Information is helpful for decision-making.	Not delete	.172	.242	.301	**.767**
	Rele3	Information is relevant for decision-making.	Not delete	.287	.182	.334	**.767**
	Rele4	Information is interesting for decision-making.	Not delete	.367	.366	.411	**.767**
	Rele5	Information is useable for decision-making.	**deleted**	-	-	-	**-**
		Eigen value		**8.038**	**7.594**	**7.796**	**7.226**
Variance Explained (%)							
Total Variance Explained (%)							**30.654**
Kaiser- Meyer O1Kin(KMO)							**.789**
Bartlett,s Test of Spherecity							**1.142E4**
Sig							**0.000**

Extraction Method: Principal Component Analysis. a. 5 components extracted. Component Matrix[a]

Note. n = 202.

Source: prepared by researchers, 2022

3. Factor analysis for dependent marketing strategic orientation (MSO);

The marketing strategic orientation (MSO) used also as a dependent variable and its dimensions are (Defensivenesss, proactiveness, analysis, and reactor).

The factor analysis was conducted for the first time on the field study data Statistical Analysis Program (SPSS V.23) and obtained the rotation matrix shown in the table (6).

Maximum Likelihood used, the summary of results was showed in Table (6) and the SPSS output attached in appendix.

As shown in Table (5) below all the remaining items has more than recommended value of at least 0.5 in measure of sample adequacy (MSA) with (KMO) (above the recommended minimum level of (0.60), and Bartlett's test of sphericity is significant (p<.05). Thus, the items are appropriate for factor analysis. The matrix showed that the primary analysis process divided the independent variables (3) variables of (4) factors, which is known in the study model instead of (4) as it is known in the preliminary study variables (before the factor analysis process was done).

Table (5) also showed the items that used in the measurement of variables and the name of the corresponding variable when entering the data and whether it deleted or not. As result of this process (factor analysis) has deleted some of items for each variable. Where the first factor includes names of variables (Defe1, Defe2, Defe3, Defe4, Defe5), the second factor it includes names of variables (Prea2, Prea3, Prea4), the third factor includes names of variables (Anal1, Anal2, Anal3, Anal4, Anal5), the fourth factor includes names of variables (Reac1, Reac2, Reac3, Reac4, Reac5).

According to the literature and theories we naming the first factor is (MSO-Defensiveness) with measured of the reliability of value of the Cronbach's alpha score over (0.716), and the second factor naming (MSO- Proactiveness) with measured of the reliability of value of the Cronbach's alpha score over (0.844), and the third factor naming (MSO- Analysis) with measured of the reliability of value of the Cronbach's alpha score over (0.805), and the fourth factor naming (MSO- Reactor) with measured of the reliability of value of the Cronbach's alpha score over (0.734) The measured of reliability of the respondents and the value of the Cronbach's alpha, after the factor analysis and values are considered acceptable for the purposes of this study.

The reliability of the respondents and the Alpha-Cronbach's value, after the factor analysis process, found that it was appropriate, acceptable and highly reliable.

Also the table (5) showed that the factor analysis process has (omitted) some items of measuring the factors of Marketing Strategic Orientation (MSO), and the item that deleted is the name of the corresponding variables (Prea1, Prea5). Alpha Cronbach's coefficient for this factor (0.902).The items of the questionnaire and the names of the corresponding variables in the analysis of the variable marketing strategic orientation (MSO).

Table (5) also showed that the factor analysis process has (**omitted**) some items of measuring the factors of **marketing strategic orientation (MSO)**, and the item that was deleted is the

name of the corresponding variables (Proa1, Proa5). Cronbach's alpha coefficient for this factor (0.821).

Table (5): Exploratory factor analysis for dependent variable

V	Code	Items	Results	Factor1	Factor2	Factor3	Factor4
Defensives	Defe1	Our bank is constantly interested in improving the technology used	Not delete	**.922**	.433	.403	.233
	Defe2	Our bank prefers to operate in known activity areas	Not delete	**.845**	.355	.324	.329
	Defe3	Our bank seeks to maintain its internal strength by maintaining customers and suppliers	Not delete	**.722**	.302	.217	.211
	Defe4	Our bank use of cost control systems for monitoring performance	Not delete	**.509**	.331	.333	.416
	Defe5	Our bank uses of product management technique	Not delete	**.649**	.403	.213	.222
Proactiveness	Prea1	Your bank seeks to identify and exploit opportunities before competitors.	**deleted**	**.509**	.011	**.578**	.035
	Prea2	In general, the top managers of my bank have a strong tendency to be ahead of other competitors in introducing novel ideas or products	Not delete	.422	**.608**	.089	.233
	Prea3	Your bank aims to be the leader of innovative banks and the first in the market.	Not delete	.145	**.608**	.266	.411
	Prea4	Your bank considers the development of new services and the creation of clients as one of its primary priorities.	Not delete	.089	**.709**	.329	.109
	Prea5	Your bank spends a lot of money on innovation of services.	deleted	**.511**	.321	.118	**.528**
Analysis	Anal1	When evaluating its performance, our bank takes into account both its market share and its profits.	Not delete	.321	.066	**.832**	.179
	Anal2	Our bank constantly monitors rivals' activities and industry developments.	Not delete	.112	.129	**.804**	.098

|						
	Anal3	If our bank realizes that present developments are indeed opportunities, it will undertake necessary risks.	Not delete	.231	.321	**.677**	.188
	Anal4	In our bank implements innovations after analyzing its possible effects on our business.	Not delete	.344	.054	**.766**	.377
	Anal5	In our bank all management levels contribute to strategic decision-making and preparing strategic plans.	Not delete	.109	.269	**.678**	.308
Reactor	Reac1	Your bank is making radical changes when faced with negative events or crises.	Not delete	.023	.171	.233	**.605**
	Reac2	Our bank responds to environmental pressure by cost cutting methods.	Not delete	.198	.432	.376	**.678**
	Reac3	Your bank's vision for the future influenced by developments and changes in the external environment.	Not delete	.309	.323	.315	**.614**
	Reac4	Addressing your bank to problems and challenges is a success.	Not delete	.077	.216	.101	**.844**
	Reac5	Your bank only develops its policies when it faces problems related to its key activities.	Not delete	.138	.099	.217	**.678**
Eigen value				**7.185**	**6.161**	**7.869**	**7.296**
		Variance Explained (%)					
		Total Variance Explained (%)					**28.511**
		Kaiser- Meyer O1Kin(KMO)					**.867**
		Bartlett,s Test of Spherecity					**1.220E2**
		Sig					**0.000**

Extraction Method: Principal Component Analysis. a. 5 components extracted. Component Matrix[a]

Note. n = 202.

Source: prepared by researchers, 2022

Figure (1) Study conceptual framework after Factor Analysis
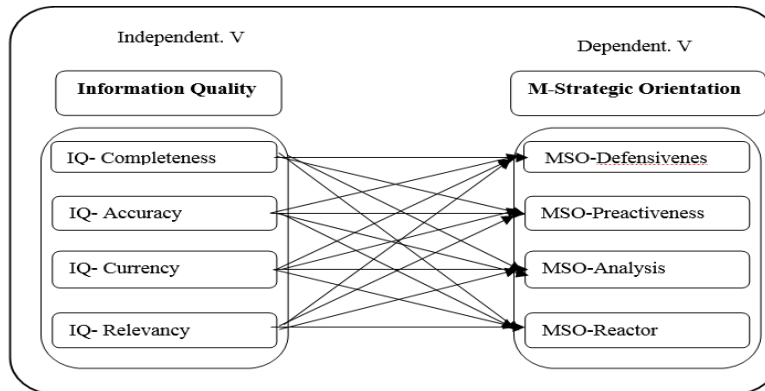
Source: The researchers, after the Factor analysis, 2022.

Reliability of variable after the Factor analysis:

Table (6) showed the reliability of the respondents and the Alpha-Cronbach's value, after the factor analysis process, we found that it was appropriate, acceptable and highly reliable.

Table (6): Reliability coefficients for each variable after the factor analysis

Type	Variables	Dimension	items	Cronbach's Alpha
Independent	IQ Information Quality	Completeness	5	0.724
		Accuracy	5	0.811
		Currency	5	0.922
		Relevancy	4	0.827
Dependent	MSO Marketing Strategic Orientation	Defensivenesss	5	0.716
		Proactiveness	3	0.844
		Analysis	5	0.805
		Reactor	5	0.734

Source: The researchers, 2022.

Note. n = 202.

Research Hypotheses after the factor analysis process:

Figure (1) showed that the model of the research was changed, according to the new moderated model of the study, The research model tested to set up to investigate of research hypothesis which are: The main hypothesis of the research was that: the information quality (information completeness, information accuracy, information currency, and information relevancy) impact on marketing strategic orientation factors (Defensivenesss, proactiveness , analysis, and reactor).

Based on the study model as shown in Figure (1), the following hypotheses formulated:

Table (7): Mathematical averages and standard deviations of the perceptions of workers at the Feasal Islamic bank about the dimensions of variable

Table (7): Mathematical averages & St. Deviations before factor analysis

Variable	Type	Mean	Level of mean	Standard Deviation
Completeness	Mediates	3.91	Low	1.03
Accuracy	Mediates	3.56	High	0.78
Currency	Mediates	4.03	Low	0.89
Relevancy	Mediates	3.88	High	0.84
Defensives	Dependent	3.56	mediates	0.91
Proactiveness	Dependent	3.48	mediates	0.88
Analysis	Dependent	3.97	High	0.81
Reactor	Dependent	3.66	mediates	0.87

Source: The researchers, Spss. V. 23, (2022).

Table (7) shows that the overall average of (IQ) dimensions amounted to (3.85) and the standard deviation of (0.89). This means that the perceptions of workers at the Bank about (IQ) are high. followed by (IQ- Completeness) with a mathematical average of (3.91) and a standard deviation of (1.03), followed by (IQ- Accuracy) with a mathematical average of (3.56) and a standard deviation of (0.93), followed by (IQ- Currency) with a mathematical average of (4.03) and a standard deviation of (0.89), followed by (IQ- Relevancy) with a mathematical average of (3.88) and a standard deviation of (0.87), average of (SMO) dimensions amounted of (3.67) and the standard deviation of (0.88). This means that the perceptions of workers at the Bank about (IQ) are high .followed by (SMO- Defensives) with a mathematical average of (3.56) and a standard deviation of (0.91), followed by (SMO- Proactiveness) with a mathematical average of (3.48) and a standard deviation of (0.88), followed by (SMO- Analysis) with a mathematical average of (3.97) and a standard deviation of (0.81), and finally followed by (SMO- Reactor) with a mathematical average of (3.663) and a standard deviation of (0.93), This result demonstrates that the availability of (IQ) at the bank branches will facilitate administrative procedures, increase efficiency among its staff, and improved outcomes, and save time and money .This can be achieved through providing necessary hardware and software to apply this concept, in addition to the provision of specialists of human and other organizational factors, the (IQ) infrastructure required, the availability of equipment and supplies necessary in terms of qualified human resources, clear (MSO) marketing strategic orientations which all contribute to the achievement of bank goals desired.

Pearson's Correlation Coefficient:

Pearson correlation coefficient used to show the correlations between the variables of the study, and to measure the level of correlation between the study variables and to ascertain the extent to which independent variables exploited. Table (10) shows the correlation of study variables among them.

Table (8): Correlation Analysis between study variables

Variables	Comp	Accu	Curr	Rele	Defe	Prea	Anal	Reac
Comp	1							
Accu	-.083	1						
Curr	-.071	.898**	1					
Rele	.743**	-.664	.778**	1				
Defe	.597*	.978**	-.599	.589*	1			
Prea	-.089	.867*	.802**	.023	.920**	1		
Anal	.873**	.674	-.045	.909**	-.049	.811*	1	
Reac	.093*	-.405	.644	-.689	.733**	-.196	.709**	1

* Correlation is significant at the 0.05 level (2-tailed.)

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

Source: The researchers, Spss. V. 23, (2022).

Table (9): Mathematical averages & St. Deviations after factor analysis

Variable	Type	Mean	Level of mean	Standard Deviation
Completeness	Independent	2.91	Low	1.11
Accuracy	Independent	3.02	High	0.78
Currency	Independent	4.60	High	0.87
Relevancy	Independent	3.89	High	0.98
Defensives	Dependent	3.78	High	1.11
Proactiveness	Dependent	4.12	High	0.97
Analysis	Dependent	3.78	High	0.87
Reactor	Dependent	3.11	mediates	0.96
Defensives	Dependent	2.56	Low	0.79

Source: The researchers, Spss. V.23, (2022).

Testing of Hypotheses and Finds:

Test of relationship between independents and mediates variables:

Simple regression has been used in this study hypotheses to test the relationship levels (weak and strong), type of relationship (negative and positive), and significant level, standardized coefficient (**β**eta) value, un-standardized coefficient (**β**), Adjusted **R** Square (**R**^{2}) Change **R** Square, Durbin-Watson (**D.W),** and F-Test value.

Test of relationship between dependents and independents variables:

There is positive and significant relationship between information quality dimensions (completeness, accuracy, currency, and relevancy) and marketing strategic orientation factors (Defensivenesss, proactiveness, analysis, and reactor) as flow: There is positive and significant relationship between information quality (completeness, accuracy, currency, and relevancy) and Defensivenesss marketing strategic orientation; Table (10) showed the test and results of simple regression of the relationship between IQ- information quality dimensions and MSO-Defensivenesss variable: there is positive and significant relationship between IQ-completeness and MSO- Defensivenesss, standardized coefficient of (**β**eta= 0.811, Sig 0.000),

there is positive and significant relationship between IQ- accuracy and MSO- Defensivenesss, standardized coefficient of (**β**eta= 0.619, Sig 0.005), there is negative and significant relationship between IQ- currency and MSO- Defensivenesss, standardized coefficient of (**β**eta= -0.243, Sig 0.000), there is positive and non- Significant relationship between IQ-relevancy and MSO- Defensivenesss, standardized coefficient of (**β**eta= 0.563, Sig 0.173), and **R** square (**R**^{2} =0.596), that mean the impact and the change in the MSO- Defensivenesss variable was explained by IQ- information quality dimensions variables of (60%) percentage and the remain of percentage returned to other factor as result on random mistake, **F-test** value (86.873) showed that the simple regression model is Significant (0.000), Durbin-Watson (**D.W**) was used with Significant at the (0.05) level (**D.W**=1.776) it explain that there is no-relationship between mistake random of using Durbin-Watson, the result of regression showed that the (first, second factors) are Significant, and the (third and fourth factor) are non-Significant, according to showed results the model approve that the impact factors on the MSO- Defensivenesss variable are (completeness, and accuracy).

Table (10): Test of simple regression between IQ- dimensions and MSO- Defensivenesss

Variables	MSO- Defensivenesss	
	β eta	Sig
IQ- Completeness	.811	.000
IQ- Accuracy	.619	.005
IQ- Currency	.243-	.000
IQ- Relevancy	.563	.173
Statistic percentage;		
R Square (**R**^{2})	.596	
Adjusted **R** Square (**R**^{2})	.525	
Change **R** Square (R^2 Δ)	.596	
Durbin-Watson	1.766	
F-value	86.873	
Sig	.000^a	

Note: Significant at the (0.05) level is (0.000)
Source: The researchers, Spss. V. 24, (2022).

Table (11) showed the results of the relationship between relationship between information quality (completeness, accuracy, currency, and relevancy) and Defensivenesss marketing strategic orientation;

Table (11): Results of test the relationship between IQ-dimensions and MSO-Defensivenesss

Item	Statement of Hypothesis: There is positive and Significant relationship between:	Result
H2.1.1.	IQ- Completeness and MSO- Defensivenesss	Supported
H2.1.2.	IQ- Accuracy and MSO- Defensivenesss	Supported
H2.1.3.	IQ- Currency and MSO- Defensivenesss	Not Supported
H2.1.4.	IQ- Relevancy and MSO- Defensivenesss	Not Supported

Source: The researchers, Spss. V. 23, (2022).

There is positive and significant relationship between information quality (information completeness, information accuracy, information currency, and information relevancy) and proactiveness marketing strategic orientation; Table (12) showed the test and results of simple regression of the relationship between IQ- information quality dimensions and MSO- proactiveness variable: there is positive and significant relationship between IQ- completeness and MSO- proactiveness, standardized coefficient of (**β**eta value =0.539, Sig 0.000), there is positive significant relationship between IQ- accuracy and MSO- proactiveness, standardized coefficient of (**β**eta value = 0.626, Sig 0.009), there is positive significant relationship between IQ- currency and MSO- proactiveness, standardized coefficient of (**β**eta value= 0.836, Sig 0.000), there is positive significant relationship between IQ- relevancy and MSO- proactiveness, standardized coefficient of (**β**eta value= 0.501, Sig 0.011), and **R** square (**R**^{2} = 0.678), that mean the impact and the change in the MSO- proactiveness variable was explained by IQ- information quality dimensions variables of (68%) percentage and the remain of percentage returned to other factor as result on random mistake, **F-test** value (89.321) showed that the simple regression model is Significant (0.000), Durbin-Watson (**D.W**) was used and Significant at the (0.05) level (**D.W**= 1.683) it explain that there is no-relationship between mistake random of using Durbin-Watson, the result of regression showed that (all factors) are Significant, according to showed results the model approve that the impact factors on the MSO-proactiveness variable are (completeness, accuracy, currency, and relevancy).

Table (12): Test of simple regression between IQ- dimensions and MSO- proactiveness

Variables	MSO- proactiveness	
	β eta	Sig
IQ- Completeness	.539	.000
IQ- Accuracy	.629	.000
IQ- Currency	.836	.009
IQ- Relevancy	.501	.011
Statistic percentage;		
R Square (**R**^{2})	.678	
Adjusted **R** Square (**R**^{2})	.614	
Change **R** Square (R^2 Δ)	.678	
Durbin-Watson	1.683	
F-value	89.321	
Sig	.000^a	

Note: Significant at the (0.05) level is (0.000)

Source: The researchers, Spss. V. 23, (2022).

Table (13) showed the results of the relationship between relationship between information quality (completeness, accuracy, currency, and relevancy) and proactiveness marketing strategic orientation;

Table (13): Results of test the relationship between IQ-dimensions and MSO-proactiveness

Item	Statement of Hypothesis: There is positive and Significant relationship between:	Result
H2.2.1.	IQ- Completeness and MSO- proactiveness	Supported
H2.2.2.	IQ- Accuracy and MSO- proactiveness	Supported
H2.2.3.	IQ- Currency and MSO- proactiveness	Supported
H2.2.4.	IQ- Relevancy and MSO- proactiveness	Supported

Source: The researchers, Spss. V. 23, (2022).

There is positive and significant relationship between information quality (information completeness, information accuracy, information currency, and information relevancy) and analysis marketing strategic orientation; Table (14) showed the test and results of simple regression of the relationship between IQ- information quality dimensions and MSO- analysis variable: there is positive and significant relationship between IQ- completeness and MSO-analysis, standardized coefficient of (βeta value= 0.799, Sig 0.000), there is positive and significant relationship between IQ- accuracy and MSO- analysis, standardized coefficient of (βeta value= 0.601, Sig 0.000), there is positive and significant relationship between IQ-currency and MSO- analysis, standardized coefficient of (βeta value= 0.558, Sig 0.000), there is negative and non- Significant) relationship between IQ- relevancy and MSO- analysis, standardized coefficient of (βeta value= -0.630, Sig 0.154), and **R** square (R^2 =0.712), that mean the impact and the change in the MSO- analysis variable was explained by IQ-information quality dimensions variables of (71%) percentage and the remain of percentage returned to other factor as result on random mistake, **F-test** value (79.119) showed that the simple regression model is Significant (0.000), Durbin-Watson (**D.W**) was used and Significant at the (0.05) level (**D.W**=1.336) it explain that there is no-relationship between mistake random of using Durbin-Watson, the result of regression showed that the (first, second, and third factors) are Significant, and the fourth factor is non- Significant, according to showed results the model approve that the impact factors on the MSO- analysis variable are (completeness, accuracy, and currency).

Table (14): Test of simple regression between IQ- dimensions and MSO- analysis:

Variables	MSO- analysis	
	β eta	**Sig**
IQ- Completeness	.799	.000
IQ- Accuracy	.601	.000
IQ- Currency	.558	.000
IQ- Relevancy	.630-	.154
Statistic percentage;		
R Square (**R**^{2})	.712	
Adjusted **R** Square (**R**^{2})	.705	
Change **R** Square (R^2 Δ)	.712	
Durbin-Watson	1.336	
F-value	79.119	
Sig	.000^a	

Note: Significant at the (0.05) level is (0.000)
Source: The researchers, Spss. V. 23, (2022).

Table (15) showed the results of the relationship between relationship between information quality (completeness, accuracy, currency, and relevancy) and analysis marketing strategic orientation;

Table (15): Results of test the relationship between IQ-dimensions and MSO- analysis

Item	Statement of Hypothesis: There is positive and Significant relationship between:	Result
H2.3.1.	IQ- Completeness and MSO- analysis	Supported
H2.3.2.	IQ- Accuracy and MSO- analysis	Supported
H2.3.3.	IQ- Currency and MSO- analysis	Supported
H2.3.4.	IQ- Relevancy and MSO- analysis	Not Supported

Source: The researchers, Spss. V. 23, (2022).

There is positive and significant relationship between information quality (information completeness, information accuracy, information currency, and information relevancy) and reactor strategic orientation;

Table (16) showed the test and results of simple regression of the relationship between IQ- information quality dimensions and MSO- reactor variable: there is positive and significant relationship between IQ- completeness and MSO- reactor, standardized coefficient of (**β**eta value= 0.713, Sign 0.000), there is positive significant relationship between IQ- accuracy and MSO- reactor, standardized coefficient of (**β**eta value= 0.639, Sig 0.005), there is positive and non- significant relationship between IQ- currency and MSO- reactor, standardized coefficient of (**β**eta value= 0.803, Sig 0.167), there is negative and significant relationship between IQ- relevancy and MSO- reactor, standardized coefficient of (**β**eta value= -0.467, Sign 0.000), and **R** square (**R**^{2} =0.563), that mean the impact and the change in the MSO- reactor variable was explained by IQ- information quality dimensions variables of (56%) percentage and the remain of percentage returned to other factor as result on random mistake, **F-test** value (85.940) showed that the simple regression model is Significant (0.000), Durbin-Watson (**D.W**) was

used and Significant at the (0.05) level **(D.W**=1.075) it explain that there is no-relationship between mistake random of using Durbin-Watson, the result of regression showed that the (first and second factors) are Significant, and the (third and fourth factors) are non- Significant, according to showed results the model approve that the impact factors on the MSO- reactor variable are (completeness and accuracy).

Table (16): Test of simple regression between IQ- dimensions and MSO- reactor:

Variables	MSO- reactor	
	β eta	Sig
IQ- Completeness	.713	.000
IQ- Accuracy	.639	.000
IQ- Currency	.803	.167
IQ- Relevancy	-.467	.000
Statistic percentage;		
R Square (**R**^{2})	.563	
Adjusted **R** Square (**R**^{2})	.501	
Change **R** Square (R^2 Δ)	.563	
Durbin-Watson	1.075	
F-value	85.940	
Sig	.000^a	

Note: Significant at the (0.05) level is (0.000)

Source: The researchers, Spss. V. 23, (2022).

Table (17) showed the results of the relationship between relationship between information quality (completeness, accuracy, currency, and relevancy) and reactor marketing strategic orientation;

Table (17): Results of test the relationship between IQ-dimensions and MSO-reactor

Item	Statement of Hypothesis: There is positive and Significant relationship between:	Result
H2.4.1.	IQ- Completeness and MSO- reactor	Supported
H2.4.2.	IQ- Accuracy and MSO- reactor	Supported
H2.4.3.	IQ- Currency and MSO- reactor	Not Supported
H2.4.4.	IQ- Relevancy and MSO- reactor	Not Supported

Source: The researchers, Spss. V. 23, (2022).

Results of study (Findings):

For that, the regression analysis simple used to test the hypotheses of the study.

The results outlined as flow:

There is existence of positive and significant relationship between (IQ) information quality (completeness, and accuracy) with (MSO- Defensivenesss) marketing strategic orientation, and negative and significant relationship between (IQ) information quality (Currency) with (MSO- Defensivenesss), and positive and non-significant relationship between (IQ) information

qualities (Relevancy) with (MSO- Defensivenesss) Defensivenesss (supported). There is existence of positive and significant relationship between (IQ) information quality (information completeness, information accuracy, information currency, and information relevancy) and (MSO) marketing strategic orientation– proactiveness, The results showed that (information completeness, information accuracy, information currency, and information relevancy) has impact on (MSO) marketing strategic orientation–proactiveness. There is existence of positive and significant relationship between (IQ) information quality (information completeness, information accuracy, and information currency) and (MSO) marketing strategic orientation –analysis, and negative and non-significant relationship between information relevancy and (MSO) marketing strategic orientation– proactiveness. The results showed that (information completeness, information accuracy, and information currency) has impact on (MSO) marketing strategic orientation –proactiveness. There is existence of positive and significant relationship between (IQ) information quality (information completeness, and information accuracy) and (MSO) marketing strategic orientation– reactor, and negative and significant relationship between information currency and (MSO) marketing strategic orientation– reactor. In addition, negative and significant relationship between information relevancy and (MSO) marketing strategic orientation– reactor. The results showed that (information completeness, information accuracy) has impact on (MSO) marketing strategic orientation–proactiveness.

Research recommendations

For future study recommends to apply and measure the impact of difference dimensions of information quality with the difference dimensions of marketing strategic orientation in difference sectors.

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