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FEATURE

A Conceptual Framework on Optimizing the Use of Marketing Information

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Abstract. *Information is a key component of marketing decision making. Arguably, the information available to decision makers affects the quality of the decisions they make. However, the information technology revolution has ushered in an information explosion and overload for decision makers. Hence, there seems to be room to add frameworks which explain how the optimum use of the available information can be achieved. The aim of this paper is to assess the factors explaining the optimum use of marketing information systems and to suggest a conceptual framework. A literature review was conducted and the resulting conceptual framework suggests that (a) marketing information strategy; (b) critical success factors; and (c) alignment; are the main factors that influence the quality of a marketing information system and in turn the usability of its information, and therefore the optimum use of available information. Hence, the paper suggests that these variables and illustrated relationships can be manipulated to enhance the optimization of marketing information systems.*

Keywords: Information explosion; optimum use of marketing information; marketing information systems; conceptual framework

Introduction

All organizations need information when they make decisions. In fact, information is a key component of effective decision making for industries as diverse as agriculture, retail clothing (Queiroz & Oliveira, 2014), and banking (Ladipo, Awoniyi, & Arebi, 2017; Sulaiman, Malee, & Maitah, 2014). Correspondingly, marketing information systems are part of the mechanisms in place to provide such information. A marketing information system is known to comprise people, equipment and procedures to process and distribute information

based on company records, marketing intelligence activities, and marketing research. Marketing information systems help organizations take advantage of opportunities while mitigating potential threats in the eclectic business environment in which they operate (Ladipo et al., 2017; Omar, 2017; Rad, Hossein, Massafi, & Tak, 2013; Shankaranarayanan, Even, & Berger, 2015). They are particularly useful when exploring foreign markets (Limański, Popławska, & Drabik, 2018). However, the marketing information systems can only achieve their goal of being decision making tools if they are effective. Such effectiveness depends on the usability of the systems as well as the extent to which they meet the organizational information needs (Yolanda Jorritsma & Wilderom, 2012).

The potential use of marketing information needs to be considered in the context of the data explosion in the business and the marketing environment. Beath, Becerra-Fernandez, Ross, and Short (2012) highlight that data is expanding at a rate of 35% to 50% per year in most organizations. In fact, it is suggested that a typical organization processes 1000 times more information than it did a decade ago. Shugan (2004) explains that the advent of search engines and other emerging technologies have also reduced the cost of searching for information. Yet, decision makers can only make use of the market information or intelligence or knowledge and not data in its unprocessed form. To be useful, marketing intelligence systems must address the needs and the objectives of the firm (Hauser, 2007).

In contrast, it has been observed that the marketing research and business research environments are characterized by access to massive amounts of data that organizations have limited capacity to process (Christen, Boulding, & Staelin, 2009; Hauser, 2007; Shugan, 2004). In addition, marketing information systems in markets like Russia (Ashamarina, Pogorelova, & Zotova, 2014) and Syria (Sulaiman et al., 2014) may need further development and are arguably lagging behind when compared to other markets. Global expenditure on Customer Relationship Management (CRM) systems was expected to reach \$13 billion dollars by 2012, but with less than 50 % of the projects meeting expectations. This reality points to the costly nature of marketing information systems (Khodakarami, 2013). Further, recent studies have focused on knowledge use. The major motivation for that focus, is the fact that organizations have failed to use the information readily available to them (Maltz & Kohli, 1996). Tom Peters aptly sums it up when he suggests that the information environment is one in which organizations are “drowned in information starved for knowledge”. In light of this, “knowledge starvation” (Hauser, 2007) suggests that information per se is not of much use to an organization. Instead, *market intelligence*, which focuses on specific organizational information needs, is suggested as what is needed most.

Interestingly, marketing research is lagging behind with the other disciplines in the adoption of information technology (Brady, Fellenz, & Brookes, 2008). Daniel, Wilson, and McDonald (2003) further note that the use of marketing information systems is relatively new and advocates the establishment of a holistic marketing information framework. Incidentally, Maity, Dass, and Malhotra (2014) also highlight the need to establish a comprehensive consumer information search framework. Their meta-analysis reviewed cost, price, dispersion, knowledge, and prior experience as antecedents for offline information search. They recommended further research on online information search and its antecedents. So, it seems evident that while marketing data has grown exponentially, marketing information systems need to be reviewed to optimize the use of marketing data. As such, this paper contributed to closing the gap in business intelligence as well as marketing information literature because of the absence of a comprehensive framework detailing the optimum use of information for marketing and business intelligence systems.

Optimizing Marketing Information Systems

Given the acknowledgement that there is an information avalanche coupled with underutilization of the potential knowledge, this paper sought to explore some of the suggestions that may help optimize the use of the information so readily available to the organizations. This paper reviewed the broad framework of factors affecting the optimum use of marketing information discussed in the reviewed literature. The review provides insights that advance theoretical and conceptual knowledge on the optimum use of information in business intelligence as well as marketing information environments. Several factors were uncovered by the literature review. The factors emergent in the literature were the (a) critical success factors for marketing information systems, (b) elements of strategy for marketing intelligence systems, (c) alignment of organizational information, and (d) antecedents of market intelligence dissemination. In each case, proposition statements are highlighted.

Critical Success Factors for Marketing Information Systems

According to Yeoh and Koronios (2010), a set of critical success factors (CSFs) enhances the usefulness of a business information system. Arguably, a robust business intelligence system enhances the creation and use of knowledge. The following three groups of factors are identified as CSFs for business information systems: (a) organizational-vision and business-related factors, management and championship related factors; (b) process-team-related factors, project management and methodology-related factors, change management-related factors; and (c) technology-data-related factors, and infrastructure-related factors. Omar (2017) as well as Queiroz and Oliveira (2014) also highlight the increasingly important role played by technological innovations in the performance of

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marketing information systems. It can thus be suggested that organizations should consider implementing these critical success factors to optimize the use of available information. Evidently, the first factor is concerned with adopting a knowledge management thrust at the strategic, organization-wide, and long-term levels. Strategic components such as organizational visions, missions and strategic plans should incorporate knowledge management issues. Similarly, the implementation environment must be equally adjusted. Finally, it is important to invest in knowledge management infrastructure. Yeoh and Koronois (2010) note that business intelligence systems hinge on the quality of data that they churn out. As the adage goes, garbage in, garbage out. Figure 1 below illustrates the suggested CSFs and their impact on marketing information implementation.

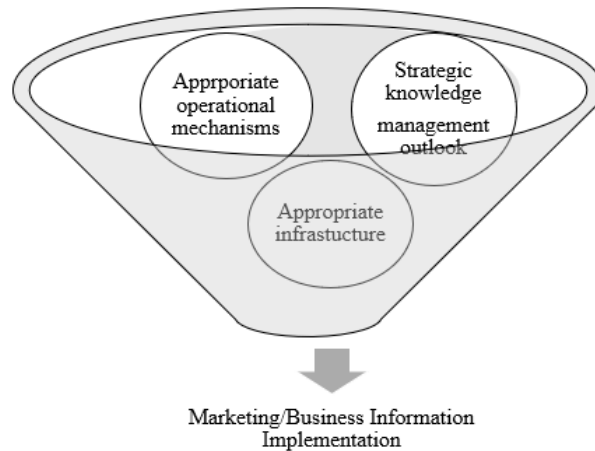


Figure 1: Critical success factors for marketing information systems.

Proposition statement 1: (a) Organizational, (b) process and (c) technological factors are three categories of critical success factors that serve as precursors to marketing information system implementation. In turn, marketing information system implementation is thus a precursor to knowledge creation and use.

Elements of Strategy for Information Systems

Focused market intelligence strategies enhance the creation and use of knowledge. Organizations are said to have two options when it comes to market intelligence strategies. They can either search wide but not deep (broad strategy), or search deep but not wide (focused strategy). Part of the suggestions given are that a focused strategy is better placed to equip an organization with a sustainable competitive advantage (Christen et al., 2009). A broad strategy may have minimal effectiveness as it is bound to bring in any available information. Clearly not all of

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it are needed; hence, the quality of the information may be compromised. Besides, with a lot of information that is not needed, costs of acquisition as well as processing the information are likely to increase. Figure 2 below illustrates the choice market intelligence strategy and the likely effects on cost and quality.

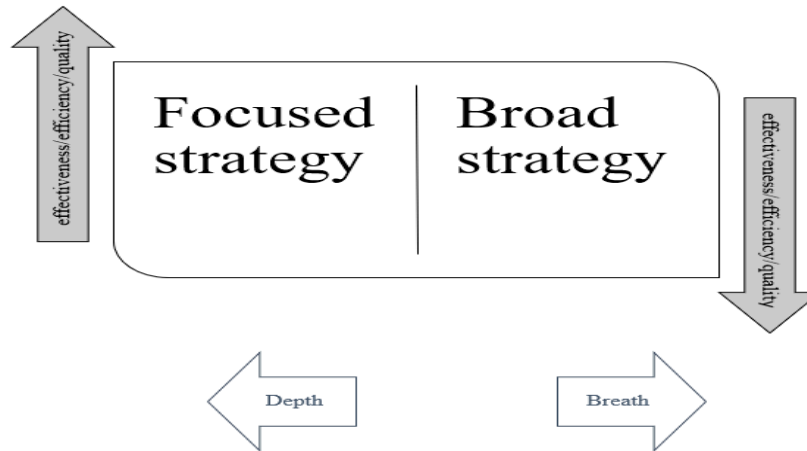


Figure 2: Elements of strategy for marketing information systems.

Accordingly, the following proposition statement is proffered.

Proposition statement 2: A focused market intelligence strategy enhances the creation and use of knowledge resulting in a sustainable competitive advantage.

Alignment with Organizational-Information Processing Requirements, Broader Systems, and Strategies

The effectiveness of the marketing information systems depends on its alignment with the organizational-information processing requirements, broader systems, as well as strategies. According to Khodakarami (2013), system integration, flexibility, and ease of learning were identified as affecting system quality which in turn affects the use of the systems as well as user satisfaction. Further, the availability of customer information as well as appropriate presentation formats were also noted as influencing user satisfaction.

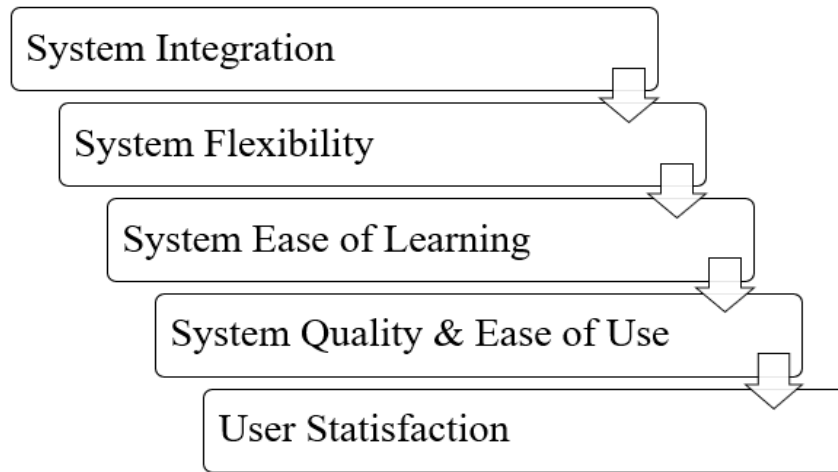


Figure 3: Systems and strategies alignment with processing requirements.

Correspondingly, three proposition statements have been suggested.

Proposition statement 3: System integration, system flexibility, and ease of learning are precursors to a good quality marketing information system which in turn enhances system use and user satisfaction.

Proposition statement 4: Ease of learning, availability, and format influence customer information quality which in turn affects system use and user satisfaction.

Proposition Statement 5: The greater the ability of the system to meet organizational requirements in terms of objectives and information processing needs, the greater the system use and the greater the user satisfaction.

Antecedents of Market Information Dissemination

Market information dissemination influences the creation and use of knowledge. Dissemination frequency and presentation formality have been identified as antecedents of information quality. The information received through formal channels tends to be useful more than that received through informal channels. Frequency of dissemination was noted as affecting the receivers trust in the sender as well as the organizational commitment (Maltz & Kohli, 1996). Jamalpuria (2013) also notes that information dissemination is related to informal environmental regulation. It is evident that market intelligence dissemination is related to the quality of knowledge created. For instance, he suggests that if a firm can disseminate information about its compliance to the green standards, that would increase its market share. This is a form of knowledge creation and use. Therefore, it follows that market intelligence dissemination has indirect influence

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on the creation and use of knowledge. Further, it can be suggested that market intelligence dissemination is the product of a functional business intelligence system. These ideas and relationships are illustrated in Figure 4 below.

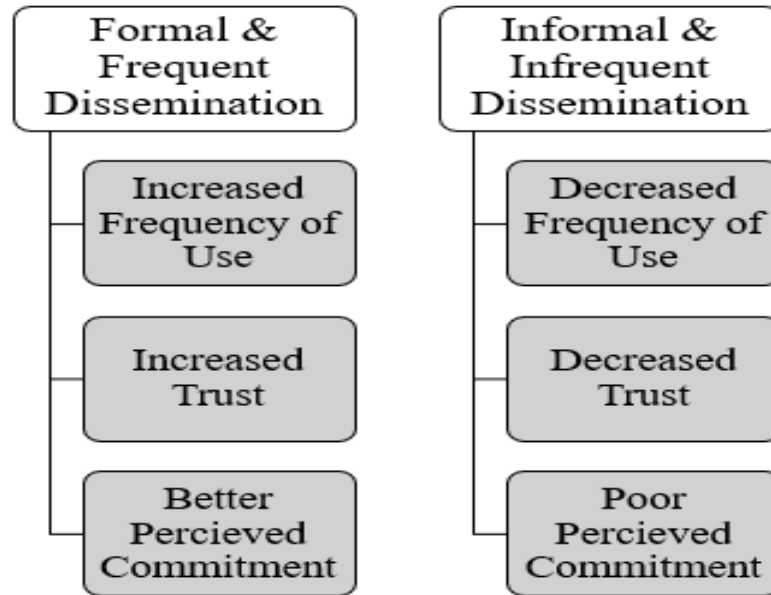


Figure 4: Antecedents of market information dissemination.

Accordingly, the final proposition statement is highlighted.

Proposition statement 6: A functional business intelligence system results in formal information dissemination. Formal information dissemination is part of knowledge creation which enhances knowledge use.

Discussion

The conceptual framework below summarizes the qualitative output from the literature review. The review identified CSFs, alignment, and strategy as the main precursors of effective marketing information systems. Further, the dissemination of the marketing information was suggested to be influenced by formality as well as frequency of the dissemination. Conceivably, effective marketing information systems, which allow effective dissemination, result in the optimum use of marketing use of marketing information.

Conceptual Framework

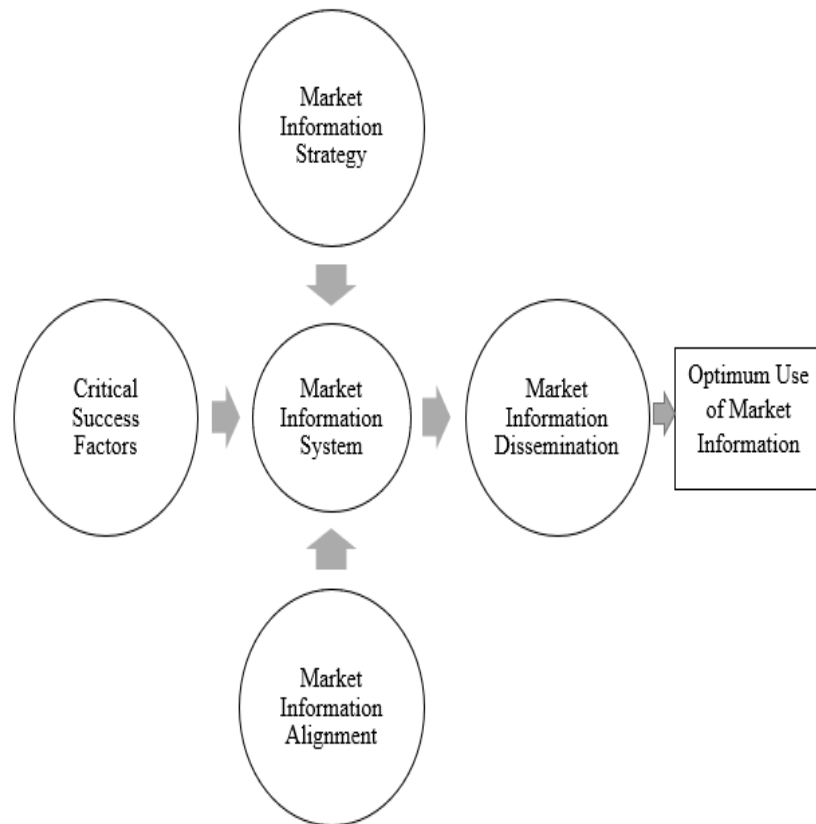


Figure 5: Optimizing the use of market information – a conceptual framework.

The paper made a convincing case for the need to process data into knowledge that can be easily used by the decision makers. Organizations can therefore, increase their investments in knowledge management research as well as knowledge management technologies. In fact, knowledge management should be part of a firm’s strategic arsenal.

The output of this paper is summarized by the proposition statements outlined below:

1. Business intelligence system implementation, as it is indicated through alignment, strategy and the identified CSFs, is a precursor to knowledge creation and use.
2. System integration, system flexibility, and ease of learning are precursors to a good quality marketing information system which in turn enhances system use and user satisfaction.
3. Ease of learning, availability, and format influence customer information quality which in turn affects system use and user satisfaction.
4. The greater the ability of the system to meet organizational requirements in terms of objectives and information processing needs, the greater the system use and the greater the user satisfaction.
5. A functional business intelligence system results in formal information dissemination. Formal information dissemination is part of knowledge creation that enhances knowledge use.

Critical Success Factors

Yeoh and Koronios (2010) identify CSFs that are suggested as precursors to an effective marketing information system. The CSFs are grouped in three categories as illustrated above. All the factors are concerned with an organization's internal issues. This means that an organization has the potential to manipulate the CSFs so that an optimal marketing information system can be attained.

Market Information Strategy

Christen et al. (2009) discuss the strategy for business intelligence systems focusing on broad or focused strategies and how they impact the attainment of sustainable competitive advantage. The sustainable competitive advantage comes about through a functional marketing information system. Given the vast amounts of data available, digging narrow and dip through a focused strategy makes sense. A focused strategy makes it possible to create a comprehensive assessment of the information needs of the organization. On the other hand, a general appreciation of the issues of the day is also important. The good thing is that, the technology available makes such an appreciation possible at a relatively low cost.

Market Information Alignment

Khodakarami (2013) highlight alignment as an important precursor for marketing information systems. The marketing information system is expected to address the organisations needs in terms of its objectives as well as processing needs. At the same time, alignment in terms of organisational systems and strategy-integration, flexibility, and ease of use is also identified as key to a healthy marketing information system. This alignment resonates with the discussions raised on CSFs

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raised by Yeoh and Koronios (2010). Both articles discuss the need for the marketing information system to address the organizations' objectives.

Market Intelligence Dissemination and Use

Jamalpuria (2013) suggests that frequency of dissemination as well as formality of dissemination influence the extent to which information from the marketing intelligence information systems is used. Though dissemination results from the quality and usability of the information system, it seems to moderate between the marketing information system and its extent of use. The suggestions on formality of information are particularly important given the rise of informal information dissemination platforms like Twitter and Facebook.

Conclusion

The paper reviewed business/marketing intelligence and marketing information systems literature to uncover the variables that account for the optimum use of a marketing information system. Optimum use of the marketing information is contingent on a healthy marketing information system. Correspondingly, a healthy marketing information system is contingent on marketing information strategy, CSFs, as well as alignment to organizational goals and systems leading to enhanced usability of the information and optimum use of the marketing information system.

Limitations and Recommendations for Further Research

As with any study, this paper has limitations that must be highlighted as well as some direction for future research. A literature review was conducted for the study. However, it has limitations which can be addressed through a systematic review. As noted by Ker, Piirainen, and Salminen, 2012, systematic reviews have an advantage over traditional reviews in that they are more methodologically rigorous, transparent, pragmatic, exhaustive. They provide a wider coverage and are reproducible. Therefore, more exhaustive future studies can be conducted through systematic review.

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