Decision Support Systems for the Efficiency Social Networks of Small and Medium Enterprises

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Abstract

The objective of this literature review article was to develop a framework of reference for the use of social networks as a decision support systems tool for the efficiency of small and medium enterprises. Twenty (20) research articles were reviewed from 2011 to 2017 that were associated with the topics of decision support systems, strategic decisions, and social networks. The research findings suggest that the use of decision support systems help the organization gain a competitive advantage, improve performance by analyzing the data obtained, and the data extracted from social networks add value to the company with low investment. Social networks have transformed the availability of information for their customers, making available a set of tools for searching, debugging, and validating data from both: individuals and organizations [19]. The use of social media is an effective modality for the development of relationships with clients and employees [10].

Keywords: Decision Support Systems; Social Networks; Strategic Decisions; Small and Medium Enterprises.

1. Introduction

Small and Medium Enterprises have multiple challenges when making decisions [3]. In the last decade, it has become common for managers to have methods for problem analysis; however, when the problem is associated with information technologies, these methods tends to be different, so it becomes a challenge [14]. Generally, small and medium enterprises do not have an information technology strategy due to the little planning of goals and uncertainty that constantly surround these types of companies [3].

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In social networks, millions of consumers interact directly with the product offered by companies and effective management represents an increase in sales, and consequently a better chance of success [7]. Low visits from consumers or potential clients to the websites of small organizations, as well as the relative high cost associated with their maintenance has led to the small organizations prefer social networks to promote their presence in a digital environment [12]. While social networks add value to businesses, they also add many challenges [17]. Generally, managers or representatives of these companies do not have enough knowledge to adopt new information technology strategies [17].

2. Literature Review

2.1 Decision Support System

A decision support system is an information system used to support decision making in an organization or a business [6]. The benefits of the decision support system include providing a mechanism to make more informed decisions, timely resolutions, and greater efficiency in addressing issues in balance with the organizational and social approach [6]. Due to the easy handling, data collection and analysis, it allows the end user to make more informed decisions at a faster rate [11]. The decision support system is used by middle to upper management and is key to understanding large amounts of data over a period of time [5]. The information obtained from the system can be presented to the client in a visual way for easy understanding and customized use for each case. Therefore, decision support systems have become a tool of indispensable use in any organization. These systems help to strengthen the decision-making process and facilitate the visualization of the most important data [11].

2.2 Social Networks

Social networks are a set of virtual sites dedicated to entry, interaction, content sharing, and collaboration [10]. These spaces have become an integral part of online life as websites and social applications proliferate most commercial enterprises [7]. Companies use these means to market products, promote brands, connect with customers, and foster new business [9]. Social networks facilitate the communication between the client and the company, which helps to create loyalty to the brand, and improve the impressions that their clients have of the company [10]. Social networks allow the business to respond very quickly to positive and negative feedback from customers, address problems affecting the business image, and maintain, recover, build, or rebuild customer trust [8]. Business representatives can apply different strategies for the use of social networks, such as content development and sending messages, which will allow sharing this information with family and friends [9]. On the other hand, the use of social networks as an entrepreneurial tool can provide both advantages and disadvantages, which requires companies to have an active strategy of social networks [13].

2.3 Strategic Decisions

Strategic decision making describes the process of creating missions and organizational goals, as well as deciding what course of action a company should follow [16]. Strategic decision making is an ongoing process that involves the creation of strategies for achieving goals, and strategies based on observed results [15]. After

the goals and strategies, the next stage requires managers to collect data and evaluate the strategic results for the purpose of applying them to business needs [3]. While small business entrepreneurs are experts in the industry they lead, they are often not experts in business management [15]. Business owners request outside help to assist in the strategic decision-making process; other firms hire professional consultants to help them make decisions in order to achieve their goals [16].

3. Methodology

A critical analysis was performed using twenty (20) articles published from journals of information systems from the years 2011 to 2017. The documents analyzed and examined present an approach to the themes of Decision Support Systems, Strategic Decisions, and Social Networks. The critical analysis of the articles reviewed is illustrated in Table 1. These articles were reviewed and their main contributions were summarized accordingly.

Table 1: Contribution of Revised Articles

Year	Article	Contribution
2012	Annis, K. "Social Media for the Small Firm: How Social Media Resources Are Leveling the Legal Marketing Playing Field Strategies." The Journal of Legal Marketing 14(6), 9-12	The implementation of any technology involves organizational support.
2014	Filip, F. G., Suduc, A. M., & Bizoi, M. "DSS in numbers." Technological and Economic Development of Economy, 20(1), 154-164, 2014.	Materials published on the SSD have been exponentially increased.
2012	Modeling dynamics in decision support systems. (Riedel, R., Wiers, V., & Fransoo, J. C. (2012).	The implementation of technological processes has become more challenging in the last decade.
2013	Gao, S. "Mobile decision support systems research: a literature analysis." Journal of Decision Systems, 22(1), 10-27, 2013.	The balance of decision support approaches also echoes the growing organizational and social focus of research in the field of IT.
2013	Nobari, S. M., & Zadeh, D. H. "Designing a fuzzy model for decision support systems in the selection and recruitment process." African Journal of Business Management, 7(16), 1486, 2013.	There is a lack in the system that has the capacity to integrate the needs of organizations.
2014	Schaupp, L. C., & Bélanger, F. "The value of social media for small businesses." Journal of Information Systems, 28(1), 187-207, 2013	Small businesses are able to gain substantial value from social networking, but there are also many challenges.
2011	Mortara, A., & Sinisi, V. "Building corporate reputation trough social media: the case of Tommee Tippee", Italy. In Convegno Annuale di Sinergie Governance d'impresa e comunicazione strategica", 2011.	The use of social media is an effective way to stay ahead of the public and continue to develop deeper relationships.
2012	Jefferson III, C. E., & Traughber, S. "Social Media in Business. How Social Media Can Help Small Businesses and Non-Profit Organizations.", 2-3, 2012.	Most people indicate that Facebook is their core network.
2012	Annis, K. "Social Media for the Small Firm: How Social Media Resources Are Leveling the Legal Marketing Playing Field Strategies." The Journal of Legal Marketing 14(6), 9-12, 2012.	Creating content and messages around a central theme is key to attracting a social networking audience.
2013	Durkin, M., McGowan, P., & McKeown, N. "Exploring social media adoption in small to medium-sized enterprises in Ireland." Journal of Small Business and Enterprise Development, 20(4), 716-734, 2013.	The accelerated growth, deployment, and integration of new technologies bring questions regarding the quality of interactions.

2014	Taneja, S., & Toombs, L. "Putting a face on small businesses: Visibility, viability, and sustainability the impact of social media on small business marketing." Academy of Marketing Studies Journal, 18(1), 249, 2014	Social networks have changed the delivery, structure, and availability of information to reach current and future customers.
2014	Carrière, J. "HR Involvement in Strategic Decisions: Impact on Organizational Performance." Journal of Strategic Human Resource Management, 3(1), 2014.	Managers who are fully involved in strategic planning will be in a better position to suggest and adapt the practices to the needs of the organization.
2016	Sajjad H. & Francesca M. "Unfolding critical events and strategic decisions: the role of spatial and temporal cognition" Management Decision, Vol. 54 Issue: 7, 1813-1842, 2016.	A variety of terms and tools have been used such as mental models, schemes, dominant logic, cognitive maps, frameworks, and belief systems to understand decision making.
2012	Sabău, L. I. "Information and strategic decisions in economic entities management." OF THE UNIVERSITY OF PETROŞANI~ ECONOMICS~, 227, 2012.	The information represents support for decision making, helping them make the right decision to achieve the stated goals.
2012	Ulrich R. Orth, Frauke Heinrich, Keven Malkewitz. "Servicescape interior design and consumers' personality impressions." Journal of Services Marketing, Vol. 26 Issue: 3, 194-203, 2012.	Consumers prefer environments that match their concept of themselves.
2013	Ordabayeva, N., & Chandon, P. "Predicting and managing consumers' package size impressions." Journal of Marketing, 77(5), 123-137, 2013	It is important for managers and owners to predict changes in the company without the need for large empirical estimates.
2012	Keller, E., & Fay, B. "Word-of-Mouth Advocacy." Journal of Advertising Research, 52(4), 459-464, 2012.	Seventy-five percent of all brand consumer conversations happen face-to-face, and another fifteen percent goes on the telephone, and only about ten percent online.
2012	Schuldt, J. P., Konrath, S. H. and Schwarz, N. "The Right Angle: Visual Portrayal of Products Affects Observers' Impressions of Owners. Psychol. Mark., 29: 705–711, 2012.	The choice of products by consumers reflects an expression of identity and management of printing in the company.
2015	Palmeira, M., & Spassova, G. "Consumer reactions to professionals who use decision aids." European Journal of Marketing, 49(3), 302-326, 2015	Negative attitudes toward decision aids make people doubt the experience and competence of company professionals.
2014	Jia, J., Shiv, B., & Rao, S. "The Product-Agnosia Effect: How More Visual Impressions Affect Product Distinctiveness in Comparative Choice." Journal of Consumer Research, 41(2), 342-360, 2014.	Consumer choice is often based on the visual appeal of competing products.

4. Limitations

The study includes only 30% of article analysis on topics related to social media, 35% on issues related to consumer behavior and 35% on issues related to DSS and Strategic Decisions. The researchers did not include other significant references related to social media for analysis and findings, before 2011. The research does not suggest a conceptual model that includes constructs related to social media as a method of information resources for small and medium enterprises. The results of this investigation cannot be generalized for small and medium companies of any jurisdiction in the world.

5. Conclusions

The results indicate that there is a link between strategic business decisions and the use of decision support

systems through social networks in small and medium business. This analysis suggests that using decision support systems in the day-to-day business would help to gain competitive advantage and improve performance by analyzing the data obtained. An analysis of the data extracted from social networks add value to the company with a little investment. Best practices suggest that the organizational benefits gained to improve the consumer experience and increase the performance of business resources. Schemas, logic, and cognitive maps are critical to understanding decision making [16]. An active manager in organizational planning is best placed to apply the best decision-making practices to meet business needs [2]. Ten percent (10%) of consumer opinions or conversations occur online [9]. Social networks have transformed the availability of information for their clients [19]. The use of social media is an effective modality for the development of relationships with clients and employees [10].

6. Recommendations

Expand the research with the analysis and results of other significant studies on the topic of social networks. Develop a conceptual model, with the inclusion of variables or constructs, which allows to measure the possible relationships to the phenomenon of social networks as computer resources for small and medium enterprises. Perform an empirical study to measure each of the possible relationships involved in the use and benefits of social networks in small and medium enterprises.

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