

Decision Making in the Digital Era: In Search of a Framework for the Use of Social Technology

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ABSTRACT

The unfortunate events occurring during the COVID-19 pandemic have forced many companies to promote work-from-home procedures and consequently have put forth the urgency to identify critical success factors and develop best practices for the use of social technologies. In the long run, these practices may turn out to be the main practice of doing business, rather than being an emergency response to external conditions. A better understanding of the relationships between social technology on decision-making is vital for an organization since the intensive use of social technology would require several changes in an organization's culture and business process. For this reason, this paper offers a framework for understanding how the fit and viability of tasks, technology, and organization through the use of social technology effects decision-making performance. The framework suggests three propositions: 1) fit has a positive effect on social technology use, 2) viability has a positive effect on social technology use, and 3) social technology use has a positive effect on decision-making performance.

Keywords: *Decision Making, Social Technology, Digital Era*

1. INTRODUCTION

The use of social technology will inevitably arise in the future, with more digital natives constituting the workforce. The unfortunate events occurring during the COVID-19 pandemic outburst have also forced many companies to promote work-from-home procedures and consequently have put forth the urgency to identify critical success factors and develop best practices for the use of social technologies. In the long run, these practices may turn out to be the main practice of doing business, rather than being an emergency response to external conditions.

With this in mind, organizations would be wise to prepare the integration of social technologies in their business practices, especially in the process of decision making. A better understanding of the relationships between social technology and collaboration in decision-making is vital for an organization since the intensive use of social technology would require several changes in an organization's culture and business process. The organization also needs to ensure that the decision-making process is not hindered and, if possible, is improved by using social technology. In this context, organizations should understand 1) how decision-making performance is affected by the use of social technology, 2) the factors needed to be taken into account to increase the use of social technology, 3) the effect of social technology use on collaboration quality, which in turn would affect decision making performance, and 4) the capabilities needed to improve collaboration quality.

This paper offers a framework to analyze the effect of fit on social technology use, the effect of viability on social technology use, and the effect of social technology use on decision-making performance. From a theoretical perspective, this paper is expected to advance the body of knowledge on the effect of social technology use on decision-making within an organizational context. Meanwhile, from a practical point of view, it would provide insights for managers on the benefits of social technology in terms of decision making and a better understanding of the conditions needed to make the best use of social technology to improve decision making in the organization.

2. LITERATURE REVIEW

The attitudes and behaviors of digital natives relative to digital immigrants are understandably different since the former was born into a world that was almost exclusively reliant on digital technology (Campos-Castillo, 2015, in Cramer, 2014). The following terms need to be clarified to understand this paper better.

2.1. Information and Communications Technology (ICT)

ICT has emerged as the main enabler to support social technology, including social media networking and teleconferencing. Throughout the years, Andriessen (2003) observed that the role of ICT has undergone several

developments. Initially, information technology was developed to support the routine processing of standardized data resulting in the popularization of management information systems, and subsequently, the incorporation of communications technology allowed electronic data interchange between companies and teleshopping and telebanking facilities for consumers. Further advancements brought us Intranets, Extranets, and electronic commerce, and eventually, the role of ICT is aimed to support collaborative work (Andriessen, 2003) and used as a medium of social interaction (Kling, 2007).

2.2. Social Technology

There are several terms used to describe the use of digital channels of communications, such as Web 2.0 (O'Reilly, 2005 in O'Reilly, 2007; Lai and Turban, 2008), Enterprise 2.0 (McAfee, 2009), Collaboration 2.0 (Coleman and Levine, 2008), Collaboration Technology (Frost and Johnson, 2006; Vrede, 2016; Gao, 2019), Social Software (Turban, Liang, and Wu, 2011), Social Technology (Agosto, 2013; Skarzauskiene, 2013; Tatnall, 2013), and Social Information Technology (Kehl, 2017).

This paper chose to use the term social technology due to its more general connotation and more recent use. Social technology is defined as "digital technologies used by people to interact socially and together to create, enhance, and exchange content" (Chui et al., 2012, in Skarzauskiene et al., 2013) and has three unique characteristics: 1) enabled by information technology, 2) provides distributed rights to create, add, and/or modify content and communications, and 3) enables distributed access to consume content and communications (Bughin, Byers, and Chui, 2011).

2.3. Social Technology Use

The use of social technology, together with other related terminologies, has become more prevalent and widespread as an organizational means of communication. For the millennial generation, which is currently starting to fill the workforce, social technology has emerged as the preferred means of communication. Payton (2015) has observed that the millennial generation is collaborative, social, and surprisingly idealistic. A survey of 4,364 millennials conducted by Price Waterhouse Coopers in 2011 found that 41% preferred to communicate electronically at work rather than face to face or by phone, and around 75% believed that access to technology increased their effectiveness at work. A similar finding was reported by Luttrell and McGrath (2016), showing that millennials are more than willing to collaborate with others via social media and may even have social anxiety when making a phone call. This generation is estimated to constitute 50% of the global workforce in 2020 (PwC, 2011), and it thus seems inevitable for social technology to obtain a more dominant role in organizational decision-making.

2.4. Decision Making

Decisions are often social in nature and involve multiple group members (Tindale and Winget, 2019). Shapira (2002) explained the differences between organizational decision making and individual decision making: 1) in organizational decision making, ambiguity is pervasive, both in terms of preferences and interpreting the history of decisions; 2) participants are a part of ongoing processes, which are sequential in manner, and thus have a longitudinal context; 3) incentives have an important role; 4) repeated decisions are made on similar issues, especially by middle management; 5) conflict is prevalent, and thus power considerations and agenda setting often determine decisions. Tindale and Winget (2019) further explained that group decision-making could be categorized into two dimensions: how much interaction or information sharing is permitted among the group members and how the final decision is made.

2.5. Social Technology Use for Decision Making

As an organizational method of communication, the usage of social technology, as well as other related terms, has grown in popularity. Social technology has evolved as the preferred mode of communication for the millennial generation, which is only beginning to enter the workforce. The millennial generation, according to Payton (2015), is collaborative, sociable, and unexpectedly idealistic. According to a poll of 4,364 millennials performed by Price Waterhouse Coopers in 2011, 41% preferred to communicate electronically at work rather than face to face or over the phone, and 75% stated that having access to technology improved their productivity. Luttrell and McGrath (2016) found a similar conclusion, claiming that millennials are more than prepared to cooperate with people via social media but may have social anxiety while making a phone call. This generation is expected to account for half of the global workforce by 2020 (PwC, 2011), making it inevitable that social technologies play a larger role in organizational decision-making.

The above premises have shown that decision-making is one of the main functions of an organization, and an effective means of communication is essential for coming up with satisficing decisions. Meanwhile, social technology has emerged as a potentially dominant means of communication and collaboration championed by millennials who will exceedingly dominate the workforce. However, the effect of both social technology on decision-making has yet to be sufficiently studied.

2.6. Previous Research

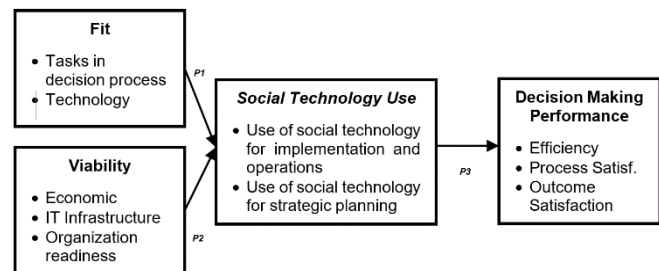
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Table 1. Previous Research

Author and Year	Title	Variables
Brown, Dennis, and Venkatesh (2010)	Predicting Collaboration Technology Use- Integrating Technology Adoption and Collaboration Research	<i>Dependent Variable:</i> Outcomes (Decisions) <i>Independent Variables:</i> Use Technology Characteristic Individual and Group Characteristics Task Characteristics Situational Characteristics
Carey and Kacmar (2003)	Toward A General Theoretical Model of Computer-based Factors That Affect Managerial Decision Making, Journal of Managerial Issues	<i>Dependent Variable:</i> Decision Making Performance <i>Independent Variable:</i> Manager/User Characteristic and Experiences <i>Moderating Variables:</i> Task Characteristics Presentation Format
Easley, Devaraj, and Crant (2003)	Relating Collaborative Technology Use to Teamwork Quality and Performance: An Empirical Analysis	<i>Dependent Variables:</i> Team Performance Decision Making Performance Creative Performance <i>Independent Variables:</i> Technology Usage Teamwork Quality
Hess, Fuller, and Mathew, J. (2006)	Involvement and Decision-Making Performance with a Decision Aid: The Influence of Social Multimedia, Gender, and Playfulness	<i>Dependent Variables:</i> Decision Making Outcomes Satisfaction Understanding Decision Time Use of Decision Aid Decision Quality <i>Independent Variables:</i> Involvement with the Decision Aid Computer Playfulness Gender Personality Multimedia Vividness
Lai and Turban (2008)	Groups Formation and Operations in the Web 2.0 Environment and Social Networks	Community Rewards Social Network Web 2.0 Tools
Laureiro-Martinez (2014)	Cognitive Control Capabilities, Routinization Propensity, and Decision-Making Performance	<i>Dependent Variable:</i> Decision Making Performance <i>Independent Variables:</i> Cognitive Control Capabilities Attention Control Planning and generativity Working memory <i>Moderating Variable:</i> Routinization Propensity
Liang and Wei (2004)	Introduction to the special issue: a framework for mobile commerce applications	<i>Dependent Variable:</i> Performance <i>Independent Variables:</i> Fit Task Technology Viability Economic IT Infrastructure Organization
Turban, Liang, and Wu (2011)	A Framework for Adopting Collaboration 2.0 Tools for Virtual	<i>Dependent Variable:</i> Decision-making Process, Performance

Group Decision Making	<i>Independent Variables:</i> Deployment Fit Tasks Technology Viability Economic IT Infrastructure Organization Readiness
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3. PROPOSED FRAMEWORK

**Figure 1.** The proposed theoretical framework of social technology and decision making

This proposed framework will further enhance the studies presented in the previous sections to obtain a more comprehensive view of the relationships between social technology and decision-making through the theoretical framework shown in Figure 10. The framework integrates the social networking software for group decision support framework of Turban, Liang, and Wu (2011) and also takes into account the fit and viability model of Liang et al. (2007), the utilization and model fit of Goodhue and Thompson (1995), and the teamwork quality, technology usage and team performance of Easley, Devaraj, and Crant (2003). The proposed model also regards the term collaborative technology used in Frost and Johnson's (2006) model and social software used in Turban, Liang, and Wu's (2011) as similar and uses the term social technology to represent both.

The proposed framework is based upon the following propositions:

Proposition 1 (P1) : Fit has a positive effect on social technology use.

Proposition 2 (P2) : Viability has a positive effect on social technology use.

Proposition 3 (P3) : Social technology use has a positive effect on decision-making performance.

From a theoretical perspective, the proposed framework could be used to advance the body of knowledge on the effect of social technology use on decision-making within an organizational context. For organizations and their managers, it may provide insights on the benefits of social technology in

terms of decision making and a better understanding of the conditions needed to make the best use of social technology to improve decision-making in the organization.

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