Praxio-integrative decision-making: From information-based decisions towards wisdom-fostered decisions

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Abstract

This paper draws on the findings of an empirical research project (PhD dissertation) and investigates the relationship between wisdom and managerial decision-making with an emphasis on the data-information-knowledge-wisdom hierarchy (DIKW). In an on-going explorative and interpretive research project being conducted in New Zealand, public and private sector managers and senior executives have been interviewed to examine their perceptions on the interrelationship between wisdom and management decision-making. Grounded theory (Glaser & Strauss, 1967) techniques have been used to analyse the data. The findings of this study are reported in this paper. The paper has two main parts. In the first part, the author raises the question: how can the information systems that are implemented in organisations to effectively manage information and knowledge and to support managerial decisions be used to foster wisdom in management decision-making. The first part makes the case for further studies on the implementation of information systems in wise managerial decision-making. In the second part, the contribution of wisdom to the managerial decision-making process is discussed based on the empirical findings. Some practical implications and possible research questions are provided in the conclusion section.

Keywords
Wisdom, Information Systems, Knowledge Management, Decision-making

Introduction

Over the last two decades knowledge management has attracted much attention in organizational studies and management fields. The recognition that knowledge is a vital competitive factor for organizations heightened the need for managing knowledge more effectively and efficiently than ever, which consequently led to the emergence of Knowledge Management (KM) as a critical field in the management arena. KM is defined as “any process (either formal policy or informal personal methods) that facilitates the capture, distribution, creation and application of knowledge for decision making” (Walczak, 2005, p. 331).

A broadly accepted approach to the nature of knowledge in organizational studies is derived from the hierarchical view of data-information-knowledge-wisdom (DIKW) (Ackoff, 1989; Davenport & Prusak, 1998; Hicks, Dattero, & Galup, 2006; J Rowley, 2007; Zeleny, 1987). In the DIKW hierarchy data is defined as “a representation of an object” (Miller, Malloy, Masek, & Wild, 2001, p. 365), and has no significance beyond its existence (Pantzar, 2000). Information is data that is transformed into
meaningful form (Bierly III, Kessler, & Christensen, 2000). Knowledge is defined as one’s understanding of how information can be used in the context (Davenport & Prusak, 1998; Zeleny, 2006); “combination and organization of data and information in given context” (Valderrama, Cruz, Aalazar, & Ramírez, 2013, p. 277). No globally agreed upon definition has been provided for wisdom. However, it may be defined as “the ability to increase effectiveness. Wisdom adds value, which requires the mental function that we call judgment. The ethical and aesthetic values that this implies are inherent to the actor and are unique and personal” (Rowley & Hartley, 2008, p. 6).

Knowledge and KM initiatives, however, have been criticized for having limited success in current turbulent organizational environments (Rowley & Slack, 2009). The concern has led organizational and management researchers to look beyond knowledge to wisdom (Hays, 2013; Intezari & Pauleen, 2013a; Rooney, McKenna, & Liesch, 2010). Wisdom is postulated in the management literature to be at a higher level than knowledge (Figure 1). Yet no generally agreed upon explanation of the nature and relationship between wisdom and the other levels of the pyramid has been provided. For instance, it would not be very simple to answer such questions as ‘how would managerial decisions based on information and/or knowledge be different from those that are made based on wisdom?’, ‘how does KM lead to organizational wisdom?’, or ‘how could information systems that help with the management of data, information and knowledge, be implemented to integrate wisdom into management decisions?’

![Figure 1: Knowledge pyramid (DIKW)](image)

Rather than directly answer these questions, and, for example, explain how wisdom can be supported by information systems, the paper will provide an explanation of the contribution of wisdom to management, and identify the qualities that are involved in a wise managerial decision-making process. The paper underlines the need for conducting further studies on the implementation of information systems in the context of wisdom and wise managerial decisions making.

Wisdom, as a blending of “the intellectual perception of truth and the moral sentiment of right” (Csikszentmihalyi & Rathunde, 1990, p. 31), “goes beyond conventional notions of intelligence to encompass the moral, social, and practical dimensions of solving life problems in expert fashion” (Hammer, 2002, p. 12). Although such human aspects as emotions, ethics, and intuition differentiate wisdom from information and knowledge (Intezari & Pauleen, 2013b), wisdom, is not separable from knowledge, as the essence of wisdom lies on the recognition of one’s knowledge (Hays, 2010; Meacham, 1983; Sternberg, 1998; Taranto, 1989). In this sense relevant and reliable information and knowledge are vitally important for managers to be able to make wise managerial decisions (Intezari & Pauleen, 2013a). Knowledge management and the information systems that are implemented to support information-based decisions at the managerial level, therefore, have great potential to foster wisdom in managerial decisions, although the current information systems are mainly focused on the
bottom three levels of the DIKW hierarchy; data, information, and knowledge, with little to no connection to wisdom.

The findings of an empirical research about the relationship between wisdom and the managerial decision-making process will be presented in the paper. The findings offer a better understanding of the qualities that are involved in making wise managerial decisions. The author suggests that to support wisdom-fostered decisions by using information systems (e.g. DSS), the qualities need to be considered in the study and development of information systems. By wisdom-fostered decisions the author means the decisions that are supported by such wisdom-related qualities as awareness, reflection, emotions, and cognition; that lead to the outcomes that are at a given time more likely to be considered by the business community as being wise. Further explanation will be provided of wisdom-fostered decisions and the wisdom-related qualities later on in the paper. In the following section, a brief explanation of information-/knowledge-based decisions is provided. Then the empirical research is introduced and the findings of the empirical research will be discussed.

**Information-/knowledge-based decisions and wisdom-fostered decisions**

Due to the critical role of data and information in managerial decision-making a wide range of information systems have been introduced in the information technology and management fields to enhance individual and organization performance, including decision-making, through the efficient management of information and knowledge (Lucey, 2005; O’Brien, 1999). Examples of these information systems include Office Automation Systems (OAS) (Cheng, 1988; Grantham, 1995), Management Information Systems (MIS) (Lucey, 2005), Expert Systems (ES) (Jenicke, 1988; Raggad & Gargano, 1999), Decision Support Systems (DSS) (Eom, 1999; Min, 2009), and Group decision support systems (GDSS) (Carneiro, 2001). The last two are more directly aimed at improving decision-making. Although the function and the role of the information systems may vary depending on the organizational levels and users’ need, information systems share some commonalities: They have been developed to improve individual and organizational performance; and they all rely on and take the advantage of computer systems.

Despite the potential in implementing information systems in support of wise managerial decision-making; and in spite of the emphasis that has been put on need to process and manage data, information, knowledge, and ‘wisdom’ in the organizations (Ackoff, 1989; Zeleny, 1987), only a few studies have investigated how for example knowledge management can help with the development of organizational wisdom (Pinheiro, Raposo, & Hernández, 2012). Similarly, although the literature postulates a relationship between knowledge and wisdom, it has not been clearly explained that how managing information and knowledge can lead to making wise managerial decisions (Intezari & Pauleen, 2013a). There could be a number of reasons for the paucity of practical approaches on the implementation of knowledge management and information systems in making wise managerial decisions. One reason, which this paper is focused on, is the lack of a clear explanation of the relationship between wisdom and the managerial decision-making process and the role that information and knowledge play in wise decision-making.

There are critical qualities required for making wise managerial decisions that are not evident in DIKW hierarchy nor supported by computer-based systems. In the following section the human qualities involved in a wise managerial decision-making process are identified, and the relationship between wisdom and the managerial decision-making process is explained. The output decision that is made based on the integration of these qualities is referred to as wisdom-fostered decision.

**The contribution of wisdom to management**

In spite of recently increasing attention to the philosophical concept of wisdom in organizational studies (Edwards, 2010; Hays, 2013; Intezari & Pauleen, 2013a, 2013b; Rooney et al., 2010), rare-to-no empirical studies have investigated the contribution of wisdom to management, especially the managerial decision-making process (Melé, 2010). To investigate the contribution of wisdom to management decision-making, an interpretative exploratory research was conducted (the research is still in progress). The research question was: *how does wisdom contribute to the managerial decision-*
making process? To address the question, 37 CEOs, managers, and senior executives of both public and private sectors in New Zealand were asked, using semi-structured interviews, about the their understanding of the concept of wisdom, how they would identify wisdom in their business community, and how they thought wisdom would foster managerial decision-making process. They were also asked about any real examples of wise managers or wise business decisions (either made by themselves or others) that they knew of.

The research design that was used was Grounded Theory (Glaser & Strauss, 1967; Glaser, 1978), “a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area” (Glaser, 1992, p. 16). The main elements of Grounded Theory (GT) are theoretical sampling, constant comparison, memo writing, open coding, axial coding, selective coding, and theoretical saturation. Following the research design, data collecting and analysis were done simultaneously and over five phases. Each phase encompassed a set of interviews that were conducted, transcribed, constantly compared and analyzed. Then based on each phase analysis, new theoretical sampling was done, and the interview questions were amended for the following interviews (theoretical sensitivity). The process continued until theoretical saturation (Glaser & Strauss, 1967) was reached during phase four. Phase five being an exact repeat of phase four in terms of theoretical sensitivity and sampling, was done just to check theoretical saturation ensuring that no additional data are being found based in which new properties or categories can be developed. Interview transcription and coding were done using NVivo software.

The findings led to the development of a substantive theory of the relationship between wisdom and managerial decision-making. According to the theory a wise managerial decision is an integrative process requiring various qualities that take decision-making beyond mere reliance on knowledge and information. The theory is explained in the following sections.

Wisdom-fostered decisions

The findings led to the conclusion that managers understand wisdom as an individual’s capacity to integrate a wide range of internal and external factors in a way that can lead to effective decision-making. This capacity can be used when making managerial decisions. The need for an integration of one’s self-awareness and awareness of what is going on around them, as well as one’s emotions and knowledge leads wisdom to be integrative in nature. The integrative nature of wisdom is also because of the integrative approach of considering and bringing together stakeholders’ interests in wise managerial decisions. Wisdom evolves through an integrative internal and external reflection that the wise manager does on his/her internal world and on his/her surrounding environment and external worlds. This conveys the integrative nature of wisdom too.

The findings show that the wisdom of a managerial decision depends on the level of the decision-maker’s awareness of his or her personal (in)abilities, weaknesses and strengths, personal traits, and values and interests (Self-awareness). The wisdom also depends on the decision-maker’s awareness of what is going on around them both within their organization and in the wider business and social communities (Other-awareness). These two types of awareness, Self-awareness and Other-awareness, are/need to be integrated to be able to make a wise managerial decision. We call the integration of Self-awareness and Other-awareness, ‘Self-Other Awareness’.

The findings also suggest that making wise managerial decisions requires an integration of one’s knowledge and emotions. In other words, in order to be able to make wise managerial decisions, the manager must be master of both knowledge and emotions (respectively called Cognitive Mastery and Emotional Mastery). By Cognitive Mastery we mean the extent to which the manager: has appropriate relevant knowledge and experience; is able to acquire and apply the information and knowledge he or she requires for a particular decision; can apply their experiences; is insightful (insightful as opposed to superficial); and can think outside the square. Emotional Mastery refers to the extent to which the manager is able to: regulate his or her emotions; draw a balance between solid logic and pure intuition; feel confident; resist against the tendency to make not-thought-through rash decisions; show empathy; and be courageous when making decisions.
Making wise managerial decisions necessitates integrating both Cognitive and Emotional Mastery. In other words the manager needs to have ‘Cognitive-Emotional Mastery’. Self-Other awareness and Cognitive-Emotional Mastery are inter-connected. That is, Self-awareness and Other-awareness are required to enhance cognitive and emotional masteries, and vice versa.

The findings also show that wise managerial decisions are distinctively characterized as integrative, being made through an consequence-anticipating, perspective-taking, and ethics-decisions making analysis. That is, wise managerial decisions were identified by the participants as being made based on an understanding of the bigger picture that brings into attention both short- and long-term consequences, and strategic impacts; as well as being made based on an analysis of the decisions outcomes and ramifications, a representation of alternative points of view, impartiality, reconciliation of individual and communal interests, and the consideration of moral and ethical codes.

Making such holistic and integrative decisions requires constant reflection on the internal and external worlds, through which the wise manager is able to: gain a true understanding of the bigger picture of the decision-making situation; consider and integrate stakeholders’ interests; and analyze ramifications of the decision. It is interpreted from the findings that, the managers who possess Cognitive-Emotional Mastery have a greater tendency towards reflecting on the internal world (Internal Reflection), and on the surrounding environment (External Reflection) in order to grow their Self-Other awareness. Moreover, Internal and External Reflections help managers to constantly develop their integrative capacity through \textit{Practice}. Internal reflection helps wise managers learn from their own mistakes. And through external reflection, wise managers learn from others’ mistakes. Internal and external reflections are done continuously and thus enhance wisdom capacity.

To sum up, in the business world, wisdom ‘manifests in the managerial decision-making process through the implementation of a forecasting, perspective-taking, and ethics-decision making. T

\textbf{Conclusion}

Based on an empirical study, this paper introduces a theory of the relationship between wisdom and managerial decision-making: praxio-integrative decision-making. The critical roles of human qualities such as awareness, reflection, and cognition in wisdom-fostered decisions are highlighted, and it is discussed that although wisdom-fostered decisions rely more on human qualities than computer aspects, it does not necessarily mean that information systems could not have an important role to play in supporting wisdom managerial decision-making. Rather, with the critical role of knowledge and cognition in wisdom, the paper argues that information systems can be of substantial help in the enhancing wisdom-fostered decisions.

The empirical research reported in the paper broadens the academic view of the practicability of wisdom in management and adds greater understanding of the role of the unification of cognition-emotion, awareness, and reflection in managerial decision-making. Developing managers’ decision-making capacities in situ as an integral learning praxis that engages yet goes beyond information systems and knowledge management is what organizational training programs and management schools might well consider nurturing. This paper also calls for further studies on the contribution of information systems to wisdom-fostered decisions. Further studies can be conducted on how praxio-integrative decision-making can be supported and facilitated by different information systems. What elements must be integrated, with for example DSS, to lead towards making wise managerial decisions? How can information systems enable managers to engage in constant reflection on their own mistakes or on others’? How could information systems lead to cognitive-emotional mastery? And, how can information systems facilitate self-awareness and other-awareness in praxio-integrative decision-making process? How can wisdom be fostered in managerial decisions by using information system?
References


