Knowledge management styles and performance: a knowledge space model from both theoretical and empirical perspectives

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Knowledge Management Styles and Performance: a Knowledge Space Model from both Theoretical and Empirical Perspectives

A thesis submitted in fulfilment of the requirements for the award of the degree of

DOCTOR OF PHILOSOPHY

from

THE UNIVERSITY OF WOLLONGONG

by

MAEN AL-HAWARI

MIS
High. Dip IS
BSc

INFORMATION SYSTEMS

2004
CERTIFICATION

I, Maen Al-hawari, declare that this dissertation, submitted in fulfilment of the requirements for the award of Doctor of Philosophy in Information Systems, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Maen Al-hawari

August 2004
This thesis describes post-positivist research in the field of information systems, more specifically, in knowledge management. For company managers, deploying large-scale information systems such as knowledge management systems, the selection of an appropriate style for knowledge management initiatives are recognised as a dilemma. The study aims at helping to improve information systems applications for knowledge management in complex, technology-oriented organisations. The research addresses this dilemma by studying the relationships between organisational performance, knowledge availability, knowledge codification, knowledge application and knowledge management styles.

From an extensive study of the literature, an innovative knowledge space (K-space) model of organisational knowledge is developed as the first stage of the research. This leads to the identification of four knowledge management styles and a framework that relates these styles to knowledge creation and improved organisational performance.

The K-space model is adapted from the I-space framework (Boisot, 1995, 1998) with its three dimensions of diffusion, codification and abstraction, to bring into play three corresponding knowledge dimensions of availability, codification, and application. Knowledge is viewed as an object in K-space so that knowledge processes are forces that act to move the knowledge objects within the three dimensions of K-space. The four traditional knowledge conversion processes of Nonaka and Takeuchi, (1995) socialisation, combination, internalisation and externalisation (SECI), map onto two-dimensional planes in K-space. Taking advantage of the three dimensions of K-space, four new dynamic knowledge conversion process are identified, namely Adoption, Standardisation, Systemisation and Articulation. These are used to define the four knowledge management styles.
The research framework suggests that knowledge creation, in terms of knowledge availability and codifiability, mediates the relationship between the four knowledge management styles and organisational performance. In addition knowledge application moderates the relationship between these knowledge creation processes. A set of hypotheses is generated from the framework and a survey instrument constructed to empirically test the hypotheses.

A pilot study involving 45 managers was used to check the reliability and validity of the constructs in the questionnaire. The resulting questionnaire was mailed to 338 organisations around Australia in different industries. Confirmatory analyses were used to check the constructs and multiple linear regression, simple linear regression and MANOVA analysis were used to test the set of hypotheses.

The results confirm that an organisation can improve its performance through better management of its knowledge capabilities. There is a particular benefit of deploying a balanced of knowledge management styles combining the human and technology perspectives. Knowledge management styles are shown to contribute positively to both knowledge codification and availability. Knowledge applicability is confirmed as a moderator factor between knowledge availability, as well as knowledge codification, and organisational performance. Using a MANOVA analysis, the four knowledge management styles are found to be deployed in significantly different ways by organisations in different industry types.

The findings demonstrate that the K-space model provides the basis for a new way of conceptualising knowledge creation processes within organisations. They underline the importance of continuing research that adds to the understanding of knowledge management capabilities in an organisation. Therefore, this study makes a significant
contribution to a burgeoning topic that is of increasing importance to both the academic literature and the organisational practice of knowledge management.
The following papers and publications have been produced from the research reported in this thesis.


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