# Knowledge management systems success:

# A social capital perspective

**By**


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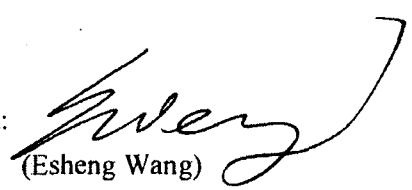
## CERTIFICATION

This thesis is submitted in fulfilment of the requirements of the degree of PhD, in the Macquarie Graduate School of Management, Macquarie University. This represents the original work and contribution of the author, except as acknowledged by general and specific references.

I hereby certify that this has not been submitted for a higher degree to any other university or institution.

Signed: 
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To My Parents

# ABSTRACT

Knowledge management is becoming pervasive in organizations. Information technology (IT) has been widely used in organizational knowledge management initiatives, and organizations continue to invest in IT expecting that its use will improve knowledge workers' productivity and organizational performance.

Knowledge management systems (KMS) are information technology applications designed for knowledge management. The pervasive use of KMS in organizations has raised crucial concerns about the use and value of KMS, which can be expressed as two key questions:

What are the key determinants to the users' acceptance and use of KMS in their daily work?
What is the actual role of KMS in the support of knowledge management?

For this thesis, empirical research was conducted on KMS success in organizations from a social capital perspective, aiming to tackle these critical questions. Based on a review of existing studies on knowledge management and information systems success, two KMS research models are developed, namely a Socio-Technical System Framework of KMS and an Adaptive Structuration Theory (AST)-based KMS Success Model. The socio-technical framework model of KMS sets out the main KMS components and the interrelationships between these components, presenting a systematic view of KMS in organizations. The AST-based KMS success model represents dynamic and evolutionary KMS in organizations, proposing a system-to-value chain of KMS success linking KMS use to social capital, and to intellectual capital. In the research, the two models have been operationalized; consequently, a set of theoretical hypotheses has been derived.

A set of survey instruments has been developed or adapted for the study. A preliminary study is used to test, adapt, and modify the new instruments. A web-based cross-sectional survey is conducted, and a sample of 362 knowledge workers from a variety of organizations enables the researcher to further validate the new instruments, assess the

research models, and test the hypothesized relationships through structural equation modeling techniques (PLS and LISREL). The results provide clear evidence of the newly developed instruments' reliability, validity, and general applicability, and demonstrate that the research models have good explanatory power for the variances in the KMS use and social capital constructs. Significantly, the study has confirmed that KMS does have the expected significant positive effects on individual social capital development, a critical social infrastructure for knowledge management. The significant positive impacts of KMS use on three dimensions of social capital—structural, relational, and cognitive dimension—have been assessed, and significant findings have been achieved. Moreover, a set of potential critical determinants to users' acceptance and use of KMS has also been assessed in the study. The results have demonstrated the different levels of impacts of these factors on the users' acceptance and use of KMS.

Based on the research results, recommendations are made for managers, and implications have been drawn for future research.

**Keywords:** Knowledge Management Systems (KMS), KMS success measurement, performance-related use of KMS, structural equation modeling, social capital.

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To My Parents

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