Information Systems Effectiveness in Small Businesses: Extending a Singaporean Model in Canada

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ABSTRACT

This study examines the applicability of the Thong, Yap, and Raman (1996) model of information systems (IS) effectiveness tested among Singaporean small businesses in a Canadian context. The model evaluates the importance of managerial support and external expertise (vendors and consultants) for IS effectiveness. This study extends the Thong et al. model by adding an intention of expansion construct. The sample included 105 small business users of IS in a small city in western Canada. The results show that both managerial and vendor support are essential for effective IS in Canadian small businesses, and supported part of the relations between IS effectiveness and intention of expansion. Overall, the results suggest that managers should engage quality vendors to obtain IS that contribute to the specific goals of the small business. The results of the Canadian study were, for the most part, similar to the results reported in the Singaporean study; however, a few notable differences appear to exist.

Keywords: effectiveness; information systems; information technology adoption; IS success; small business;

INTRODUCTION

The capacity of a country’s economy to adapt to changing demands has been linked to and achieved by the flexibility and responsiveness of small businesses (Hunter & Long, 2003). Furthermore, governments and economists view small firms as the mechanism by which national growth is created (Pollard & Hayne, 1998). In 1997, Industry Canada reported that there were over 2.3 million small businesses with fewer than 100 employees, which accounted for over 50% of the private-sector employment and for 43% of the total economic output of the country (Hunter, Diochon, Pugsley, & Wright, 2002). One year later, the Canadian Federation of Independent Business estimated that between 84% and 87% of all Canadian businesses could be classified...
as small (Pollard & Hayne). These data
demonstrate that small businesses are es-
sential for the prosperity of Canada.

Furthermore, as an economy based
on knowledge emerges, information is es-
sential for any ongoing organization
(Pugsley, Wright, Diochon, & Hunter,
2000). The globalization of products, ser-
vices, markets, and competition has in-
creased the need for flexibility, quality, cost
effectiveness, and timeliness (Hunter et al.,
2002). A key resource for attaining these
requirements is information systems (IS)1.
Consequently, IS has revolutionized busi-
ness practices (Hunter et al.) and now plays
a more central part of business strategies
(Pollard & Hayne, 1998).

However, small businesses have
unique characteristics and, in fact, re-
searchers have found that firm size is di-
rectly associated with IS success (Choe,
1996; DeLone, 1981; Raymond, 1985). The
concept of “resource poverty” (Thong,
Yap, & Raman, 1994; Welsh & White,
1981) provides one explanation for this
uniqueness. According to Thong et al.
(1996), resource poverty refers to the lack
of financial and human resources. The lack
of financial resources forces small firms to
make minimal commitments that are often
spread out at different moments in time
(Hunter & Long, 2002). For example,
Duxbury, Decady, and Tse (2002) found
that the main perceived barriers to the
implementation of computer technologies
among Canadian small businesses were the
lack of financial resources and skilled per-
sonnel. Furthermore, small business man-
gers tend to adopt a “promoter” role
(Stevenson, 1999), responding to opportu-
unities within a very short period of time
(Hunter & Long). Hence, small businesses
are flexible organizations that facilitate rapid
and accurate assessments of their environ-
ments in order to respond to the goal of
gaining opportunities (El Louadi, 1998). This
leads to an absence of formal planning in
the decision-making context of small firms
(Lefebvre & LeFebvre, 1988). Conse-
quently, results regarding large-business IS
environments may not apply to small busi-
nesses (Ein-Dor & Segev, 1978; Raymond,
1985). Thus, Burgess (2002) suggests that
there is a need to conduct additional IS re-
search within the specific framework of
small businesses.

This study has two main objectives.
The first objective is to test the Thong et
al. (1996) model of IS effectiveness in a
Canadian small business environment and
to compare the Canadian results to the
Thong et al. results in Singapore. IS effec-
tiveness refers to the IS contribution in the
achievement of organizational goals
(Raymond, 1990). There are two main rea-
sons for choosing the Thong et al. study
for the basis of this research project. First,
the Thong et al. study uses Attewell’s
(1992) theory of technology diffusion to
cumulate some of the factors identified by
the literature as affecting the IS effective-
ness of small businesses. These factors
include managerial support (i.e., DeLone,
1988; Igbaria, Zinatelli, Cragg, & Cavaye,
1997) and external IS expertise (i.e., Thong,
2001; Thong et al., 1994; Yap, Soh, &
Raman, 1992). The Thong et al. model tests
the influence of managerial support and
external IS expertise on IS effectiveness.
Second, the Thong et al. model has not been
tested within a Canadian environment. In
terms of Hofstede’s (1980) cultural dimen-
sions, Singaporean and Canadian societies
are different. Although the two cultures
show little difference with respect to mas-
culinity, Singapore tends to have lower
uncertainty avoidance and lower individu-
alism than Canada (Hofstede). In addi-
tion to this, Canada has a relatively more
equal distribution of power than Singapore.
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