How Does Attitude Impact IT Implementation: A Study of Small Business Owners

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According to previous studies, attitude towards information technology (IT) among small business owners appears to be a key factor in achieving high quality IT implementations. In an effort to extend this stream of research, we conducted case studies with small business owners and learned that high quality IT implementations resulted with owners who had positive or negative attitudes toward IT, but not with owners who had uncertain attitudes. Owners with a polar attitude, either positive or negative, all took action to temper the uncertainty and risk surrounding the use of new IT in their organization. In contrast, owners with uncertain attitudes did not make mitigating attempts to reduce uncertainty and risk. A consistent finding among those with high quality IT implementations was an entrepreneurial, or shared, management style.

The small business owner’s dominating role in any information technology (IT) implementation is well documented (Cragg and King 1993; Doukidis et al. 1994; Julien and Raymond 1994; Thong and Yap 1995). The owner in a small business often decides on the technology to implement, the personnel that will manage the implementation, and the supporting managerial and human resource policies (Agarwal and Prasad 1997; Cragg and King 1993; Doukidis et al. 1994). Some studies suggest that the owner’s positive, negative, or uncertain attitude toward IT affects the quality of an IT implementation (Cragg and King 1993; Delone 1988). For this study, small business owners were interviewed to explore their attitude toward IT and the quality of their IT implementation. We learned that high quality IT implementations resulted with owners who had positive or negative attitudes toward IT, but not with owners who had uncertain attitudes. Owners with a polar attitude, either positive or negative, all took action to temper the uncertainty and risk surrounding the use of new IT in their organization. In contrast, owners with uncertain attitudes made no mitigating attempts to reduce uncertainty and risk. A consistent finding among those with high quality IT implementations was an entrepreneurial, or shared, management style. These findings provide insights that can help IT practitioners as well as small business owners planning IT implementations.

The presentation of this qualitative study begins with an overview of the implementation process. Next, the research question is developed from a review of the literature that grounds the concept that attitude impacts the quality of an IT implementation. A description of methodology and the findings from the data analysis follow. The critical theme regarding the interaction between the owner’s attitude towards IT and their management style, which emerged during the interview and data analysis process, is then presented. Finally, a discussion of the implications for practitioners and researchers is offered.

The IT Implementation Process
IT implementation is the process a business undertakes to diffuse IT within the organization. To better understand this process it has been defined and described by a proposed six-stage model (Kwon and Zmud 1987; Coopers and Zmud 1990). Outlined in Table 1, implementation begins with scanning the environment for IT opportunities or solutions, adopting the appropriate IT, adapting it for the specific organization, accepting and routinizing it into daily business operations.
Table 1: Six Stage IT Implementation Model (adapted from Cooper and Zmud 1990)

<table>
<thead>
<tr>
<th>Order</th>
<th>Stage</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Initiation</td>
<td>Scanning of organizational opportunities and IT solutions</td>
</tr>
<tr>
<td>2</td>
<td>Adoption</td>
<td>Negotiating to gain organizational backing for implementing an IT application</td>
</tr>
<tr>
<td>3</td>
<td>Adaptation</td>
<td>Developing, installing, and maintaining IT application</td>
</tr>
<tr>
<td>4</td>
<td>Acceptance</td>
<td>Inducing members of organization to commit to use IT application</td>
</tr>
<tr>
<td>5</td>
<td>Routinization</td>
<td>Encouraging use of IT application as a normal activity</td>
</tr>
<tr>
<td>6</td>
<td>Institutionalization</td>
<td>Using fullest potential of IT application in a more comprehensive and integrated manner</td>
</tr>
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</table>

A recent survey of IT implementations in small businesses indicates that a relationship exists between the attitude of the owner towards IT and implementation quality (Winston and Dologite 1999). Owners with positive attitudes toward IT were found to be more likely to implement IT with a strategic focus on increased organizational efficiency, management effectiveness, and strategic advantages (Cooper and Zmud, 1990; Iivari and Ervasti, 1994; Venkatraman, 1991). A recent survey of IT implementations in small businesses indicates that a relationship exists between the attitude of the owner towards IT and implementation quality (Winston and Dologite 1999). Owners with positive attitudes toward IT were found to be more likely to implement IT with a strategic focus on increased organizational efficiency, management effectiveness, and strategic advantages (Cooper and Zmud, 1990; Iivari and Ervasti, 1994; Venkatraman, 1991). The last stage, institutionalization, results in increased organizational efficiency, management effectiveness, and strategic advantages (Cooper and Zmud, 1990; Iivari and Ervasti, 1994; Venkatraman, 1991).

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Yet, while many owners have positive attitudes, many others have negative or uncertain attitudes towards IT (Maglietta, 1992; Nickell and Seado, 1986; Ray et al., 1994). IT implementation takes considerable time and changes in attitude can occur during the time lag from initial enthusiasm to actual execution. A common approach to examining IT implementation problems and solutions has been the identification of factors leading to the success or failure of IT implementation (Kwon and Zmud, 1987; Pare and Elam, 1997; Winston and Dologite, 1999). Such an attempt neglects any relationship that may exist among the factors. This study focuses on two issues from the factor studies and explores their relationship — the interaction of attitude and implementation quality. A better understanding of any interaction should assist the computer specialist as well as small business owner, in choosing appropriate strategies to maximize the quality of an IT implementation.

**DEVELOPMENT OF THE RESEARCH QUESTION**

**Attitude Towards IT**

Previous studies suggest that small business owners with negative attitudes towards IT implementation generally avoid investing in IT because they fail to understand the strategic impact of IT on their business (Cragg and King, 1993; Delone, 1988). Only when faced with the threat of closing do these entrepreneurs seek the short-term solution of implementing IT for survival (Agarwal and Prasad, 1997; Quinn, 1979).

Some small business owners who perceive IT implementation as risky and uncertain become immobilized by indecision and hesitation. As a result, they handicap any potential increased business earnings that could be achieved from using IT (Quinn, 1979).

Even after approving an investment, owners with a negative or uncertain attitude towards IT often have difficulty sustaining commitment through an implementation. This results in reducing resources allocated to a project, inhibiting organizational changes required to achieve benefits, and preventing the use of IT to its fullest potential. These problems persist regardless of the complexity level of the IT application (Cragg and King, 1993; Malone, 1985).

Small business owners with positive attitudes towards IT, on the other hand, often have a deep knowledge about IT and find it easy to commit to an IT implementation (Cheney et al., 1986; Cragg and King, 1993; Nickell and Seado, 1986; Ray et al., 1994; Thong and Yap, 1995; Winston and Dologite, 1999). Consequently, owner knowledge of IT and commitment are believed to increase the likelihood that a business will effectively incorporate IT. More specifically, a positive attitude will likely help the owner endure the frustration and effort of overcoming the technical and organizational obstacles that frequently confront innovative initiatives (Harrison et al., 1997; Quinn, 1979).

**Quality of IT Implementation**

Studies of IT implementations have identified specific outcomes of success and find such indicators as increased profits, greater market share, or improved return on investment (ROI) performance (Byrd, 1995; Cooper and Zmud, 1990; Iivari and Ervasti, 1994).

At a more operational level, the results of a high-quality IT implementation process include increased internal organizational performance and efficiency, better customer service, and a higher quality working life within the organization.