

# Chapter 4

## Theories for Investigations

### ABSTRACT

*While there are many theories about information systems and also about small business, there are few that relate to both topics. Some theories relate information systems to business in general, but not to small business specifically. Research in this area is becoming more rigorous. One helpful approach has been to map information systems research in small business onto the Stages Theory of Small business. Other research has employed Technology Acceptance Model (TAM) and Punctuated Equilibrium Theory. The result is the development of frameworks to facilitate investigations. These frameworks support the contention that new technologies may facilitate business transformation which, in turn, may improve performance and contribute to competitive advantage. This chapter presents general theories, including models and frameworks, about small business and investigations related to information systems. Then a series of overviews describe approaches to information systems and small business. These overviews are presented in more detail in subsequent chapters in this section of the book.*

### INTRODUCTION

*Chapter Five – Adoption* reviews a number of perspectives regarding how small business acquires the resource of information systems. In general, when a small business adopts an information system it represents a technological innovation. It is not necessary for the innovation to be representative of leading edge technology. It

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is simply a matter of adopting a technology that is new to the small business. Thus, the small business may experience a radical change in how it carries out business operations.

Innovative technologies may involve traditional information systems or some form of Internet application. Traditional information systems are described in more detail in Chapter Eleven – E-business. A discussion of Internet applications is included in Chapter Ten – E-commerce.

Internal sources of adoption relate to perceptions and knowledge of owner/managers and employees. External sources of adoption may include customers or suppliers requesting technology based services. Further, the competitive environment may drive the requirement for a response by the small business. Thus, information technology may be adopted because of perceived benefits or as a response to perceived competitive advantage. Inhibitors to information technology adoption relate to a lack of resources. The small business may lack financial capability, size, or in-house expertise leading to the inability to adopt information technology.

One theory relates to the Technology-Organization-Environment (TOE) Framework which suggests that small business adoption of information technology will be facilitated by three components. One is the perceived benefits of adopting the technology. Another is the small business must be ready and capable of adopting the technology. Also, there will be pressure from the small business environment to adopt the technology.

The final topic covered in Chapter Five – Adoption is the resource-based view of the firm which suggests that small business will adopt information technology based upon their resource endowments. This view suggests that small business resources are unique and they are difficult to copy by the competition.

*Chapter Six – Use* discusses the use of information systems by small business. Use may be differentiated by small business terms of “laggards” and “leaders”. Laggards may use information systems but only to the extent deemed necessary. No new opportunities are explored. Leaders regard information systems as providing competitive advantage and regularly explore new initiatives which may contribute to improvements in operations.

Again in this chapter, Resource-based Theory is employed to investigate use of information systems. Successful use depends upon both positive attitudes and capabilities to use information systems.

Absorptive Capacity Theory describes the ability of a small business to identify, assimilate, and exploit knowledge. Given these abilities small business will benefit from the use of information systems.

The dependency theme re-occurs in this chapter with regards to information system use. Within the small business employees will depend upon their skills of

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