

Chapter 8

Growth Trajectories of SMEs and the Sensemaking of IT Risks: A Comparative Case Study

Arvind Karunakaran

The Pennsylvania State University, USA

Jingwen He

The Pennsylvania State University, USA

Sandeep Purao

The Pennsylvania State University, USA

Brian Cameron

The Pennsylvania State University, USA

ABSTRACT

Our case will describe two small to medium enterprises which are located within the same region and sharing the broad industry sector but at a different 'growth stage' perceive the role of Information Systems differently. We describe how these two firms, at different growth stages and at different levels of maturity with respect to their information systems, perceive the usefulness of information systems differently. We extend the interpretations to discuss sub-sections within SMEs, which are at different stages of growth, and how the nature of information systems' risks is likely to differ depending on these growth stages. We emphasize the importance of owner/manager's "sensemaking of risks" as a key variable that influences the demarcation between entrepreneurs and small business owners, beyond the oft-discussed variables such as "achievement motivation," "risk-taking propensity," and "preference for innovation." We conclude with the proposition that SMEs should not be considered as unitary entities; and suggest that there are likely to be different varieties of risks that SMEs face, and suggest the growth stage and organizational filters as key determinants of the owner/managers' understanding of these risks.

DOI: 10.4018/978-1-61520-609-4.ch008

EXECUTIVE SUMMARY

Small and Medium Enterprises (SMEs) are considered to be the engines of growth and innovation of the modern economy (SBA, 1998, 2004c). According to Office of Advocacy estimates, small firms with fewer than 500 employees represent 99.9% of the 27.2 million businesses (SBA, 2004a, 2004b). However, two-thirds of them survive two years, 44 percent survive for four years, and 31 percent survive for seven years (SBA, 2004a). The reason for their failure is attributed to various factors like the institutional environment, financial crisis, owner/manager motivation, risk-taking propensity, competition, market conditions etc (Miner & Raju, 2004).

Our proposed case will describe two small to medium enterprises – Bedrock Manufacturing and VPro, Inc., - which are located within the same region and sharing the broad industry sector but at a different ‘growth stage’ (Churchill & Lewis, 1983) perceive the role of Information Systems differently. Bedrock Manufacturing designs and manufactures construction equipments for dozers, loaders, excavators, and motor graders. It has about 190 employees and annual revenue of 20 million dollars. VPro, Inc. manufactures industrial process furnace and provides custom vacuum and thermal process equipments for various industries. It has 8 employees with annual revenue of around 1 million dollars. Both are located in the I-99 Innovation Corridor of Central Pennsylvania and fit the U.S. Small Business Administration’s definition of a “Small Business”. We describe how these two firms, at different growth stages and at different levels of maturity with respect to their information systems, perceive the usefulness of information systems differently. We extend the interpretations to discuss sub-sections within SMEs, which are at different stages of growth, and how the nature of information systems’ risks is likely to differ depending on these growth stages. We emphasize the importance of owner/manager’s ‘sensemaking of risks’ as a key variable that influences the de-

marcation between entrepreneurs and small business owners, beyond the oft-discussed variables such as ‘achievement motivation’, risk-taking propensity’, and ‘preference for innovation’. We conclude with the proposition that SMEs should not be considered as unitary entities; and suggest that there are likely to be different varieties of risks that SMEs face, and suggest the growth stage as a key determinant of the owner/managers’ understanding of these risks.

THE REGION

I-99 Corridor As A Legacy Industrial Era Region

The I-99 Corridor (Interstate-99) is a partially-completed intrastate interstate highway (i.e. interstate highway located within a single state) in Central Pennsylvania, linking other cross-state corridors like I-80 and I-76 (Dytche & Warren, 2007a). The current southern terminus is at the north of Bedford, while the northern terminus is near Bellefonte (Interstate 80). It also passes through Altoona and State College (home of The Pennsylvania State University). The full route of the corridor is part of “Corridor O” under the Appalachian Development Highway System, which runs from Interstate 68 near Cumberland in Maryland onto Bedford in Pennsylvania.

The Corridor is home to large number of towns whose economies are fairly fragile, which could be classified as “legacy industrial era regions”. Legacy Industrial era regions are those regions which are still undergoing a transition in adjusting to the post-industrial society (Bell, 1973; Masuda, 1980). Economic activity in these regions forms a significant portion of the heavy industry and manufacturing sectors of the U.S. economy (Faberman, 2002). Sometimes referred to as “Rust Belt”, these regions signify the steep decline of the manufacturing industry throughout the late 1960s and 1970s, which lead to signifi-

15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/growth-trajectories-smes-sensemaking-risks/42675

Related Content

Data Preparation for Data Mining

Magdi Kamel (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 538-543).

www.irma-international.org/chapter/data-preparation-data-mining/10872

Meta-Learning

Christophe Giraud-Carrier, Pavel Brazdil, Carlos Soares and Ricardo Vilalta (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1207-1215).

www.irma-international.org/chapter/meta-learning/10976

Enclosing Machine Learning

Xunkai Wei (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 744-751).

www.irma-international.org/chapter/enclosing-machine-learning/10903

Discovery Informatics from Data to Knowledge

William W. Agresti (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 676-682).

www.irma-international.org/chapter/discovery-informatics-data-knowledge/10893

Using Prior Knowledge in Data Mining

Francesca A. Lisi (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 2019-2023).

www.irma-international.org/chapter/using-prior-knowledge-data-mining/11096