Business Architecture Reference Model (BARM) for Small and Medium Enterprises (SMEs)

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Declaration of Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as part of the collaborative doctoral degree and/or fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of Student:

Date:
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Abstract

As Small and Medium Enterprises (SMEs) compete in a dynamic ecosystem of firms, their businesses continuously face the challenge of creating sustained value by managing socio-technical resources/capabilities and aligning them with changing market needs. Accelerating technological changes, rapidly changing market demands and growing globalized collaborative ecosystem of organisations, in addition to SMEs’ inherent resource limitations and constraints, underscore the SMEs’ critical need for strategic developments and execution. The SME’s combined internal and external challenges and requirements call for the support of a Business Architecture (BA) – a strategic management tool to facilitate the development and configuration of socio-technical resources/capabilities and capitalise on the ecosystem and market opportunities.

Using the Design Science methodology this research aims to develop and evaluate a simple but holistically comprehensive Business Architecture (BA) that shall ideally help SMEs implement entrepreneurial practices that have the capacity to articulate and execute their business strategies to align with the changing environments. In particular using extensive exploratory literature review I identify underlying drivers of SME requirements for a BA practice. Then I explicate the research problem and BA practice requirements using a semi-structured interview of SME managers/executives and E/BA experts. Derived from identified SMEs’ internal and external strategic requirements, I develop the conceptual model for the SMEs’ Business Architecture Reference Model (BARM) by integrating diverse but interrelated disciplines including; IS, strategic management, organization, architecture and service sciences. Theoretically grounded from these diverse disciplines, the BARM provides SMEs with a new holistic approach to orchestrate their socio-technical resources/capabilities and manage their co-evolution within the dynamic ecosystem. The validity of resultant constructs has been evaluated in two parts. First, the BARM efficacy and usability has been desk-validated through interviews with industry experts and SME’s executives. Second, the applicability of BARM is tested through its implementation and in depth study in three different small organisations. I examined how well the BARM was utilized by the case studies. The final evaluation was conducted through a qualitative method of analysing the solutions and artefacts and the use of open interviews.

In addition to its contribution to the specification of a BA practice to facilitate SME value co-creation, this research also contributes to theoretically advancing architecture science. It extends the current theoretical model of BA by incorporating diverse strategic management, organisation, IS, and service sciences theories to make the proposed BARM applicable to SMEs. This research makes a significant contribution to the practical application of BA to SMEs’ strategic development and execution by providing clarity and direction in ICT investment, creating a capability-based and strategy-driven business culture, and facilitating customer-aligned value proposition execution.