Chapter 8

A Further Look at Working Capital Optimization in Medium–Sized Firms:
Concepts and Evidence

Milan B. Vemić
Higher School of Academic Studies "DOSITEJ", Serbia

ABSTRACT

SMEs battling with financial volatility require financial and business ambidexterity. To them working capital optimization is one partial solution to improve performance. Examined concepts will not develop a spectacular model but rather quantitatively - qualitatively upgrade existing theories. The treatise will demonstrate that in stochastic working capital decisions important are varieties of alternatives. A structural model of working capital optimization is developed with practical examples for financial decision making under uncertainty. Emphasis will be placed on structuring management problems with the analysis of preferences using probability tools. Additional light is shed on coupling static and dynamic indicators, systemically approaching inventory and cash management, sales and purchasing, costs and profitability. Working capital optimization can contribute to management of financial risk and have an overall impact in medium sized enterprises. Conclusions and recommendations will aim to contribute to the overall body of knowledge on optimized financial decision making.

INTRODUCTION

The Small and Medium-sized Enterprise (SME) finance theory is the result of long and fruitful efforts of economists to account correctly for an extremely wide range of research results, which previously existing theory of the firm could not sufficiently explain. It is not generally acknowledged, however, that new approaches in SME and entrepreneurship financing represent a radical change, not only in the content of scientific knowledge, but also in the fundamental theoretical framework on the basis of which such knowledge can be applied in business. The true extent of this development of theoretical

framework has possibly been clouded by the contrast between the relatively descriptive and smoothly understood definitions in which the neo-classical and even modern theories of the firm have regularly been expressed, with the quite abstract and mathematical inference in which this chapter formulates working capital optimization in medium enterprises. So sharp is this divergence that a significant number of economists were led to assume that working capital optimization entails relinquishment of classical financial management tools, and that instead, there should prevail rigorous mathematical optimization which can, in some enigmatic way, forecast precisely SME financial performance. However, further development of working capital optimization provides significant advantages. (See Vemic, 2015, for an exploratory case study.) These are fundamentally different attributes from those appearing in the theories of the firm. To produce such a conception of the working capital optimization theory in medium enterprises at a relatively practical level, in correspondence with static and dynamic ratios of financial analysis, is the main objective of this chapter.

The exact essence of the new working capital optimization concepts will be developed through the whole chapter, particularly in the section on the development of the structural model. First, the origin of the working capital optimization theory in medium enterprises is approached through static and dynamic indicators modified with author's Toolbox for *evolution* of working capital management optimal functionality of structure. Second, the challenges are addressed through key factors of static and dynamic working capital optimization. The third main section involves the development of the structural model of working capital optimization in medium enterprises with a mathematical notation and with practical applications.

In correspondence with the prevailing plan outlined above significant emphasis is placed on showing how working capital optimization concepts can be applied practically without abandoning the classic static and dynamic financial analysis. It has been the author's objective throughout this chapter to portray the main concepts of the working capital optimization theory in medium enterprises using both mathematical and non-mathematical inference in expectation that the reader will thereby perform more contemplation and undertake further exploration in this appealing area of scientific research.

BACKGROUND AND ORIGIN OF THE WORKING CAPITAL OPTIMIZATION THEORY IN MEDIUM ENTERPRISES

"Optimization" originates in the Latin word *optimus*, meaning "best". What is an optimum and how to approach it? The author assumes that each individual optimization criterion is a new angle of seeking an optimal solution in the process of transformation of business objectives into limiting conditions. This will be proved through the Bayes' theorem later on. Acknowledging optimization potential, it will also be assumed that it is sought by the management for short-term, mid-term or long-term strategies (financing and other) according to basic criteria harmonized in the SME involving a set of limiting conditions. Highlighting the working capital allocation problem through the Markowitz portfolio and diversification theory (Markowitz, 1952) leads the author towards the ultimate goal which is to ensure an optimal plan and maximal needed production with given resources (Kantorovich, 1985). Second, considered is an extended model of total company assets, thus including fixed asset utilization as well. An optimum can be the least costs of financing working capital or a solution where the overall cost of business finance is lowest. This financially optimal solution is approached through a holistic business field and balance sheet of the whole enterprise. In this model off-balance sheet assets and liabilities are excluded although

Related Content

Revolution 4.0 as a Momentum for Human Resource Management Towards Era 5.0
Andi Cudai Nurand Shuja Iqbal (2024). *Innovative Human Resource Management for SMEs (pp. 136-147).*
www.irma-international.org/chapter/revolution-40-as-a-momentum-for-human-resource-management-towards-era-50/337912

Traditional Italian Food Products on the Chinese Market: Best Practices for Italian Small and Medium Enterprises
Maria Giovanna Tongianiand Sheng Zhao (2017). *Optimal Management Strategies in Small and Medium Enterprises (pp. 22-43).*
www.irma-international.org/chapter/traditional-italian-food-products-on-the-chinese-market/175966

Prototyping Robotic Systems: Methodology and Case Studies
Andrew Goldenberg (2013). *Small and Medium Enterprises: Concepts, Methodologies, Tools, and Applications (pp. 715-760).*
www.irma-international.org/chapter/prototyping-robotic-systems/75990

Kriselipsis and Inverted Complementarity Diversity (ICD): New Concepts Applied to Familiness in Ecuador
José Manuel Saiz-Álvarez, Uriel Hitamar Castillo-Nazarenoand María Teresa Alcívar-Avilés (2019). *Handbook of Research on Entrepreneurial Leadership and Competitive Strategy in Family Business (pp. 332-347).*
www.irma-international.org/chapter/kriselipsis-and-inverted-complementarity-diversity-icd/225661

Development of an Optimization Tool for Intangibles in SMEs: A Case Study from Serbia with a Pilot Research in the Prestige by Milka Company
Olja M. Arsenijevi, Drago Oriand Edita Kastratovi (2017). *Optimal Management Strategies in Small and Medium Enterprises (pp. 320-347).*
www.irma-international.org/chapter/development-of-an-optimization-tool-for-intangibles-in-smes/175981