Selection of Digital Marketing Channels: Application of Modern Portfolio Theory

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Abstract. This paper proposes the application of Markowitz's Modern Portfolio Theory to the selection of digital communication channels, in order to attain the finest trade-off between return on investment and risk. Previous application of financial portfolio theory in Marketing, as a means to optimize the portfolio, focused solely on the use of the model in decisions related to product, customer and customer segment, retail format and price promotion portfolios. The authors concluded that the Modern Portfolio Theory may be used as a decision support system in the selection of a company's Digital Marketing channels or tactics, mutatis mutandis, so to find the share of the communication budget to be allocated to each type of digital channel or tactic.

1 Introduction

Technological developments in the last two decades brought the mass worldwide adoption of smartphones and tablets, as well as the internet revolution, leading to the proliferation of e-mail, blogging and social networking sites, for instance. Due to the wide range of ways of reaching consumers, marketers currently face major challenges when planning and shaping its marketing strategies. The purpose of this paper is to develop a tool that helps improving the process of investment decisions regarding Digital Marketing and that benefits, to that end, from the marketers' intuitive component and from a comprehensible, but still reliable and efficient mathematical analysis. In this sense, the research question of this paper stands as follows:

> *How can we improve the efficiency of investments in Digital Marketing, combining analytical tools with the intuition and freedom of marketers?*

The proposition of this paper is that Markowitz's Modern Portfolio Theory may be an helpful tool during the process of selecting Digital Marketing channels or tactics, considering (1) it relies on simple statistical measures (such as the mean and the standard deviation) to find the set of optimal solutions to an investment problem and (2) it offers the investor the opportunity to select, within a set of optimal investment choices, the solution that best suits his interests. Another advantage of Modern

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M. Gen et al. (eds.), *Industrial Engineering, Management Science and Applications 2015*,
Lecture Notes in Electrical Engineering 349, DOI: 10.1007/978-3-662-47200-2_62