How can Marketing Managers thrive in the age of Artificial Intelligence?

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Abstract. Artificial intelligence (AI) is becoming increasingly important in solving many tasks, which were performed before by humans i.e. translating languages as well as in the hiring process and customer service. The AI Technology is improving in a fast manner. This has led to the current debate whether AI is entirely beneficial or should be seen as a threat for the job security. In any way, we are now at the point where nearly everyone is talking and thinking about the application of AI within their work structures. Therefore, we will examine whether AI has the potential to substitute managerial tasks in the way that Marketing Managers exclusively rely on the respective recommendations and results for a certain action. Additionally, we will discover which tasks lead to positive or negative feelings regarding each Manager's preference. These results will be used to explain the tendency to replace certain activities with AI.

Keywords: Artificial Intelligence, Marketing, Management activities

1 Introduction

> *"The rise of powerful AI will be either the best or the worst thing ever to happen to humanity. We do not yet know which."*
>
> *Stephen Hawking, 2016 [1]*

The deployment of Artificial Intelligence (AI) show tremendous advances over the past years [2]. Their scope include various consumer application as well as different industrial applications including healthcare, commerce, financial services and marketing [3].This technological partnership will make consumers as well as companies to be part in the advancement of this defining technology [4]. AI will revolutionize the current state of work and their processes within companies. However, the larger impact will be in enhancing and complementing humans regarding their capabilities, in fact not replacing them [5]. This development will promote collaboration between humans and machines to solve many different kind of problems that will ensure a trustworthy and beneficial way [6].

2 Theoretical Background

Many alarms have sounded on the potential for AI Technologies to transform business [7] and change the workforce, especially for jobs that are easy to automate [6]. This led to the current debate whether AI is entirely beneficial or should be seen as a threat for the workplace [4], even though AI has the potential to improve efficiency as well as productivity across an organization [8].

In addition, many companies plan to introduce forms of AI applications in the nearest future, though lacking of a holistic implementation strategy for AI in their business [9]. An identified barrier for the adaptation of AI is an absence of skills regarding Managerial Capabilities as well as the specific skills on how to deal with this technology [8]. In this context and with the driving digitalization, the role of a Manager is being challenged.

Looking at prior research, two main streams can be outlined in order to define the role and responsibilities of a Manager. Drucker (1954) dedicated his work among other things to the Practice of Management and introduced the concept of Management by Objective [10]. On this basis, he categorized the work of a Manager in five areas: Set Objectives, Organize, Motivate and Communicate, Measurement and Develop People [11]. However, his studies didn`t specify all tasks of a Manager. It seems crucial to assess the impact of different activities and their workload for a Manager.

Yet another research stream is dedicated to define all activities of a Manager. These publications are based on Mintzberg`s work “The nature of managerial work” (1973) [12] and his following publications (e.g. [13], [14], [15]). They summarize managerial activities in different categories (e.g. [16], [17], [18]). As a result he defines three areas: and their corresponding Management Roles: Interpersonal Roles (Figurehead, Leader, Liaison), Informational Roles (Monitor, Disseminator, Spokesperson) and Decisional Roles (Entrepreneur, Disturbance Handler, Resource Allocator, Negotiator). While this research stream is more precise and has an explicit focus on the work of a Manager, not all external factors were included in these studies. The impact of new and current technology advancements were not be taken into consideration as they have not been as relevant as they are today; Mintzberg is missing common business practices as digital communication as well as all forms of working remotely (home or elsewhere). In addition to Mintzberg`s findings, other researcher included cultural aspects which show slightly different results when comparing to Mintzberg [19].

While there is enough evidence based on this research stream that Managers use most of their time for administrative desk work instead of using their time for strategic tasks (e.g. [20], [12]), there is no differentiation on Managers working in different fields such as Marketing. Especially in Marketing, the AI revolution is driven by the influence of more and more affordable and accessible advanced data sets in the business world**.** The use of different AI applications have provided marketers with new and more reliable information regarding process automation, market forecasting and decision-making [21].

While both practitioner and researchers in the field of Marketing are mostly interested in how to transform unstructured and structured data into Smart Data in order to gain valuable insights (e.g. [22]), or on how Smart Technologies can interact with consumers (e.g. [4], [23], [24]), research on how Managers can be supported with Smart Technologies is scarce.

3 Challenges and Research Question

We are now at a point where almost everyone is talking and thinking about the application of AI within their daily life as well as in their enterprises and working structures [20]. A rising area of application within enterprises are marketing organizations, which lack support of Marketing Managers with AI Tools.

The key question remains: How can Marketing Managers thrive in the age of AI?

One of the most challenging issues is trusting machines in their decision making process. A Manager who is working on highly confident matters and is handling strategic decisions, is unlikely using AI without his supervision [20]. The problem is that Machine-learning systems will not explain their decisions and that could mean an algorithm could be performing well for the wrong reasons**.** All Computers have their knowledge according to the data they are fed to. They might pick up a biased view or might be only good in narrow tasks that are very similar to the existing data systems [9]. It doesn`t have common sense and the ability to adapt the given data to unknown situations [25]. Therefore transparency in the decision making process is very important in order to use AI accordingly [5]. Managers need enough knowledge to gain a certain amount of trust [26].

The other important aspect is the understanding of AI Technologies and how it can be implemented in the daily business, especially in the more strategic positions within the company [26]. In the past years, machines were able to meet and surpass human performance in many different ways [27]. They were able to perform tasks better than a human could possibly do, while using a large amount of data [28]. However, when thinking outside the box or any emotions, AI is lacking specifically capabilities of a human being [29]. According to Boden (2016) humans won`t be replaced by a machine any time soon when it comes to functions that require a certain amount of empathy and emotional intelligence [30].

There should be a rethinking and a shift of roles and responsibilities between machines and humans. Machines could replace tasks and roles that humans are either not pleased to do or take a lot of time. Instead, humans could focus on more creative and strategic tasks as well as all interpersonal [31].

4 Current Study

The current studies presented in this paper aim to address this research gap by investigating whether, when, and why Managers can be supported in their daily work by using different AI Tools. More specifically, we will conduct three sequential studies:

The first study examines tasks, activities and challenges of managers during their daily work. We will use an explorative approach in order to determine all potential activities carried out during a day. The questionnaire used will provide the basis to conduct the following studies. A second study analyzes the subjective feelings of Marketing Managers towards certain activities. We will analyze which tasks under certain activities are associated with positive or negative emotions, such as feelings of joy or frustration. These results could then be used to explain the willingness of a manager to have the tasks substituted or supported by AI tools. The last study will be conducted with Technology Experts as well as Marketing Managers to identify the state-of-the-art technologies and future recommendations for Marketing. Findings from all three studies will be combined to answer the question whether AI has the potential to support or substitute managerial tasks in a way that Marketing Managers can rely on AI tools for recommendations as well as results for a certain action.

5 Conclusion

This paper aims to explore the potential of AI tools in the field of Marketing Management. Therefore, the author wants to contribute to the existing literature on managerial tasks especially in the field of Marketing and Artificial Intelligence. Until now, there has been no comparable study that successfully links these two topics with additional focus to the individual perception of a Manager. It is of great value to understand what tasks and challenges Marketing Managers are currently facing to further determine the suitable use of AI.

These results have thus important implications for Marketing Practitioners and Researchers. Managers at all levels will need to be willing to adapt and include AI Technologies and Tools in their daily work life to embrace and work alongside AI rather than be replaced by it.

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