A Managerial and Linguistic Perspective on Researching Manager Behaviour Aimed at Replacing Human Managers with Robots

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ABSTRACT

This paper takes on both a managerial and linguistic perspective on conducting research into manager behaviour. It presents theoretical foundations for creating knowledge about the activities of team managers using a system of organisational terms, and showcases how linguistic analysis can be applied to enhance findings in the area of management studies. The authors discuss the results of an experiment carried out with management students within the field of project planning. The students played the roles of team managers and were asked to plan a specific project using specified online management tools: Goaler (to set up goals) and Tasker (to describe tasks). All activities of experiment participants were recorded by these tools.

KEYWORDS

Form and Content of Texts, Goals, Linguistic Behaviour, Linguistics, Manager Behaviour, Mixed Method, System of Organisational Terms, Tasks, Text Analysis

1. INTRODUCTION

Increasing areas of human life are developed with the help of machines and robots, or are replaced by them. After the first age of robotics in manufacturing, rapid developments in computer science have provided the opportunity of replacing team managers with robots (see McAfee et al, 2015). In recent years, the idea of replacing humans with robots has also emerged within the organisational environment, in particular in consultancy, stock exchange, and market analysis.

However, there is still a lack of research in this respect, within the field of team management. Despite the fact that it is common to track activities of Internet users or online applications (e.g. Google apps), there is hardly any research using online management tools in order to obtain data about managers’ behaviour. At the beginning of the 20th century, Frank Gilbreth and Lilian Gilbreth took a step in this direction (Fogelholm, 2000, p. 195). They investigated human motions at work, which is viewed as the beginning of workforce automation in various types of industry. In the 21st century, it is worth investigating management activities in order that work can be further automated.

In general, this paper showcases the latest results from the observation of managers’ behaviour, carried out with the help of the system of organisational terms and selected online management tools available on the transistorshead.com platform. It is worth adding that the online management tools utilised are regarded as research tools in this paper (see Section 2). The data gathered during the observation was further analysed from a linguistic perspective using the tenets of anthropocentric linguistics and the so-called CCC (correspondence, consistency, and correctness) model (see Section 5).

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In particular, the paper aims to:

- describe the concept of the observation,
- present the theoretical background of quantitative and linguistic analyses,
- illustrate the mechanism of management tools on the transistorshead.com platform,
- present the results of linguistic analysis of manager behaviour aimed at replacing human managers with robots,
- present further research paths and possibilities of results implementation.

The paper provides a literature review, presents an experiment with management studies students, and discusses the results of the linguistic analysis of manager behaviour. The research questions are as follows:

**Q1:** Which elements of the plan are changed and how often are they changed until the plan is accomplished?

**Q2:** Which cognitive processes take place when managers are given a complex project to plan?

**Q3:** Are there any dominant linguistic routes when planning a project?

**Q4:** Is it possible to develop a pattern of (human) manager linguistic behaviour in order to replace human managers with robots?

**Q5:** How can the linguistic findings be utilised in order to optimise and automate the formulation of tasks and goals in the future?

2. **THEORETICAL FOUNDATIONS**

In the first instance, it is necessary to mention that research presented in this paper is interdisciplinary in nature: In order to answer the research questions about the managerial work linguistic analysis is utilised in tandem with selected methods typical for management studies. In more detail, (1) the theoretical background of the examined phenomena and the method of gathering data derive from management science, while (2) the method of drawing conclusions and forming answers to the research questions posed in Section 1 stem from linguistics. Therefore, in this section we introduce both theoretical foundations.

(1) There are various knowledge management information systems focusing on selected areas of organisations (such as sales, distribution, production; see Yanchinda et al, 2011, pp. 806, 817) offering numerous theoretical approaches to those issues. Knowledge management in organisations is defined as a process that enables their members to create, distribute, and use knowledge in practical ways in order to make organisations more efficient (Chalmeta & Grangel, 2008). White and Taket (1996, pp. 47-56) claim that knowledge in organisations is entirely based on human language. This statement was the inspiration of designing the system of organisational terms that constitutes the theoretical foundation for conducting experiments with managers, with the aim of replacing human managers with robots (Flak & Pyszka, 2013).

The approach by Matos and Lopes (2003) is one of the theoretical assumptions for replacing human managers with robots. Its authors present a model of creating tacit and explicit knowledge in organisations. Following this approach, certain issues must first be solved in order that human managers of teams can be replaced with robots. Firstly, it is necessary to find a method for capturing/recording the explicit and tacit knowledge developed by a team. Secondly, a means must be found to transform this knowledge into management processes. Moreover, important questions need to be answered, such as: Are existing knowledge systems built on a true representation of the reality (ontological issue)? Do these knowledge systems contain true information about the reality (epistemological issue)? (Kilduff et al, 2011). Chalmeta and Grangel (2008) claim that it is possible to obtain knowledge that represents
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