Chapter 1

Introduction:
Enhancing Business Communications and Collaboration Through Data Science Applications

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ABSTRACT

This chapter consists of an introduction of the study of enhancing business communication and collaboration through data science applications in the current context. Organizations are highly complex and ever-changing environments that need to be supported by solid and reliable information. With rapid technological and scientific advances, it is imperative that organizations adopt a policy of using technological methods to ensure the prosperity and continuity of their business.

INTRODUCTION

The communication flow in organizations, is influenced by the structure of the organization, this structure reveals the paths through which the information flows in the organization, it tells us who should communicate with whom. These flows are four: descending, ascending, horizontal and diagonal" (Pereira et al., 2019). Regarding the existence of these flows, when referring to upward communication is all the information that comes from the people located at the bottom and develops a route that can reach the highest that can reach the highest position in the structure of the organization. A functional structure for transmission of communication

downwards, at the formal level, in which the content is relevant to the entire structure of the company, which consists of the following typical example of procedure: a director, upon receiving information from management, communicates it to the production manager, who in turn and sector chiefs to inform them, then the sector chiefs inform the foremen, then the then the foremen inform the foremen, who in turn inform the workers (Asma et al., 2020; Belay et al., 2021). This example, typical of a This example, typical of a hierarchical organization, highlights the importance of information reaching all levels, not going beyond any functional level, which, if it happened, could subvert the functioning of the organization. It is essential to consider that the participation of employees since it is crucial for cooperation and motivation, has the purpose of informing, instructing, and directing, its intensity of information flow will depend fundamentally on the philosophy and policy of each organization, leading to interdepartmental problem solving (Azevedo, 2020; Geada, 2021). Organizational communication must be conducted by "a coordination responsible for the set of content and communication tools, which may involve, among other things involve, namely: standards, methods, processes, programs, plans, projects, which are conveyed through channels and flows involving levels of the hierarchical structure" (Geada & Anunciação, 2021). The content and the way communication circulate denotes the culture and shapes the organizational identity.

The lack of objectivity or veracity of the data, it is crucial that the means of information are fast, agile and unbureaucratic, since the flow is corresponding the feedback process, that is, the return of the functional body on the management model, administrative actions and organizational plans determined by the company (Albrecht et al., 2020; van de Wetering, 2021; van de Wetering et al., 2020). "Communication management is an administrative activity that aims to create the information and purpose of creating the necessary information and understanding so that employees can be autonomous in their tasks and naturally arise cooperation, motivation, and job satisfaction".

It is these purposes that will lead to a team spirit and a better performance in the tasks, that is, both subordinates should receive from their superiors' clarifications about the on the other hand, superiors should be informed of what is happening so that useful information that useful and necessary information is made available so that people can conduct their tasks with motivation, team spirit, leadership, performance which can conduct their tasks with motivation, satisfaction, and better communication and cooperation among the members of the work group to which they may belong (Al Salman et al., 2020; Albrecht et al., 2020; Ashta et al., 2018; Bittner et al., 2020; van de Wetering, 2021; van de Wetering et al., 2020). In the face of unstoppable technological advances, the world has become networked and needed a professional who would practice a study to examine the thousands of data and draw new insights for intelligent decision making. So, we can measure and

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