ORGANIZATIONAL CITIZENSHIP BEHAVIORS AND SOCIAL SUPPORT AT WORK: SCENARIO ANALYSIS THROUGH SYSTEM DYNAMIC

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ABSTRACT
This study aimed to present the development and validation of a simulation model that allows the People Management area to evaluate and analyze scenarios based on Organizational Citizenship Behaviors and Social Support at Work. For this, we considered the perspective of IT knowledge workers who work in companies from different states of Brazil. To achieve this goal, the simulation model was elaborated and its possible analysis performed with the system dynamics. The 'current scenario' was based on the study by Costa (2019) who used the Dekas et al. (2013), validated by Andrade (2017) for the Brazilian context and the Siqueira and Gomide Jr Social Work Support Scale (2008). As a result it stands out that Aid had a small growth in the optimistic scenario, compared to the other dimensions, Civic Virtue and Voice. On the other hand, the three dimensions showed large decreases in the pessimistic scenario. It is also noted that the median scenario, in the five years of simulation, increased from 4.04 to 4.12, while the optimistic scenario showed a great increase, from 4.04, value of year 0, reaching 4.91 in year 5.

Keywords: Behavior of Organizational Citizenship. Social Support at Work. Model. System Dynamics

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1 INTRODUCTION

Considering the context of the work, it can be observed that it has undergone several changes in the last decades, such as economic change, socio-political conditions and technological innovation. These were directly influenced by globalization, socio-organizational innovation, flexible working relationships and increased competitiveness between countries and organizations (Borges & Yamamoto, 2014; Schweitzer, Gonçalves, Tolfo & Silva, 2016; Tolfo & Piccinini, 2007).

These changes tend to arouse discussions on the part of people management and organizational behavior scholars about the influence of work on workers' lives (Scweitzer, Gonçalves, Tolfo & Silva, 2016). There are researchers who consider work activity as a central category in the individual's life, being directly associated with the development of their identity, influencing their social relationships (Luna, 2005; Zanelli, 2010). Therefore, work can be experienced as something positive that causes cooperative action, allowing self-development, leading to well-being and quality of life (Zanelli, 2010). Given this perspective, there is the possibility of broadening the understanding of the work-worker relationship through the constructs of Organizational Citizenship Behavior (OCB) and Social Support at Work (SSW).

For Martins (2014) the concept of citizenship is linked to the feeling of inclusion of the individual in a given context/environment. Already according to the authors Porto and Tamayo (2003) and Andrade (2017) when discussing citizenship is considered the condition of the person as having rights and duties within a society. Thus, when belonging to an organization the worker becomes a member of a society, thus being a citizen (Katz & Kahn, 1978). In short, it is considered that the OCB is directly linked to discretionary behaviors that are not imposed as obligations and that the worker will not receive a reward for performing such collaborative action (Organ, 1997). Porto and Tamayo (2003, p. 394) reiterate that the OCB is “spontaneous, innovative and prosocial activities that benefit the organization, which exceed the formal role and are not stimulated by contractual incentives or punishments”.

Therefore, from what was mentioned about the OCB and OSH, it can be seen that both contribute to the protection and health promotion of the individual, influencing him both physically and emotionally. Thus, this study becomes essential, since it is observed that the OCB and the OSH are linked to behaviors and feelings that the worker shows and manifests in relation to the work environment.
This research aims to present the development and validation of a simulation model that allows the People Management area to evaluate and analyze scenarios from the OCB and Social Support at Work. For the development of this study we considered the perspective of IT knowledge workers who work in companies from different states of Brazil.

The choice to conduct this study with knowledge workers who work in Information Technology (IT) companies was due to the representativeness of this sector (IT) and also because these organizations have in their staff a large number of these workers. According to Bagraim (2010), knowledge workers working in the field of IT typically enjoy global job mobility and are considered critical for economic growth in developing countries.

This article is organized and divided into sessions, and the first session presents the introduction that includes the purpose and justification of this study. Subsequently, the theoretical framework that is subdivided into Organizational Citizenship Behavior and Social Support at Work is exposed. In the third session the methodology used is presented and then the results generated from the simulations are presented and in the last session the final considerations are presented.

2 THEORETICAL REFERENCE

This session presents the concept of Organizational Citizenship Behaviors, then discusses the theme of Social Support at Work, considered as a stress absorber in the workplace.

2.1 Organizational Citizenship Behavior

Researchers have sought to understand the behavior of people in organizations, since they are formed by individuals and depend on them to achieve organizational goals, as highlighted by Marques, Souza and Mori (2015). Given this, we realize the importance of cooperation within the organizational environment, from this, we highlight the studies on management based on cooperation by Barnard (1971) and the contributions of Katz and Kahn (1974) where for the authors the fact belonging to a company already makes him a citizen. It was from these conceptions that studies on Organizational Citizenship Behaviors (OCB) began, for Organ (1988), OCB are discretionary behaviors, ie actions not formally required by the company, but are developed voluntarily by employees.

According to Zarife (2016, p. 160) citizenship behavior is a set of rights and duties between employee and employer, which aims at maintaining well-being within the organization. Andrade (2017, p. 9) states that OCB expresses “the spontaneous cooperation of
individuals and their involvement with activities, beyond those prescribed for the execution of their formal role”.

According to Organ (2018), OCBs represent informal ways of cooperation between individuals based on job satisfaction and the perception of justice. In this paper, the research by Dekas et al. (2013) on OCB with Information Technology workers. From the research results of Dekas et al. (2013) information emerged that enabled the authors to develop the OCB-KW (Organizational Citizenship Behavior - Knowledge Worker) scale, composed of five factors: Civic Virtue, Employee Sustainability, Help, Voice and Social Participation, as shown in Figure 1.

Figure 1 – Dimensions of Organizational Citizenship Behaviors for Knowledge Workers

In the conception of Dekas et al. (2013) each of the dimensions presented in Figure 1 has a meaning, as follows: Civic Virtue defined as initiative actions with a recognition of responsibilities as a member of the organization; Employee sustainability indicated as activities related to maintaining the welfare of others; Help defined as a voluntary attitude to collaborate with colleagues; Voice as the participation of members in giving suggestions in the processes; and Social Participation established as social activities during work hours, but not related to work tasks. The present work used the model of Dekas et al. (2013) validated by Andrade (2017) for the Brazilian context.

Given this context, we can see the importance of OCB, as such attitudes tend to foster an improvement in interpersonal relationships. Thus, it is noteworthy that Social Support is also an important factor to be investigated, because when individuals understand that the organization in which they work develops support actions for their employees and, especially, when there is this type of support among colleagues, manifestation of voluntary behaviors is
greater. Therefore, it is essential to understand the origins of this kind of support in the work environment.

### 2.2 Social Support at Work

With high competitiveness for companies to survive in the labor market, many organizations have sought to adopt practices that value their intellectual capital, providing conditions to improve employee satisfaction and performance, stimulating well-being among individuals (Paschoal, Torres & Porto, 2010). Given this, it is possible to realize the importance of understanding how support is developed among people in the workplace.

Coob (1976) mentions that all individuals need support from conception to adulthood, so Social Support at Work (OSH) acts as a protector. The author defines support as information that leads the individual to believe that he is cared for, loved, valued, and esteemed within a social network.

In the literature, defined by Cohen and Wills (1985), there are three types of OSH: Emotional Support, Informational Support, and Instrumental Support, whose meanings are approached by several authors from the same perspective as Cohen and Wills (1985). Table 1 defines them.

#### Table 1 - Types of Social Support at Work

<table>
<thead>
<tr>
<th>Author and Year</th>
<th>Emotional</th>
<th>Informational</th>
<th>Instrumental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohen and Wills (1985)</td>
<td>The individual is valued for his value despite his flaws and difficulties.</td>
<td>Information sharing helps deal with problem events.</td>
<td>Providing help with material resources and necessary services. It is tangible material support that can help reduce stress.</td>
</tr>
<tr>
<td>Rodriguez and Cohen (1998)</td>
<td>It involves questions and empathy, affection, and trust.</td>
<td>Actions that help the person deal with current problems often include counseling.</td>
<td>Refers to material help, such as financial resources or daily tasks.</td>
</tr>
<tr>
<td>Gomide Jr., Guimarães and Damásio (2008)</td>
<td>Beliefs that there are trustworthy people in the organization who are concerned about each other, the existence of affection.</td>
<td>The belief is that the organization has a communication network in which information is accurate and reliable.</td>
<td>The belief is that the organization provides the resources needed to perform tasks.</td>
</tr>
</tbody>
</table>


In Chart 1, you can see the three types of support that the literature presents. According to Petterson et al. (2006, p. 831), “Social Support at Work was noted as a possible buffer of labor strain. It can be noted that the OSH contributes to the protection and health promotion of the individual, influencing both physically and emotionally.
Social Support at Work is considered an important factor to work within organizations as it favors well-being through interpersonal relationships such as trust (Rodriguez; Cohen, 1998; Karatepe 2013; Caesens; Stinglhamber; Lutpart, 2014). For Collins (2017), after joining an organization, people decide how much will be involved in the new work and this interferes with the expression of support for colleagues, in view of these perspectives it is noted the importance of the expression of support in the workplace.

Following the various approaches to the meaning and impacts of support, it is important to mention ways to evaluate OSH. The Social Support at Work Perception Scale, which was adapted and validated by Siqueira and Gomide Jr. (2008), validated and adapted the Social Support at Work Perception Scale to the Brazilian context which resulted in a total of 18 items, being Informational Social Support with seven variables, Emotional Social Support with six variables and Instrumental Social Support with five variables.

3 METHOD

In this paper the research methodology adopted for the development of the model computational analysis was based on the methodology proposed by Law (2015), consisted of (1) exploratory studies in scientific articles, reference manuals and interviews with managers of the solid waste area, in which the problem was characterized and as well as formulating the dynamic hypothesis, which is presented in section 2.1; (2) solution development through the construction of formal models capable of representing the problem; (3) computational implementation of the solution using the Vensim simulator (VENSIM, 2019) of the area of systems dynamics; (4) evaluation of the solution, through laboratory and field tests, to verify if the obtained results are in agreement with the observed reality, as well as through the simulation of an experiment using three scenarios.

The 'current scenario' of this study was based on the study by Costa (2019), conducted with knowledge workers from the Information Technology sector. The study population consisted of 352 workers from forty-one companies in Brazil, thirty-one in the state of Rio Grande do Sul, followed by six companies in the state of São Paulo, and Santa Catarina, Paraná, Rio de Janeiro, and Distrito Federal with a company respectively.

The instrument used to assess the OCB and Social Support at Work were divided into three parts: Part I - Organizational Citizenship Behavior Scale according to Dekas et al. (2013), composed of 23 questions validated by Andrade (2017) for the Brazilian context; Part II - Social Support at Work Scale of Siqueira and Gomide Jr (2008).
The OCB Scale used in this research has five factors: Help, Civic Virtue, Social Participation, Employee Sustainability and Voice, according to the model of Dekas et al. (2013) validated by Andrade (2017) for the Brazilian context. The OSH Scale used has three factors: Instrumental Support, Emotional Support and Informational Support.

It is noteworthy that to answer the research questions, we used the five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

4 SIMULATION MODEL

Thus, the present work was based on the simulation and scenario analysis of the research conducted by Costa (2019) in his master's dissertation, which aimed to analyze the influence of Social Support at Work on the OCB, from the perspective of IT workers. From the results of Costa's research (2019) it was possible to verify that there was a positive influence of Social Support at Work on the OCB.

It was also found that there were correlations between Instrumental Social Support and Informational Social Support with the OCB. From these relationships and based on the averages obtained, a pessimistic scenario and an optimistic scenario were predicted. The first scenario will present the averages deducted from the standard deviation value (just to exemplify with a parameter number), in order to simulate a reduction in their averages. The optimistic scenario aims to predict how the BOC will be when the variables have been reduced, and for the calculation will also consider the value of the standard deviation, added to the mean value.

It is noteworthy that the Emotional Support factor, referring to Social Support at Work was not considered in the present research, since a multiple regression analysis was performed and it was found that this factor did not have a significant influence on the OCB, thus, has been excluded from scenario prediction.

Regarding the relevance of the factors, the aid for the OCB construct was the most identified. Regarding Social Support at Work, the most prominent factor was Instrumental Support.

According to the results of the averages, it was found that the highest averages were related to the Help and Voice factors, related to the OCB; obtaining lower means in the Civic Virtue variable. Regarding Social Support at Work, the factors with the highest incidence were Instrumental and Informational Social Support respectively. It is noteworthy that these results were found with information technology workers. Other employees from different areas may
have different results, probably due to numerous aspects involved, such as professional training and experience gained.

Given this, the simulations enable managers and colleagues in the area of people management to evaluate actions aimed at organizational behavior, improvement in interpersonal relationships, dissemination of a dynamic organizational culture, capable of involving employees giving the necessary support for work activities and favoring the OCBs.

Following this line of understanding, we sought to manipulate the mean values of the variables of each factor, to predict a pessimistic scenario and an optimistic scenario, due to the fact that such variables have influence on the OCB. From that moment on, the possible impacts on the behaviors of individuals in the organization will be evaluated.

The simulation model was built based on the analyzed variables and is presented in Figure 2. The central variable of the model is called “OCB” which has five input variables: “Voice”, “Help”, Civic Virtue ”,“ Support Informocional Social ”and“ Instrumental Social Support ”. Complement the model plus twenty-six auxiliary variables.

Figure 2: Simulation model developed

Source: Prepared by the authors

Based on Figure 3, it can be seen that the factors help, voice and civic virtue belonging to the OCB scale were used and the factors instrumental social support and informational social support belonging to the Organizational Social Support scale. The model presents the influence that the types of support have on the OCB.

For the basis of the work, the results of Costa (2019) were used, as presented in Table 2.
According to the data in Table 2, it is clear that from the averages of each variable the pessimistic and optimistic scenario simulation was performed.

### 5 EXPERIMENT AND RESULTS OBTAINED

As already described, after defining the scenarios for the experiment using the model, simulations were performed. In this sense, the present work will expose some of the results generated for the experiment performed.
Initially, for this, it was considered information obtained in technical documents, as well as the perspective of IT knowledge workers who work in several companies located in different states of Brazil.

In a second moment, three scenarios were defined for the model experimentation, which were performed simulations in the Vensim simulator (Vensim, 2016) on a computer with Pentium Core i5 processor and 8 Gb of RAM. The simulation execution time was in the order of millionths of seconds. The time horizon simulated in the experiment was 5 (five) years, but the configuration of this variable is up to the designer / user, because it depends on the analysis to be done.

Regarding the pessimistic and optimistic scenario of the OCB, the calculations were performed based on the mean and standard deviation value as presented in Table 2, previously presented.

From this analysis, it can be seen that Ajuda had a small growth in the optimistic scenario, compared to the other dimensions, Civic Virtue and Voice. On the other hand, the three dimensions showed large decreases in the pessimistic scenario.

The interaction of the five auxiliary variables, making it possible to create the logic to store the data in the central variable of this study is called OCB. The result of the simulation of the computational model developed is presented in figure 3. The median scenario in the five years of simulation is observed, with an increase from 4.04 to 4.12, while the optimistic scenario presents a great increase, from 4.04, value of the year. 0, and reaching 4.91 in year 5.

Figure 3 - Scenarios of Organizational Citizenship Behaviors

Source: Prepared by the authors
The pessimistic scenario, as shown in figure 3, presents the worst performance, with a drop from 4.04 to 3.17 in year 5. With this, one realizes the importance of managers taking into account the factors that involve the OCB, since when Negative perceptions can trigger various interpersonal problems, reducing collaboration and cooperation among colleagues.

5 FINAL CONSIDERATIONS

This paper aimed to present the development and validation of a simulation model that allows the People Management area to evaluate and analyze scenarios from the OCB and Social Support at Work. Thus, it can be seen that this goal was achieved as the results of different scenarios were presented: medium, optimistic and pessimistic.

It is noteworthy that the optimistic scenario was the most relevant, as it presented more efficient results regarding the variables involving the OCB. Over the course of five years, the forecast of the optimistic scenario is that the variables that comprise the Social Support at Work (Informational Social Support and Instrumental Social Support) and the dimensions of the OCB (Help, Civic Virtue and Voice) increase, approaching them. average grade 5, which reflects the high agreement with the research questions, encompassing spontaneous, collaborative behaviors that contribute to the organization in which they work.

Through the simulated scenarios, it was possible to identify the strong relationship between the researched constructs. Thus, this research brought collaboration in both the academic and managerial areas, was supported by other researches already carried out, corroborating results with the use of the Organizational Citizenship Behavior Scale for Knowledge Workers elaborated by Dekas et al. (2013) and validated by Andrade (2017) and the Social Support at Work Perception Scale (EPSST) validated by Siqueira and Gomide Jr. (2008). The work also contributed to the increase of scientific knowledge, because besides the support of experts in the field for the application of the method, with the elaboration of the simulation model and the analysis performed with the dynamics of systems, can serve as a basis for future ones. research in the area of organizational behavior.

It is noteworthy that this research had as its main limitation the calculation obtained for the scenario analysis. To obtain the simulations, there was an increase of all means of equitable variables (optimistic scenario), as well as, at another time, their averages were reduced (pessimistic scenario). This fact, in a way, may have influenced the results obtained. In addition, the research was based on the study by Costa (2019), conducted with a class of professionals only, from the area of information technology. This information may have significantly influenced the results of this study.
For future research, it is suggested the variations of the dimensions, increasing and reducing the averages, so that the real impact of the studied phenomena can be verified. In addition, it is suggested to include other constructs that are CCO influencers, thus verifying the comprehensiveness of the studied phenomenon and its possible scenarios. In addition, this research can be extended to other professionals, both management and operational, in different realities and organizational contexts.

REFERÊNCIAS


