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Relationship of budget utility in empowerment and creativity

Relação da utilidade do orçamento no empoderamento e na criatividade

Relación de la utilidad presupuestaria en el empoderamiento y la creatividad

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ABSTRACT
The study aimed to analyze the relationship between the perceived utility level of budget functions in empowerment and creativity. An exploratory and quantitative research was developed, with primary data from a questionnaire applied to 100 managers in Brazilian organizations of information technology. Data were treated by Structural Equation Modeling. Thus, the perceived utility of budget functions provides employees with the belief that they are free to make choices within a certain defined space limit, which provides the support and autonomy structure necessary for empowerment and, in turn, the creativity.
Keywords: Creativity; Budget Functions; Empowerment; Management Control.

RESUMO
O estudo objetiva analisar a relação entre o nível de utilidade percebida do orçamento no empoderamento e na criatividade. Foi desenvolvida uma pesquisa exploratória, quantitativa, com dados primários provindos de questionário aplicado em 100 gestores em organizações brasileiras de tecnologia de informação. O tratamento dos dados foi realizado por Modelagem de Equações Estruturais. A utilidade percebida do orçamento fornece aos funcionários crença de que têm liberdade para efetuar escolhas, dentro de um certo limite de espaço definido, o que provê suporte e a estrutura de autonomia necessários para o empoderamento e, por sua vez, a criatividade.
Palavras-chave: Criatividade; Utilidades do Orçamento; Empoderamento; Controle Gerencial.

RESUMEN
El estudio tiene como objetivo analizar la relación entre el nivel de utilidad percibida del presupuesto en el empoderamiento y la creatividad. Se desarrolló una investigación exploratoria cuantitativa, con datos primarios de un cuestionario aplicado a 100 gerentes en organizaciones brasileñas de tecnología de la información. El tratamiento de los datos se llevó a cabo mediante modelado de ecuaciones estructurales. La utilidad percibida del presupuesto proporciona a los empleados la creencia de que tienen la libertad de tomar decisiones, dentro de un cierto límite de espacio definido, que proporciona la estructura de apoyo y autonomía necesaria para el empoderamiento y, a su vez, la creatividad.
Palabras clave: Creatividad; Utilidades de presupuesto; Empoderamiento; Control de gestion.

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1 INTRODUCTION

Budget is one of the most important coordination and control mechanisms of organizations (Arnold & Artz, 2019). The functions of the budget were described by Ekholm and Wallin (2011) as (1) planning (planning, coordination, resource allocation and determination of operational volumes) and (2) dialogue (communication, awareness raising and motivation), which encompass the search for new opportunities as well as control aimed at achieving goals (Arnold & Gillenkirch, 2015).

It is understood that the budget can give rise to control and creativity, which are necessary characteristics of an organization (Janka & Guenther 2018). This discussion is in line with the Self-Determination Theory, which argues that self-regulated behaviors need both support for autonomy and the provision of specific behavioral structure (Sierens, Vansteenkiste, Goossens, Soenes & Dochy, 2009).

Autonomy gives employees the feeling that they have choice in their course of action, while the structure includes setting restrictions and expectations to provide guidance to employees' efforts (Sierens et al., 2009). The functions of the budget provide a limit to inappropriate behavior when setting clear goals and expectations, monitor and offer feedback, as well as enable autonomy by allowing employees freedom of choice in the selection of their courses of action (Chen, 2017).

Thus, it is important in how control is perceived by employees. The result, as motivation and intrinsic creativity, depends on control being seen as communicating restrictions, limits, communicating necessary information and that employees believe they have choices in their actions (Cools, Stouthuysen & Van den Abbeele, 2017; Davila & Ditillo, 2017).

Related studies provide limited evidence that reduces the understanding of this relationship. Speckbacher (2017) explains that individuals face a dual challenge, demonstrating creativity and meeting the management control that coordinates their creative activities. Grabner and Speckbacher (2016) concluded that a high dependence on creativity results in particular risks for employees' dysfunctional behavior. Speklé, Elten and Widener (2017) found that the intensity of use of the Simons' Levers of Control (1995a) provides an information-rich environment and motivates employees.

In the literature that discusses the intersection between control and creativity, studies have mainly focused on encouraging creativity and the structure of the Simons' levers of control (1995a) and have examined only one function of the budget (performance evaluation) in isolation (Arnold & Gillenkirch, 2015), which motivated this research. For this study, the perceived usefulness level of the budget, described by Ekholm and Wallin (2011), provides support and structure of autonomy.

In this context, this study had the following research problem: What is the relationship between the level of perceived usefulness of the budget in empowerment and creativity? The study aimed to analyze the relationship between the level of perceived utility of the budget in the empowerment and creativity of managers of organizations in the area of information technology.

The results in the literature can be complemented by this study, which explores the stimulus of creativity through the functions of the budget. For the researched sample, it was found that the perceived usefulness of the budget provides employees with the belief that they are free to make choices, which can provide the support and structure necessary for empowerment and creativity. In a way, it contributes to the understanding that budget functions can be used to provide a feeling of empowerment and creativity.

It is suggested, in the discussion of the results, to analyze the extent to which the budget can be perceived as simultaneous utility, in which it facilitates creativity, at the same time as it provides restrictions to the behavior of employees (Muller-Stewens, Widener, Moller & Steinmann, 2020). This can be useful in the academic discussion on the topic by demonstrating, in an empirical way, the behavioral consequences of managerial control. In addition, the discussions raised can help managers and directors to better understand the role of the budget besides traditional functions, such as planning, controlling and evaluating performance.

2 THEORETICAL BACKGROUND

The theory of self-determination explains how individuals' perceptions influence intentional behavior and, in particular, the intrinsic involvement and commitment that people feel about their actions and efforts (Deci & Ryan, 1987). When considering the context of behavior in the workplace, the concept of self-determination is closely linked to the notion of empowerment, which is defined as individuals' perception of self-determination, that is, the extent to which employees believe they can perform their tasks autonomously and can exercise their choices on how they work (Speklé, Elten & Widener, 2017).

In particular, this study has the purpose of theory in connection with creativity. Thus, creativity refers to the production of new and useful ideas in any domain (Muzzio & Paiva Júnior, 2015) and is considered essential to organizations (Speklé et al., 2017). In this sense, previous research has found that creativity is induced by empowerment and the associated feelings of ownership and control over own work (Amabile et al., 1996). Perceptions of empowerment motivate employees to try new ways of doing their jobs, which results in creative behaviors (Knardal & Pettersen, 2015).

Speklé et al. (2017) suggest that the higher level of usefulness of managerial controls can improve empowerment. The budget, as the main figure of the managerial control system, is an important part of the work environment (Arnold & Artz, 2019). However, self-

determined motivation can also have extrinsic origins, provided that extrinsic influences are internalized and integrated (Ryan & Deci, 2000). In the case of internalization and integration, regulation imposed, externally, becomes part of self-regulated behavior without impairing the sense of being in charge. Consequently, if managerial controls are designed and presented in such a way that they are internalized and assimilated, then they support and enhance self-determination, and thus perceptions of empowerment. In this case, it requires that the managerial control structure supports autonomy (Deci & Ryan, 1987) and provides an adequate structure to the decision problems that individuals face (Sierens et al., 2009).

This study proposes that the budget provides support for autonomy through its utilities. This investigation adopted the budget utilities described by Ekholm and Wallin (2011). These were divided into functions related to planning (planning, coordination, allocation of resources and determination of operational volumes) and functionalities related to dialogue (communication, awareness raising, motivation). It is understood that this division encompasses the functions adopted and described in previous investigations, such as Hanse and Van der Stede (2004) and Sivabalan, Booth, Malmi, and Brown, (2009). Also, this classification is more appropriate for the purposes of the present study than the more traditional classification of planning and control.

Although the conflict between different budget functions has been analyzed from an economic perspective, little is known about behavioral effects (Arnold & Gillenkirch, 2015). Thus, it is emphasized that the higher level of perceived usefulness of the budget can create an environment that is characterized by self-management and freedom within the stipulated limits, which, in this way, promotes empowerment (Cools et al., 2017). The higher level of perceived usefulness of the budget provides dual utility for facilitating creativity, while at the same time providing restrictions on employee behavior (Muller-Stewens et al., 2020).

Thus, it is argued that employees perceive the functions of the budget as greater freedom rather than greater restrictions. This is linked to the fact that the higher level of utility of the budget provides support to promote intrinsic motivation and self-regulated behavior, as opposed to promoting an environment characterized as “controlling”. Thus, this study raises the following hypothesis:

H1: Higher level of utility of the budget has a positive and significant impact on empowerment.

The literature on social psychology and organizational behavior showed as a result several vectors of creativity (Amabile, Conti, Coon, Lazenby & Herron., 1996). These surveys found that feelings of autonomy are important, however, the work environment itself also plays a key role (Henri & Wouters, 2019). Thus, this investigation suggests a direct relationship between the intensity of the budget’s functions and creativity.

Providing opportunities for employees who can make choices regarding their actions according to defined limits (as manifested in empowerment), the organizational and supervisory incentive was considered a stimulus to creativity in organizational work environments (Amabile et al., 1996). In this regard, offering explicit instructions, recognizing creative thinking, encouraging decision-making in risky environments, supporting collaboration, encouraging discourse that supports creativity, generating ideas and valuing creativity are aspects of useful organizational incentive to stimulate creativity (Amabile & Pillemer, 2012). Thus, it is understood that the functions of the budget create the necessary working environment for employees to be creative.

Bedford (2015) argues that the higher level of perceived usefulness of budget information, for different functionalities, facilitates the search for resource efficiency and at the same time to explore and seek new opportunities. Cools et al. (2017) suggest that performance goals and limits do not need to be perceived as negative restrictions on self-realization, however, in the presence of more facilitating budget functions, they can be perceived as challenges that only bring interesting problems, which motivates individuals to think about unusual solutions and non-standard approaches. Targets and restrictions can help to structure the decision problem in such a way that creative thinking is necessary, because standard solutions will not serve to meet all decision parameters (Curtis & Sweeney, 2017; Speklé, Elten & Widener, 2017). The aforementioned authors still show that they can serve to provide guidance and improve individuals’ understanding of action-outcome relationships, which further guides creative behavior.

Chen (2017) argues that budgetary control can stimulate creativity. Grabner and Speckbcher (2016) concluded that predefined goals are used to evaluate performance in creative environments. Cools et al. (2017) concluded that these limits in the budget in terms of function do not stifle creativity, but, in contrast, stimulate creativity. In this context, the functions of the budget are important in the workplace, which can produce the inspiration and incentive that employees need to think creatively about problems, concerns and solutions.

Given the discussions, the following hypotheses are raised:

H2: Higher level of utility of the budget positively and significantly impacts creativity; and

H3: Empowerment has a positive and significant impact on creativity.

Figure 1 shows the theoretical model of the study with the elucidation of the hypothesis.

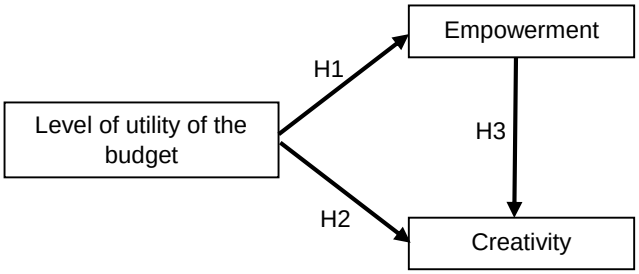

Figure 1. Theoretical model of the study
Source: Prepared by the authors.

It is observed that the highest level of perceived usefulness of the budget is directly related to creativity and is also related to empowerment. Empowerment, in turn, is related to creativity.

3 METHODOLOGY

To analyze the relationship between the perceived usefulness of the budget in empowerment and creativity, an exploratory research was adopted as to the objective, a survey as to the procedures and quantitative as to the research problem.

This investigation applied a questionnaire to 638 managers belonging to the Brazilian Association of Information Technology Companies - ASSESPRO. Data of these companies were found through the website of each regional ASSESPRO unit (São Paulo, Bahia, Sergipe, Pernambuco, Paraíba, Sergipe, Rio Grande do Sul, Brasília). The sample was non-probabilistic by accessibility, out of the 100 responses received.

The choice of the information technology sector occurs due to the need for constant creativity that stimulates innovation. It is a sector that requires managers with a feeling of empowerment to deal with pressures from competition and market dynamics. Finally, this sector is linked to research and development projects that require high investments and very dynamic and efficient budget control. In this context, the information technology sector becomes prominent to establish a relationship between the functions of the budget and the promulgation of incentives to creativity, as well as to the empowerment of managers.

Data were collected by the Center for Studies and Research in Administration (CEPA), an organ linked to the School of Administration of the Federal University of Rio Grande do Sul (EA/UFRGS). The survey instrument was applied by three interviewers, by telephone, during the months of December 2018 and February 2019.

Table 1 lists the characterization of respondents (age, time in the job, time in the organization, number of employees supervised, number of employees and age of the organization).

From Table 1, it is highlighted that the mean time in the job of managers was 7.5 and the mean number of employees supervised was 10.06. Additionally, the majority of organizations are small and medium sized, respectively 52.04% and 30.61% of the study sample. Respondents are responsible for profits and losses, revenue, costs and the budget, respectively, 16.04%, 19.13%, 33.09% and 30.86%. It is worth mentioning that 70% of respondents are managers.

Table 1
Characterization of respondents

Variables	N	Min	Max	Mean	Standard deviation
Age	99	25	67	39.39	11.39
Time in the job (years)	100	0.2	40	7.52	6.41
Time in the organization (years)	100	1.0	25	7.36	5.70
Number of employees supervised	98	0.0	76	10.06	1.66
Total number of employees	99	2.0	2500	95.19	288.89
Time of the organization (years)	100	1.5	55	19.76	9.91

Source: Prepared by the authors.

The research instrument consists of four blocks with 29 questions. These constructs are listed in Table 2, which presents each variable. The first block covers the budget utilities construct, with 11 questions based on the study by Ekholm and Wallin (2011). The second block covers the empowerment construct, with 5 questions. The first three questions were constructed by Spreitzer (1995) and, based on Hartline and Ferrel (1996) and Lambe, Webb and Ishida (2009). Speklé, Elten and Widener (2017) included two additional questions. In the third block, there were 5 questions about creativity created by Farmer, Tierney and Kung-McIntyre (2003) and tested by Speklé, Elten and Widener (2017). These questions are described in Table 3. The fourth block was composed of questions to characterize the respondent.

Table 2
Characterization of variables adopted in the investigation, regarding the measurement and theoretical background.

Variables	Measurement	Theoretical background
Budget utilities	Questions (11) Likert scale 1 to 7 (Nothing useful - very useful)	Ekholm and Wallin (2011)
Empowerment	Questions (5) Likert scale 1 to 7 (Do not agree - Strongly agree)	Spreizer (1995); Hartline and Ferrell (1996); Lambe, Webb and Ishida (2009); Speklé, Elten and Widener (2017)
Creativity	Questions (5) Likert scale 1 to 7 (Do not agree - Strongly agree)	Farmer, Tierney and Kung-McIntyre (2003); Speklé, Elten and Widener (2017)

Source: Prepared by the authors.

The constructs were treated in a unidimensional way, with internal consistency validated by confirmatory factor analysis. To test the hypotheses, the Structural Equation Modeling (SEM) technique was applied to understand complex relationships (Hair Jr., Hult, Ringle & Sarstedt, 2014). Structural models emphasize latent constructs, the nature and magnitude of the relationships between constructs (Hair Jr., Black, Babin, Anderson & Tatham, 2009). The parameters of these relationships indicate the effect of the independent variables on the dependent variables (Marôco, 2010).

Data were analyzed using Structural Equation Modeling, as previously reported, characterized by a statistical technique that aims to examine the relationships between the constructs simultaneously (Hair Jr et al., 2014). The reliability of the data was also calculated, which used three different techniques: Cronbach's Alpha (A.C.), Composite Reability (C.R.) and Average Variance Extracted (A.V.E.). Cronbach's Alpha considers values closer to 1 as an indicator of greater reliability, with values greater than 0.7 being accepted. Composite Reability also accepts values greater than 0.7 and measures the internal consistency of the items, while the Average Variance Extracted refers to the general amount of variance in the indicators and values above 0.5 are suggested (Hair Jr et al., 2009).

4 ANALYSIS AND DISCUSSION OF RESULTS

The descriptive statistics for each proposed construct are in Table 3.

Table 3
Descriptive statistics of variables

Variable	Cod.	N	Min	Max	Mean	Standard deviation
Budget utilities		100	1.0	7.0	6.152	12.098
Planning linked to company strategies	q2.1	100	1.0	7.0	6.320	10.038
Coordination of company units	q2.2	100	1.0	7.0	6.240	10.648
Resource allocation for units	q2.3	100	1.0	7.0	6.170	11.811
Determination of operational volumes	q2.4	100	3.0	7.0	6.240	.9114
Assignment of responsibility	q2.5	100	1.0	7.0	6.100	12.102
Follow-up to facilitate quick corrections	q2.6	100	1.0	7.0	6.260	10.012
Communication of objectives and ideas	q2.7	100	3.0	7.0	6.110	.9417
Create awareness of what is important to achieve	q2.8	100	1.0	7.0	6.370	.9604
Operationalization of objectives	q2.9	100	1.0	7.0	6.300	.9692
Staff motivation	q2.10	100	1.0	7.0	5.860	14.215
Operate as a basis for compensation and bonus systems	q2.11	100	1.0	7.0	5.700	15.859
Empowerment		100	1.0	7.0	5.792	14.406
Have significant autonomy to determine how to do the job	q3.1	100	1.0	7.0	5.820	13.362
Deciding for yourself how to do the job	q3.2	100	1.0	7.0	5.570	16.469
Have many possibilities for independence and freedom in how to do the job	q.3.3	100	1.0	7.0	5.780	14.112
It is allowed to take important decisions on how to operate	q3.4	100	1.0	7.0	5.580	16.341
A high degree of initiative is allowed	q3.5	100	1.0	7.0	6.210	11.746
Creativity		100	1.0	7.0	6.132	12.277
Think of other ways to solve problems when encountering obstacles	q4.1	100	1.0	7.0	6.240	10.742
Have new perspectives on old problems	q4.2	100	1.0	7.0	5.940	12.376
Deal with several new ideas and problems at the same time	q4.3	100	1.0	7.0	6.150	13.210
Help other people develop new ideas	q4.4	100	1.0	7.0	6.390	.9629
Have many new ideas	q4.5	100	1.0	7.0	5.940	12.778

Source: Prepared by the authors.

Regarding Empowerment, managers perceived a high degree of initiative and significant autonomy to determine how to do the job. Both variables had the highest means and the lowest standard deviation. The lowest mean

values were between "deciding for yourself how to do the job" and "it is allowed to take important decisions on how to operate". This result suggests that employees have a sense of choice in their course of action, while the structure includes the establishment of restrictions and expectations to provide guidance to efforts, as evaluated by Sierens et al. (2009).

In the Creativity construct, the highest means were for "help other people develop new ideas" and "think of other ways to solve problems when encountering obstacles". Both also had the lowest standard deviation among the other variables. In contrast, the variables that had the lowest mean values were concerned with "have new perspectives on old problems" and "have many new ideas". In this sense, the feeling of empowerment, the organizational and supervisory incentive can justify the stimulus of creativity of these employees (Amabile et al., 1996).

In Budget utilities, managers perceive the greatest utility of "creating awareness of what is important to achieve" and "planning linked to the company's strategies". This result was aligned with Ekholm and Wallin (2011,) in which they found similar results for the fixed budget. The utilities "motivation" and "operate as a basis for compensation and bonus systems" had the lowest means and the highest standard deviations. This result was aligned, in terms of motivation, to the studies of Mucci, Frezzatti and Dieng (2016), Dal Magro and Lavarda (2015) and Ekholm and Wallin (2011). This functionality may have characteristics of a personal nature and of the area itself. As this investigation includes managers from different areas, this result depends on the own manager, on his/her activity and area, as explained by Ekholm and Wallin (2011). Dal Magro and Lavarda (2015) also explain that motivation is not perceived as a priority by some managers, a factor that can be due to the problems that such an instrument can cause as an organizational barrier.

The variable "operate as a basis for compensation and bonus systems" is considered to be a control that limits behavior and that can restrict creativity (Hirst, Van Knippenberg, Chen & Sacramento, 2011). By emphasizing the high mean for Empowerment, Creativity and Budget Utilities, it can suggest that the budget of the organizations supports the autonomy and creativity of employees.

After the descriptive statistics, the frequency distribution showed significance (at 0.05) for all variables tested in the Kolmogorov-Smirnov (KS) normality test. The Kaiser-Meyer-Olkin (KMO) test with a result of 0.827 and Bartlett's Sphericity test sig. at 0.000, indicated adequate adjustments.

With these results, the procedures for Structural Equation Modeling started using the SmartPLS software, according to the procedures indicated by Ringle, Silva and Bido (2014). To what corresponds to the evaluation of the structural model, the reliability tests of Cronbach's Alpha, Composite Reability and Average Variance Extracted were run, as provided in the methodology, for each measured construct. The results are in Table 4.

Table 4
Reliability índices of the measurement model

Adjust-ment measures	Accepta-ble level	Budget utilities	Empower-ment	Creati-vity
AC	> 0.70	0.749	0.844	0.802
CC	>0.70	0.817	0.885	0.871
AVE	> 0.50	*0.435*	0.613	0.628

Source: Prepared by the authors.

The values obtained by means of the tests of Cronbach's Alpha and Composite Reability were above the parameters provided by the literature. However, for the Average Variance Extracted, only the Budget Utilities construct presented a value below 0.50, in which adjustments were necessary. Thus, 6 variables were removed from the construct Budget utilities, which were: "Planning linked to company strategies", "Coordination of company units", "Determination of operational volumes", "Follow-up to facilitate quick corrections", "Staff motivation" and the variable "Have new perspectives on old problems" from the Creativity construct.

The next step was the analysis of the discriminant validity. For this, two criteria were adopted: Fornell and Larcker (1981) criterion and the cross-load criterion. The preliminary analysis brought results that did not meet both criteria. For the criterion of Fornell and Larcker (1981), the value of each column should be higher than the correlation between the constructs (Ringle, Silva & Bido, 2014). For the cross-load criterion, these authors mentioned above recommend that the loads should be greater in their own construct than in the others measured. The results met the criteria established in the literature.

Table 5
Discriminant validity according to the criterion of Fornell and Larcker (1981), reliability test and R^2

	Budget utilities	Empower-ment	Creativity
Budget utilities	**0.659**		
Empowerement	0.490	**0.783**	
Creativity	0.575	0.632	**0.793**
R^2	0.183	0.24	0.493

Source: Prepared by the authors.

Another value to be considered is the R^2 value, corresponding to Pearson's determination coefficient. R^2 was considered low for the Budget Utilities and Empowerment constructs and medium for the Creativity construct. Importantly, the Heterotrait-Monotrait criterion was used for discriminant analysis. In this sense, the values were below 0.90, indicating that the discriminant analysis was established by the constructs.

In sequence, Student's t-test was applied for each assertion, and the parameter value was greater than and equal to 1.96, and the p-value showed values less than 0.05.

All assertions presented values supported by the literature. The next step corresponds to the evaluation of the values of the Student's t-test and the p-value for the relationship between the constructs, as listed in Table 6.

All the relationships remained within the range indicated by the literature, which leads to the non-rejection of the hypotheses measured in these relationships (H1, H2 and H3). Figure 2 illustrates the complete structural model.

Table 6
Student's t-test and p-value between the constructs

H	Relationship between the constructs	Student's t-test	p-value
H1	Budget utilities → Empowerment	3.552	0.000
H2	Budget utilities → Creativity	3.670	0.000
H3	Empowerment → Creativity	5.293	0.000

Source: Prepared by the authors.

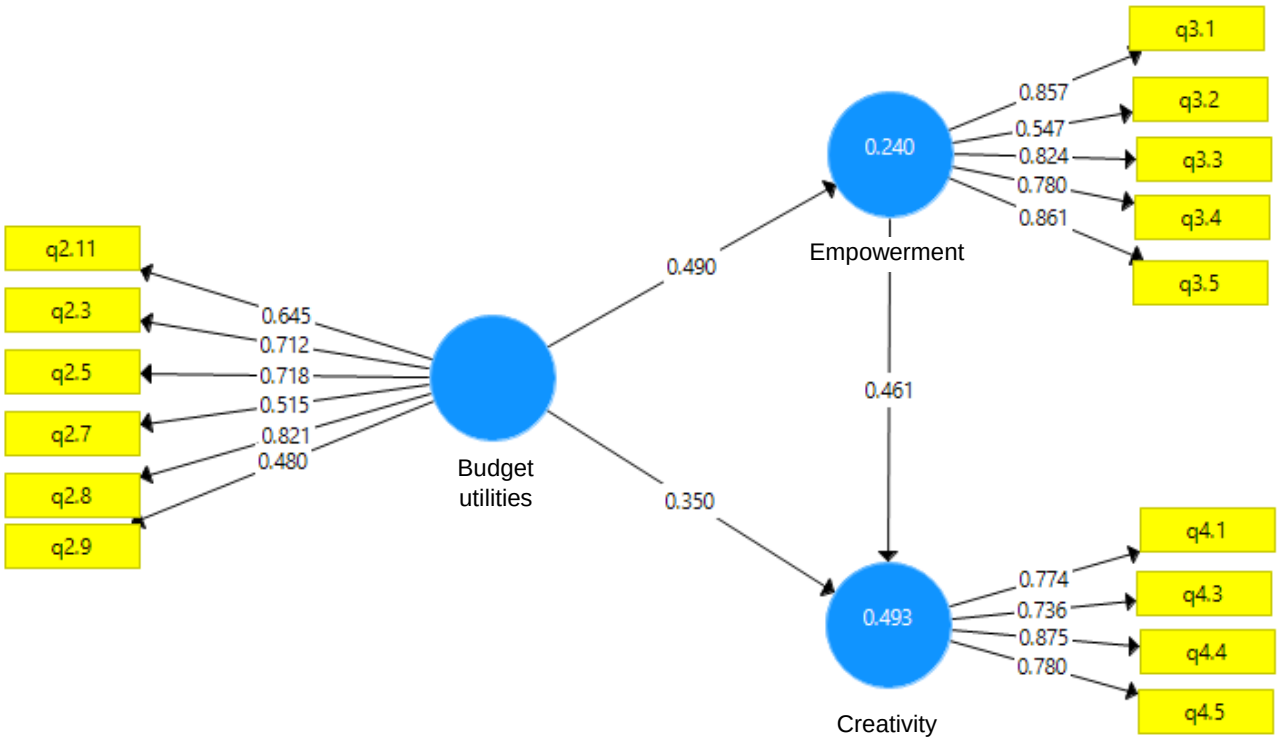

Figure 2. Complete structural model
SRMR – 0.100 Chi-Square – 199.256 NFI – 0.707
Legend: Budget utilities - q2.11 - Operate as a basis for compensation and bonus systems, q2.3 - Resource allocation for units, q2.5 - Assignment of responsibility, q2.7 - Communication of objectives and ideas, q2 .8 - Create awareness of what is important to achieve, q2.9 - Operationalization of objectives;
Empowerment - q3.1 - Have significant autonomy to determine how to do the job, q3.2 - Deciding for yourself how to do the job, q3.3 - Have many possibilities for independence and freedom in how to do the job, q3.4 – It is allowed to take important decisions on how to operate, q3.5 - A high degree of initiative is allowed;
Creativity - q4.1 - Think of other ways to solve problems when encountering obstacles, q4.3 - Deal with several new ideas and problems at the same time, q4.4 - Help other people develop new ideas and q4.5 - Have many new ideas
Source: Prepared by the authors.

From Figure 2, standardized factor loads and R^2 were analyzed for the proposed model. In this way, it was possible to verify that the R^2 of the variables that make up the dimensions had, in general, high coefficients, which provides a good explanation of the variance by the independent variables.

As for the first hypothesis, there was a positive relationship between the Budget utilities and Empowerment. Thus, H1 – Higher level of perceived utility of the budget has a positive and significant impact on empowerment, was not rejected, which is consistent with the studied literature. In Empowerment, the standardized loads were, for the most part, greater than 0.60, the R^2 of this construct was 24% explanation of the variance by the independent variables, with the highest standardized load for the variable "A high degree of initiative is allowed" (q3.5). In this sense, it can be concluded that employees perceive the usefulness of the budget as greater freedom instead of greater restrictions. The higher level of perceived utility of the budget provides the autonomous structure necessary to promote intrinsic motivation and self-regulated behaviors, as opposed to promoting an environment characterized as "controlling". These utilities create an environment that is characterized by self-management and freedom within the stipulated limits, which promotes empowerment (Cools et al., 2017).

The relationship between Budget utilities and Creativity, tested using H2 – Higher level of perceived utility of the budget has a positive and significant impact on creativity, was not rejected by the statistical model. As for Creativity, the standardized loads were higher than 0.60, the R^2 of this construct was 49% explanation of the variance by the independent variables, with the highest standardized

load for the variable "Deal with several new ideas" (q4.3) and "Problems at the same time" (q4.4). This finding is consistent with the literature. In this way, targets and restrictions can help to structure the decision problem in such a way that creative thinking is necessary, because standard solutions will not serve to meet all decision parameters (Speklé, Elten & Widener, 2017). In the meantime, budgetary control can stimulate creativity (Chen et al., 2017).

In the last hypothesis, tested using H3 - Empowerment has a positive and significant impact on creativity. A positive and significant relationship was found, therefore, H3 was not rejected. It was possible to verify that, for the constructs, the standardized loads were higher than 0.60. It was evident that in the sample of Brazilian organizations of information technology studied, empowerment influences creativity. This finding is consistent with the investigated literature. Thus, employees make choices about their actions according to defined limits (as manifested in empowerment), the organizational and supervisory incentive can be a stimulus to creativity in organizational work environments (Amabile et al., 1996).

In these circumstances, the multiple functions of budgeting can create the work environment that employees need to be creative. The organizational environment of Brazilian information technology companies can be understood as individuals' perception of self-determination, which would be the extent to which employees believe they can perform their tasks autonomously and can exercise their choices (Speklé, Elten & Widener, 2017). Upon having the perception of empowerment, the environment motivates employees to try new ways of doing their work, which results in creative behaviors (Davila & Ditillo, 2017).

When considering these budget utilities, control and creativity can coexist, as suggested by the studied literature. Thus, it can lead to the control and creativity that are necessary characteristics of companies (Knardal & Pettersen, 2015). The budget can be perceived as a dual utility, in which it facilitates creativity, at the same time as it provides restrictions on the behavior of employees (Muller-Stewens et al., 2020; Simons, 1995a).

5 FINAL CONSIDERATIONS

Given the results, the higher level of perceived usefulness of the budget of managers provides the belief that they are free to make choices, however within a certain defined limit, which can provide support and the autonomy structure required for empowerment and, in turn, creativity. This investigation was characterized as exploratory as to the objective, a survey as to the procedures and quantitative as to the research problem.

It can be concluded that employees can perceive the highest level of perceived usefulness of the budget as more freedom instead of greater restrictions. This is related to the fact that the higher level of usefulness of the budget provides support to promote intrinsic motivation and self-regulated behavior, as opposed to promoting an environment characterized as "controlling". A contribution of the study to the advancement of research on the theme indicates that the utilities of the budget are important in the workplace, which can produce the inspiration and incentive that employees need to think creatively about problems, concerns and solutions.

The conception of this investigation is still in its initial stage, which implies reflections on the considered construct, the research instrument and the method of analysis, including the improvements that may come. The lack of research that addresses the relationship between budget utilities and empowerment and creativity proves to be challenging, while providing an exciting field of research.

It is expected to contribute to the existing knowledge related to this theme, which provides evidence of the perceived usefulness of the budget of managers in their involvement in the work. It is expected to produce evidence of the perceived usefulness of the budget in relation to empowerment and creativity.

In the same way, research implies, on a practical level, in demonstrating how managers can stimulate creativity through the usefulness of the budget. Thus, the various functions of the budget can create a work environment that employees need to feel empowered and creative. Managers must pay attention to the functions that the budget can perform in the organization. Thus, it can be understood that the budget goes beyond evaluating performance.

The limitations will certainly serve as an opportunity for further investigations. In this regard, in order to optimize the adjustment indices, 6 variables were removed, five from the budget and one from creativity. In this way, the budget construct was left with six out of the eleven that were reported, which demonstrates a limitation of the construct and that needs reassessment.

This can be seen in the AVE index, which was less than 0.5. Another restriction stems from the fact that the investigation only involved information technology companies, as well as the limitation of the research strategy used, based on the perception of respondents to the questions asked. An alternative is to conduct a case study in organizations in a way that involves triangulation of data, such as interviews with managers, surveys with employees and document analysis. Another suggestion is to analyze the utilities of the budget and its encouragement to different types of creativity (expected and responsive), according to Cools, Stouthuysen and Van den Abbeele (2017).

REFERENCES

Amabile, T. M., & Pillemer, J. (2012). Perspectives on the social psychology of creativity. *The Journal of Creative Behavior*, 46(1), 3-15. https://doi.org/10.1002/jocb.001

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of management journal*, 39(5), 1154-1184. https://doi.org/10.5465/256995

Arnold, M. C., & Gillenkirch, R. M. (2015). Using negotiated budgets for planning and performance evaluation: an experimental study. *Accounting, organizations and society*, 43, 1-16. https://doi.org/10.1016/j.aos.2018.06.001

Arnold, M., & Artz, M. (2019). The use of a single budget or separate budgets for planning and performance evaluation. *Accounting, organizations and society*, 73, 50-67. https://doi.org/10.1016/j.aos.2018.06.001

Bedford, D. S. (2015). Management control systems across different modes of innovation: Implications for firm performance. *Management Accounting Research*, 28, 12-30. https://doi.org/10.1016/j.mar.2015.04.003

Chen, C. X. (2017). Management control for stimulating different types of creativity: The role of budgets. *Journal of Management Accounting Research*, 29(3), 23-26. https://doi.org/10.2308/jmar-51795

Cools, M., Stouthuysen, K., & Van den Abbeele, A. (2017). Management control for stimulating different types of creativity: The role of budgets. *Journal of Management Accounting Research*, 29(3), 1-21. https://doi.org/10.2308/jmar-51789

Curtis, E., & Sweeney, B. (2017). Managing different types of innovation: mutually reinforcing management control systems and the generation of dynamic tension. *Accounting and Business Research*, 47(3), 313-343. https://doi.org/10.1080/00014788.2016.1255585

Dal Magro, C. B., & Lavarda, C. E. F. (2015). Evidências sobre a caracterização e utilidade do orçamento empresarial nas indústrias de Santa Catarina. *Advances in Scientific and Applied Accounting*, 8(1), 039-062. https://doi.org/10.14392/asaa.2015080103

Davila, A., & Ditillo, A. (2017). Management Control Systems for Creative Teams: Managing Stylistic Creativity in Fashion Companies. *Journal of Management Accounting Research*, 29(3), 27-47. https://doi.org/10.2308/jmar-51806

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of personality and social psychology*, 53(6), 1024. https://doi.org/10.1037/0022-3514.53.6.1024

Ekholm, B. G., & Wallin, J. (2011). The impact of uncertainty and strategy on the perceived usefulness of fixed and flexible budgets. *Journal of Business Finance & Accounting*, 38(1-2), 145-164. https://doi.org/10.1111/j.1468-5957.2010.02228.x

Farmer, S. M., Tierney, P., & Kung-Mcintyre, K. (2003). Employee creativity in Taiwan: An application of role identity theory. *Academy of Management Journal*, 46(5), 618-630. https://doi.org/10.2307/30040653

Fornell, C., & Larcker, D. F. (1981). *Structural equation models with unobservable variables and measurement error*: Algebra and statistics.

Grabner, I., & Speckbacher, G. (2016). The cost of creativity: A control perspective. *Accounting, Organizations and Society*, 48, 31-42. https://doi.org/10.1016/j.aos.2015.11.001

Hair Jr., J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2009). *Análise multivariada de dados*. Bookman Editora.

Hair Jr., J. F., Hult, G. T. M., Ringle, C. M. & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks: Sage. https://doi.org/10.1108/EBR-10-2013-0128

Hartline, M. D., & Ferrell, O. C. (1996). The management of customer-contact service employees: an empirical investigation. *The Journal of Marketing*, 60(4), 52-70. https://doi.org/10.2307/1251901

Henri, J. F., & Wouters, M. (2019). Interdependence of management control practices for product innovation: The influence of environmental unpredictability. *Accounting, Organizations and Society*, 101073. https://doi.org/10.1016/j.aos.2019.101073

Hirst, G., Van Knippenberg, D., Chen, C. H., & Sacramento, C. A. (2011). How does bureaucracy impact individual creativity? A cross-level investigation of team contextual influences on goal orientation–creativity relationships. *Academy of Management Journal*, 54(3), 624-641. https://doi.org/10.5465/amj.2011.61968124

Janka, M., & Guenther, T. W. (2018). Management control of new product development and perceived environmental uncertainty: Exploring heterogeneity using a finite mixture approach. *Journal of Management Accounting Research*, 30(2), 131-161. https://doi.org/10.2308/jmar-52019

Lambe, C. J., Webb, K. L., & Ishida, C. (2009). Self-managing selling teams and team performance: The complementary roles of empowerment and control. *Industrial Marketing Management*, 38(1), 5-16. https://doi.org/10.1016/j.indmarman.2007.10.003

Marôco, J. (2010). *Análise de equações estruturais: fundamentos teóricos, software & aplicações*. Pêro Pinheiro: ReportNumber.

Mucci, D., Frezatti, F., & Dieng, M. (2016). As múltiplas funções do orçamento empresarial. *RAC-Revista de Administração Contemporânea*, 20(3). http://dx.doi.org/10.1590/1982-7849rac2016140121

Müller-Stewens, B., Widener, S. K., Möller, K., & Steinmann, J. C. (2020). The role of diagnostic and interactive control uses in innovation. *Accounting, Organizations and Society*, *80*, 101078. https://doi.org/10.1016/j.aos.2019.101078

Muzzio, H., & Paiva Júnior, F. G. de. (2015). A pertinência de adequação da gestão criativa à identidade do indivíduo criativo. *Contextus – Contemporary Journal of Economics and Management*, 13(3), 139-155. https://doi.org/10.19094/contextus.v13i3.711

Ringle, C. M., Silva, D., & Bido, D. D. S. (2014). Modelagem de equações estruturais com utilização do SmartPLS. *Revista Brasileira de Marketing*, 13(2), 56-73. https://doi.org/10.5585/remark.v13i2.2717

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25(1), 54-67. https://doi.org/10.1006/ceps.1999.1020

Sierens, E., Vansteenkiste, M., Goossens, L., Soenens, B., & Dochy, F. (2009). The synergistic relationship of perceived autonomy support and structure in the prediction of self-regulated learning. *British Journal of Educational Psychology*, 79(1), 57-68. https://doi.org/10.1348/000709908X304398

Simons, R. (1995a). *Levers of control: How managers use innovative control systems to drive strategic renewal*. Harvard Business Press.

Simons, R. (1995b). *Control in an age of empowerment*. Harvard Business Review (March/April): 80-88.

Sivabalan, P., Booth, P., Malmi, T., & Brown, D. A. (2009). An exploratory study of operational reasons to budget. *Accounting & Finance*, 49(4), 849-871. https://doi.org/10.1111/j.1467-629X.2009.00305.x

Speckbacher, G. (2017). Creativity Research in Management Accounting: A Commentary. *Journal of Management Accounting Research*, 29(3), 49-54. https://doi.org/10.2308/jmar-51754

Speklé, R. F., van Elten, H. J., & Widener, S. K. (2017). Creativity and Control: A Paradox—Evidence from the Levers of Control Framework. *Behavioral Research in Accounting*, 29(2), 73-96. https://doi.org/10.2308/bria-51759

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442-1465. https://doi.org/10.2307/256865

Wåhlin, N., Blomquist, T., Knardal, P. S., & Pettersen, I. J. (2015). Creativity and management control–the diversity of festival budgets. *International Journal of Managing Projects in Business*, 8(4), 679-695. https://doi.org/10.1108/IJMPB-11-2014-0082

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