

RN

# Revista de Negócios

Studies on emerging countries

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## **PRESENTATION**

Revista de Negócios is located in Blumenau, state of Santa Catarina, Brazil, in the campus of Universidade Regional de Blumenau—FURB, post-graduate programme in Business Administration. Revista de Negócios is published quarterly in January, April, July and October on the website [furb.br/rn](http://furb.br/rn).

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## **MISSION**

Revista de Negócios advances the knowledge and practice of management learning and education. It does it by publishing theoretical models and reviews, mainly quantitative research, critique, exchanges and retrospectives on any substantive topic that is conceived with studies on emerging countries. Revista de Negócios is an interdisciplinary journal that broadly defines its constituents to include different methodological perspectives and innovative approach on how to understand the role of organizations from emerging countries in a globalized market.

## **SCOPE AND FOCUS**

Revista de Negócios aims to create an intellectual and academic platform, under the perspective of Strategic Management Organization, to promote studies on Emerging Countries. The Journal looks and reviews for contributions to the debate about researches on two specific topics: innovation and competitiveness and strategic organization in emerging countries. The topic of innovation and

competitiveness covers all studies and researches related to how organizations can sustain their competitiveness, particularly focusing on innovations, entrepreneurship and performance. The second topic covers studies and researches on strategic management of organizations, more specifically on how companies can or should act at strategic level looking mainly but not only to external context, supply chain, competitive strategies in international market, and marketing approach. The editorial policy is based on promoting articles with critical perspectives seeking for the understanding of the differences and similarities among emerging countries and in comparison with experiences and theories on strategic management in developed countries. It intends to promote specific contributions of how theoretical and empirical studies on emerging economies may contribute to the advance of theories related to innovations and competitiveness and strategic management of organizations. It is welcome scholars particularly working on such topics to submit theoretical essays, empirical studies, and case studies. The Revista de Negócios is open to different methodological perspectives and innovative approaches on how to understand the role of organizations from emerging countries.

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## Editorial Letter

In the current issue we are presenting four articles with several empirical and theoretical contributions. First, in discussing themes as entrepreneurship, structure of controllership, cost management and micro strategies in complex organization, the articles provide different and multidimensional perspective of addressing questions related to management and strategies in emerging economies. The second contribution is related to the different objects and or industries that have been investigated. From groups of entrepreneurial students, to small and middle-sized companies, mining industries and hospitals, the papers offer the opportunities to capture the different realities and specific patterns by sectors, groups and economic activities. Finally, the articles have adopted multiple methodological procedures that reflect in large extent the complexity of the topics and themes discussed in the context of emerging economies.

The first article: **A Intenção Empreendedora de Estudantes e os fatores que a influenciam**, authored by Emerson Atilio Birchler and Aridelmo Teixeira, has the purpose to identify the external and internal factors that influence the entrepreneurial orientation of groups of students in the university. The results of this research demonstrate the presence of mimetic isomorphism in cost management practices, independent of the companies' economic activity,. Results show that the attitude and behavioral perception are the most important antecedents of entrepreneurial intention, suggesting that internal factors are key factors.

The second article: **The structure of controllership area in organizations**, authored by Wendy Beatriz Witt Haddad Carraro and Daniel Henrique Wendland Santanna, has the aim to address how the Controllership area is structured in organizations of different sizes and segments. Controllership is of great importance in organizations, since it seeks to meet the information needs of stakeholders, providing tools to achieve organizational effectiveness, contributing to the survival of organizations. The main results suggest that besides the activities of Budget, Internal Control and Performance Evaluation, other aspects are important like Risk Management, Compliance and Strategic Planning have room for greater participation of the Controller.

The third article: **Micro strategies and hospital management: an analysis through the lens of complexity**, authored by Alechssandra Ressetti Oliveira, Victor Meyer Jr., and Lucilaine Maria Pascuci, has the purpose to analyze innovative strategic practices that have affected performance of a hospital as an organization. Results revealed that micro strategies employed in terms of cost contributed to the reduction of operational expenses, better reallocation of resources and greater investment in health services.

The fourth article: **Cost Management in Micro and Small Companies in the Mining Sector**, authored by Antonio Carlos Guidi, Levi Morgan, Maria Imaculada Montebelo, and Dalila Alves Corrêa, has the main objective to analyze the operationality of cost management among the MPEs which operate in the dimension stone mining and processing sector, seeking emphases related to the presence of isomorphism. The results of this research demonstrate the presence of mimetic isomorphism in cost management practices, independent of the companies' economic activity.

Before concluding this Editorial, as always, we want to express our gratitude to all reviewers that helped us to achieve this current issue. We thank you and hope we can continue to count on your contributions to our Journal in future issues.

To our readers, we hope you will enjoy reading the articles, and expect you to contribute with our Journal in future issues on business strategies and emerging economies..

**Mohamed Amal**

**Editor**

## A Intenção Empreendedora de Estudantes e os fatores que a influenciam

Emerson Atilio Birchler<sup>1</sup>, Aridelmo Teixeira<sup>2</sup>

<sup>1</sup> Fucape Business School - emerson@ifes.edu.br

<sup>2</sup> Fucape Business School - aridelmo@fucape.br

### PALAVRAS-CHAVE

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### RESUMO

Reconhecendo o papel de destaque do empreendedorismo dentro do cenário econômico mundial, o objetivo desta pesquisa é identificar os fatores extrínsecos e intrínsecos que influenciam a intenção empreendedora de estudantes. Para isso, foram utilizadas as variáveis da Teoria do Comportamento Planejado – TCP (atitude, norma subjetiva e comportamento percebido) além de uma quarta chamada fatores socioeconômicos. Aplicado o questionário desenvolvido por Linán e Chen (2009) pela primeira vez a alunos do Instituto Federal do Espírito Santo, compilados os dados e realizada as devidas regressões, observou-se que somente fatores intrínsecos, representados pelas variáveis atitude e comportamento percebido, influenciaram a intenção empreendedora. A partir destes resultados, este estudo pretende contribuir no apoio aos programas de empreendedorismo em instituições de ensino destinadas a incentivar os estudantes a abrirem o seu próprio negócio e a limitação desta pesquisa encontra-se na imprevisibilidade do comportamento se confirmar no futuro.

### KEYWORDS

Entrepreneurship;  
Theory of Planned Behavior;  
National Student Assistance Program;  
Student Assistance Policy.

### ABSTRACT

Recognizing the prominent role of entrepreneurship within the world economic scenario, the objective of this paper is to identify the extrinsic and intrinsic factors that influence the entrepreneurial intention of students. For this, besides the variables of the Theory of Planned Behavior - TCP (attitude, subjective norm and perceived behavior), we used a fourth dimension we called socioeconomic factors. The questionnaire we used has been developed and tested by Linán and Chen (2009) for the first time to students of the Federal Institute of Espírito Santo. After compiling the data and run the necessary regressions, we observed that only intrinsic factors, represented by the variables attitude and perceived behavior, influenced the entrepreneurial intention. Based on these results, this study aims to contribute to the support of entrepreneurship programs in educational institutions designed to encourage students to open their own business. The limitation of this research lies in the unpredictability of the behavior to be confirmed in the future.

## 1 Introdução

O empreendedorismo desempenha um papel fundamental no desenvolvimento econômico das nações (Azhar et al., 2011; Linán et al., 2011) que são caracterizadas, segundo Bruton et al. (2008), por uma crescente orientação para o mercado e uma base econômica em expansão. Esta evolução, de acordo com Anca et al. (2009), depende do empreendedorismo bem sucedido combinado com a força das empresas estabelecidas.

O empreendedorismo é explicado por Acs e László (2009) como sendo a interação entre atitudes, atividades e aspirações empreendedoras que variam ao longo das fases de desenvolvimento econômico enquanto Linán et al. (2011) o definem como o processo onde os empreendedores interagem com seu ambiente para identificar uma oportunidade e, eventualmente, iniciar um novo empreendimento.

Esta intenção empreendedora para começar uma nova empresa tem sido um tema importante no campo do empreendedorismo (Zhang et al., 2015). Ela significa, segundo Rantanen e Toikko (2014), o desejo de uma pessoa de trabalhar como empresário no futuro e sua aspiração em direção ao empreendedorismo ou, de acordo com Azhar et al. (2011), o nível de determinação em escolhê-lo como uma carreira.

A fim de identificá-la, esta pesquisa utilizou a Teoria do Comportamento Planejado (TCP), idealizada por Ajzen (1991) e utilizada por autores como Yang (2013) e Zhang et al. (2015) mostrando ser um instrumento adequado para modelar o desenvolvimento da intenção empreendedora por meio de processos pedagógicos e contextos de aprendizagem.

A TCP postula que o comportamento é uma função de crenças relevantes que são consideradas os determinantes preponderantes de atitudes, intenções e comportamento de uma pessoa (Ajzen, 1991). Ainda, Basu e Virick (2008) afirmam que esta teoria indica que a intenção empreendedora é dependente das atitudes de um indivíduo em direção à conveniência de uma carreira empresarial, normas subjetivas, incluindo expectativas da família e amigos para executar o comportamento e controle comportamental percebido ou capacidade percebida para executar o comportamento desejado de entrar no empreendedorismo.

Além da percepção do indivíduo e em consonância com a TCP, a decisão de empreender, segundo Minniti e Nardone (2007), é influenciada por uma ampla variedade de fatores socioeconômicos, dentre eles: situação de emprego, renda, idade, escolaridade e gênero. Estas variáveis, de acordo com Le'vesquea e Minniti (2006), podem ser classificadas como fatores extrínsecos, que são as características do ambiente em que são tomadas as decisões empreendedoras, enquanto que as características do indivíduo classificam-se como fatores intrínsecos.

No caso dos jovens, Rantanen e Toikko (2014) relatam que a intenção empreendedora é influenciada por suas apreciações pessoais de empreendedorismo, pelas expectativas de seu círculo mais próximo e por sua própria percepção de ser uma pessoa com capacidade de ser um empreendedor. Cheungi e Chan (2011) complementam que, na sociedade em rápida mudança, a taxa de desemprego entre estes jovens é alta e os conhecimentos aprendidos na escola são insuficientes para eles competirem no mercado.

Explicada a importância do empreendedorismo para a economia e para a sociedade como um todo, em especial, para os estudantes, pretende-se chegar a resposta do questionamento desta pesquisa: **quais fatores extrínsecos e intrínsecos influenciam a intenção empreendedora de estudantes?**

Para se chegar a esta resposta, a amostra escolhida foi estudantes de diversos cursos existentes no Instituto Federal do Espírito Santo – IFES –, abaixo relacionados, desde o ensino médio até a pós-graduação (Mestrado), que responderam um questionário, fielmente traduzido, formulado por Linán e Chen (2009), onde se procurou identificar a intenção empreendedora e a influência de fatores socioeconômicos sobre ela.

Este estudo se justifica por causa da importância de gestores e pessoas que trabalham com estudantes conhecerem os fatores (extrínsecos ou intrínsecos), que influenciam a intenção empreendedora destes alunos, a fim de planejarem suas ações de inserção ou continuidade do tema empreendedorismo de forma mais eficiente dentro de suas organizações. Outra justificativa é a relevância deste tema no desenvolvimento econômico e no crescimento profissional de jovens estudantes, do aumento do interesse sobre o tema, refletindo em uma grande quantidade de trabalhos científicos publicados e na presença da disciplina

Empreendedorismo em diversos cursos superiores do Brasil, inclusive no IFES como obrigatória.

**Quadro 1.** Campi participantes, curso, modalidade e quantidade de respondentes

Campus	Curso	Modalidade	Quant.
Alegre	Cafeicultura	Graduação	74
	Ciências Biológicas	Graduação	
	Engenharia de Agricultura	Graduação	
Aracruz	Mecânica	Ensino Técnico	85
	Mecânica	Graduação	
	Química	Graduação	
Cachoeiro do Itapemirim	Informática	Ensino Técnico	36
	Mecânica	Graduação	
	Sistemas de Informação	Graduação	
Cariacica	Ferrovias	Ensino Técnico	81
	Portos	Ensino Técnico	
	Logística	Ensino Técnico	
	Física	Ensino Técnico	
	Administração	Ensino Técnico	
	Engenharia da Produção	Graduação	
Colatina	Edificações	Ensino Técnico	56
	Administração	Graduação	
	Arquitetura e Urbanismo	Graduação	
	Sistemas de Informação	Graduação	
Ibatiba	Meio Ambiente	Ensino Técnico	29
	Florestas	Ensino Técnico	
Itapina	Agropecuária	Ensino Técnico	51
	Agronomia	Graduação	

Campus	Curso	Modalidade	Quant.
	Ciências Agrícolas	Graduação	
Linhares	Administração	Ensino Técnico	57
Nova Venécia	Edificações	Ensino Técnico	76
	Mineração	Ensino Técnico	
	Meio Ambiente	Ensino Técnico	
	Geografia	Graduação	
Piúma	Engenharia de Pesca	Graduação	56
Santa Teresa	Assistente em Administração	Ensino Técnico	89
	Agronomia	Graduação	
	Análise e Desenvol. de Sistemas	Graduação	
	Ciências Biológicas	Graduação	
Serra	Automação Industrial	Ensino Técnico	482
	Informática	Ensino Técnico	
	Administração	Ensino Técnico	
	Automação Industrial	Graduação	
	Informática	Graduação	
	Venda Nova do Imigrante	Administração	
Vitória	Mecânica	Ensino Técnico	73
<b>TOTAL DE RESPONDENTES</b>			<b>1.267</b>

Fonte: Dados da pesquisa.

A fim de responder a pergunta acima, formulou-se o seguinte objetivo geral: **identificar os fatores extrínsecos e intrínsecos na intenção empreendedora de estudantes.**

Os resultados encontrados nesta pesquisa foram iguais aos de Linán et al. (2011) e Carey et. al (2010) onde verifica-se fatores intrínsecos (variáveis atitude e comportamento percebido) influenciando a intenção empreendedora e insignificância para fatores extrínsecos (variáveis norma subjetiva e fatores socioeconômicos). Já os

estudos de Chen e Lai (2010) e Yang (2013) encontraram significância para ambos os fatores. O diferencial deste trabalho está na aplicação da TCP no universo estudantil brasileiro bem como na diversidade de alunos entrevistados no que se refere aos cursos, idade,

Assim, esta pesquisa pretende contribuir para o apoio aos programas de empreendedorismo em instituições de ensino destinados a incentivar os estudantes a abrirem o seu próprio negócio, para a concepção de iniciativas de educação mais eficazes relacionadas ao tema, para o foco por parte dos gestores nos fatores intrínsecos (atitudes e comportamentos) que levam os indivíduos a empreenderem e para a confirmação que a TCP é um instrumento seguro para se identificar a intenção empreendedora.

## 2 Referencial Teórico

O aumento da necessidade de maior criatividade e das capacidades empresariais relacionou o papel dos empreendedores com as grandes mudanças que ocorreram nas últimas décadas, como o ritmo acelerado de desenvolvimento tecnológico e o crescente processo de globalização derivado da liberalização dos mercados e da transição dos países ex-comunistas ao capitalismo (Linán & Santos, 2007).

O crescimento das atividades empreendedoras levou, conforme Azhar (2001), à criação de oportunidades de trabalho e vários outros benefícios econômicos para diversos setores da sociedade. Segundo o autor, isso acontece porque atividade empreendedora é a combinação de risco e inovação, ocasionando a criação de novas empresas que oferecem produtos e serviços inovadores, o que, eventualmente, levam a uma contribuição significativa para o desenvolvimento da economia.

Alvarez e Barney (2013) ressaltam, porém, que esta atividade nem sempre leva ao crescimento econômico e que as oportunidades de se tornar um empregado independente, muitas vezes exploradas em extrema pobreza, não levam a soluções de crescimento sustentável.

### 2.1 Intenção empreendedora

A intenção empreendedora é o centro da TCP (Ajzen, 1991) e, de acordo com esta teoria, indica o esforço que a pessoa vai fazer para realizar um

comportamento empreendedor e, assim, capta os três fatores motivacionais (atitude, norma e comportamento) ou antecedentes, influenciando o comportamento (Ajzen, 1991; Bae et al., 2014).

Mesmo que o impacto dos fatores econômicos, sociais, dentre outros, ajudem a prever os resultados do desempenho empreendedor (Gaddam, 2007), Chitakornkijsil (2011) ressalta que todas as empresas têm um ponto de começo no tempo: é necessário, uma vez, ter tido um empreendedor ou uma equipe empreendedora que transformou um conceito em uma empresa. Além destas necessidades, Baron (1998) mostra que os processos cognitivos estão longe de serem totalmente racionais, pois o pensamento é muitas vezes influenciado por uma série de fontes de viés e erros potenciais e os empreendedores enfrentam situações que tendem a sobrecarregar sua capacidade de processamento de informação.

Porém, Shane et al. (2003) destacam que o empreendedorismo não é apenas o resultado da ação humana; fatores externos também desempenham um papel relevante, como, por exemplo, o estado da economia, a disponibilidade de capital de risco, as ações dos concorrentes e as regulamentações governamentais. No entanto, os autores completam que, mantendo-se constantes os fatores ambientais, a motivação humana desempenha um papel crítico no processo empreendedor para toda a sociedade no longo prazo.

### 2.2 Teoria do comportamento planejado

O modelo teórico padrão para explicar as intenções e comportamentos empreendedores de estudantes é a TCP (Ajzen, 1991). Um dos benefícios da estrutura desta teoria, de acordo com Krueger et al. (2000), é que, centrando-se nas intenções ao invés de simplesmente nas atitudes, aumenta a capacidade de identificação de tendências de longo prazo.

Segundo Zhang (2015), ela fornece uma estrutura conceitual para examinar a intenção, na qual se verifica três determinantes predominantes: atitudes, norma social e o controle comportamental percebido. Atitude diz respeito ao grau do qual um indivíduo tem uma avaliação positiva ou desfavorável dos componentes do comportamento em questão; norma social aborda a pressão social percebida de realizar ou não realizar o

comportamento; e o último fator determinante é sobre recursos e oportunidades que são necessárias para realizar o comportamento.

Em relação à teoria citada, verifica-se diferentes resultados ao que se refere ao impacto das variáveis na intenção empreendedora. Nos estudos de Linán et al. (2011), por exemplo, os resultados sugerem que os fatores mais relevantes são a atitude pessoal e o controle comportamental percebido, diferentes dos de Rantanen e Toikko (2014), nos quais o controle comportamental percebido é mantido, as normas subjetivas apresentam-se como importantes e a atitude não é significativa. Para os autores, uma atitude sozinha não prevê o desejo de se tornar um empreendedor.

### 2.2.1 Atitude (fator intrínseco)

Atitude para abrir uma nova empresa refere-se ao grau que o indivíduo detém uma avaliação pessoal positiva ou negativa sobre ser um empreendedor. Ela inclui não só afetivo (eu gosto, é atraente), mas também considerações de avaliação (ele tem vantagens). Em geral, quanto mais favorável a atitude em relação ao comportamento, mais forte deverá ser a intenção do indivíduo para o cumprir (Ajzen, 2001; Armitage & Conner, 2001; Linán et al., 2011).

Enquanto Krueger et al. (2000) afirmam que ela engloba as percepções de prováveis resultados pessoais intrínsecos e extrínsecos, Chen e Lai (2010) acrescentam que a atitude é um estado de preparação mental para qualquer assunto conhecido e uma consciência subjetiva que é afetada pelo comportamento e pode ser moldada ou mudada por meio da experiência ou estudos. Os autores exemplificam afirmando que, se o indivíduo tem uma forte inclinação para começar uma empresa, a relação entre atitude e comportamento deverá ser robusta e ele terá uma forte inclinação em direção ao empreendedorismo.

Estas atitudes em relação ao comportamento são influenciadas por crenças comportamentais e cada uma liga o comportamento a um determinado resultado que já está valorizado positiva ou negativamente. Desta forma, as pessoas formam, automaticamente, atitudes favoráveis em relação a comportamentos que se acredita ter consequências desejáveis e atitudes negativas em relação a comportamentos associados a consequências indesejáveis (Ajzen, 1991).

Desta forma, apresentamos a primeira

hipótese da pesquisa:

**H1: Atitude para o comportamento influencia a intenção empreendedora de estudantes.**

### 2.2.2 Norma subjetiva (fator extrínseco)

Norma subjetiva refere-se à pressão social percebida de realizar ou não um comportamento e remete à percepção sobre o que as pessoas importantes em nossas vidas poderiam pensar acerca da decisão de se tornar um empreendedor (Ajzen, 2001; Armitage & Conner, 2001; Linán et al., 2011).

As normas sociais diferem entre empreendedores por meio de diferentes sistemas e valores e influenciam a motivação e a probabilidade de empreender (Meek et al., 2010). A valorização social mais positiva, segundo Linán (2008), faz o indivíduo se sentir possuindo competências empresariais mais elevadas e aumenta a sua motivação. Para Marchand e Hermens (2015), estes conhecimentos proporcionam aos estudantes uma maior flexibilidade na escolha de sua carreira.

Kristiansen e Indarti (2004) argumentam que estas normas percebidas na sociedade são presumivelmente de importância e relatam que potenciais empreendedores serão valorizados no contexto social. Acrescentam ainda que a escolha da carreira poderia ser influenciada pela expectativa da família e pelo auxílio de amigos e de outras pessoas significativas. Esta mesma influência, de acordo com Carey et al. (2010), terá impacto sobre os estudantes na obtenção do diploma e, segundo Basu e Virick (2008), eles são menos influenciados por normas sociais percebidas sobre empreendedorismo quando estão mais confiantes em sua capacidade baseada em experiências práticas.

Ajzen (1991) sustenta que 11 dos 19 estudos empíricos que testam a TCP descobriram que o coeficiente de regressão para as variáveis normas sociais foi negativo ou não significativo para explicar diretamente sobre intenções. Segundo o autor, isto pode ser devido a normas sociais exercendo sua influência diretamente na conveniência percebida e sobre a viabilidade percebida e, só então, indiretamente, sobre a intenção.

Assim, identificamos a segunda hipótese da pesquisa:

## **H2: Norma subjetiva influencia a intenção empreendedora de estudantes.**

### *2.2.3 Controle comportamental percebido (fator intrínseco)*

Controle comportamental percebido desempenha um papel importante na TCP (Ajzen, 1991, Martinez et al., 2007) e é a influência mais importante na intenção (Davidsson, 1995). Ele é definido como a percepção da facilidade ou dificuldade de se tornar um empreendedor ou a sensação de ser capaz de realizar um comportamento para criação de uma empresa (Ajzen, 2001; Armitage & Conner, 2001; Linán et al., 2011).

Para Ajzen (1991), os antecedentes de controle comportamental percebido são as crenças que lidam com a presença ou ausência de recursos, com oportunidades necessárias e podem ser baseadas em parte na experiência do passado com o comportamento. No entanto, para o autor, elas costumam também ser influenciadas por informações de outras pessoas sobre o comportamento, pelas experiências de conhecidos e amigos, e por outros fatores que aumentam ou reduzem a dificuldade percebida de realizar o comportamento em questão.

Segundo Veciana et al. (2005), mesmo que a TCP sustente que os recursos e oportunidades disponíveis para uma pessoa deve, em certa medida, ditar a probabilidade de realização comportamental, o maior interesse psicológico está na percepção de controle comportamental e seu impacto sobre as intenções e ações. Para Armitage e Conner (2001), esta percepção fornece informações sobre as potenciais pressões sobre a ação percebida pelo ator e é realizada para explicar por que as intenções nem sempre preveem o comportamento.

Linán (2008) mostra que há uma ligação óbvia entre controle comportamental percebido e competências e que os indivíduos que possuem um maior nível de certas competências empreendedoras irão mais provavelmente sentir que podem criar uma empresa. Já Turker e Selcuk (2009) apresentam outra ligação: entre a intenção empreendedora e alguns fatores de personalidade, como a autoconfiança, a capacidade de assumir riscos e a necessidade de realização. No entanto, os autores destacam que, se uma pessoa está rodeada por uma ampla gama de fatores culturais, sociais,

econômicos, políticos, demográficos e tecnológicos, estes traços de personalidade não podem ser isolados a partir destes fatores socioeconômicos.

Assim, a terceira hipótese é apresentada:

## **H3: Comportamento percebido influencia a intenção empreendedora de estudantes.**

### 2.3 Fatores extrínsecos

O empreendedorismo é um fenômeno socioeconômico de grande complexidade, que define o sistema de economia de mercado. Como o ambiente de negócios se tornou mais complexo e competitivo, os empresários devem se tornar mais criativos e receptivos ao que é novo e inovador (Pendiuc & Lis, 2013). Gnyawali e Fogel (1994) apresentam uma relação de fatores para o desenvolvimento de um ambiente empreendedor: atitude pública para o empreendedorismo, presença de empresários experientes, modelos bem sucedidos, existência de pessoas com características empreendedoras, reconhecimento do desempenho empreendedor exemplar, proporção de pequenas empresas na população de empresas e diversidade de atividades econômicas.

Segundo Decker et al. (2012), o interesse em carreiras empreendedoras foi negativamente associado à necessidade de apoio emocional e positivamente ligado à necessidade de estimulação positiva de outras pessoas. Portanto, as pessoas com interesses empresariais gostam de interagir com outras pessoas, mas eles não são emocionalmente dependentes delas. Sobre esta interação, Lindquist et al. (2015) mostram que uma parte do trabalho inovador sobre a personalidade empreendedora indicou o importante papel que a família desempenha no desenvolvimento de certas características.

O empreendedorismo oferece um meio através do qual as pessoas têm a oportunidade de quebrar o ciclo de pobreza (Bruton et al., 2013) e, nos estudos de Garba et al. (2013), verificou-se que ela influenciou negativamente o empreendedorismo, enquanto que o desemprego influenciou de forma positiva.

Nos estudos de Davidsson (1991), a idade teve forte influência sobre a intenção empreendedora enquanto que nos de Kristiansen e Indarti (2004), ela, juntamente com a experiência profissional, o histórico familiar e o gênero, não tiveram efeito significativo. Sobre este último,

Martinez et al. (2007) e Ismail et al. (2009) não encontraram diferenças entre homens e mulheres, enquanto Minniti e Nardone (2007) demonstraram que as mulheres são muito menos suscetíveis de ser envolvidas em torno do mundo empresarial do que os homens.

As iniciativas empreendedoras, segundo Chen e Lai (2010), são influenciadas por fatores que são divididos em duas classes: a primeira, já demonstrada acima, envolve fatores externos tais como família, amigos e o ambiente externo, enquanto a segunda abrange fatores pessoais do empreendedor, incluindo características e condições de personalidade.

Desse modo, a quarta e última hipótese expressada é:

**H4: Fatores socioeconômicos influenciam a intenção empreendedora de estudantes.**

#### 2.4 Fatores intrínsecos

Selecionar uma base apropriada para definir e entender uma pessoa empreendedora criou um problema desafiador para pesquisadores acadêmicos e escritores (Cunningham & Lischeron, 1991). Segundo Collins et al. (2004), é importante compreender as características motivacionais que estimulam as pessoas a tornarem-se empresários e por que alguns são mais bem sucedidos do que outros. Um bom indicador da probabilidade de êxito nas iniciativas empreendedoras, segundo Moreno et al. (2010), é o capital humano do empreendedor.

Através dos anos, mais e mais das características psicológicas dos empreendedores foram descartadas, desmascaradas, ou pelo menos, se verificou terem sido medidas de forma ineficaz. O resultado tem sido uma tendência a concentrar-se em quase tudo, exceto no indivíduo. Circunstâncias econômicas são importantes, assim como redes sociais, equipes empreendedoras, marketing, financiamento e, até mesmo, assistência de órgão público. Mas, nenhum destes vai, por si só, criar um novo empreendimento, porque precisa-se de uma pessoa em cuja mente todas as possibilidades se reúnem, que acredita que a inovação é possível e que tenha a motivação para persistir até que o trabalho esteja feito (Gnyawali & Fogel, 1994).

Linán e Chen (2006) lembram que o processo cognitivo de percepção de intenção não é afetado por aspectos culturais e sociais e as normas sociais

seriam o primeiro passo no processo mental, agindo como um primeiro filtro a estímulos externos e, assim, influenciar a percepção de atração pessoal e a autoeficácia.

### 3 Metodologia

Este estudo é classificado como empírico e o método de pesquisa adotado foi o quantitativo. O propósito da pesquisa é descritivo: foi realizado um corte transversal e foram identificados os fatores intrínsecos e extrínsecos na intenção empreendedora de estudantes. Para isso, foi realizada uma regressão linear múltipla, na qual a intenção empreendedora foi utilizada como variável dependente e como independentes as três variáveis da TCP: atitude, norma subjetiva e comportamento percebido, juntamente com a variável fatores socioeconômicos.

A pesquisa foi realizada com jovens matriculados regularmente no Instituto Federal do Espírito Santo – IFES-, todos maiores que 18 anos, independente do gênero, curso, período ou modalidade que estão cursando. A escolha do local foi feita por conveniência, uma vez que o autor desta pesquisa é servidor do quadro permanente da instituição e a opção por estudantes se deve ao fato de serem o público-alvo do Instituto.

Neste estudo, a heterogeneidade se faz importante para que a pesquisa não fique restrita a um grupo específico de alunos, ou seja, abranja uma maior diversidade de situações em que um estudante pode se encontrar para que, em pesquisas posteriores, os alunos de cada campi sejam estudados separadamente, levando-se em conta as particularidades do município onde reside, confrontando os resultados. Assim, vários cursos de diversos campi foram contemplados, além da indicação da modalidade (ensino técnico ou graduação). À medida que novas pesquisas forem realizadas, esta generalização poderá dar lugar a uma homogeneidade, visando futuras comparações entre campi, passando primeiramente por um aumento do número de amostras até atingir a representatividade ideal.

O questionário utilizado para se chegar ao objetivo desta pesquisa foi o mesmo utilizado por Linán e Chen (2009), fielmente traduzido, sem ajustes, e baseia-se numa integração da psicologia e da literatura sobre empreendedorismo, motivo pelo qual foi escolhido como instrumento desta pesquisa. Das 26 questões nele formuladas, 19 se

relacionam com a TCP e as restantes foram inseridas para comporem os dados estatísticos dos estudantes: idade, gênero, curso, período, modalidade, renda familiar e fatores socioeconômicos sendo que curso e período não foram inseridas nas regressões.

Os fatores intrínsecos foram analisados por meio de variáveis presentes na TCP: atitude e comportamento percebido, indicadas no questionário nas questões 1 (afirmações 1a a 1f) e 3 (afirmações 3a a 3f), respectivamente. Os fatores extrínsecos também foram analisados utilizando-se duas variáveis: norma subjetiva, oriunda da TCP, indicada no questionário na questão 2 (afirmações 2a a 2c), e fatores socioeconômicos, obtidos por meio de respostas dos alunos para a questão 10 do questionário, onde o aluno (a) respondia se participava ou não dos auxílios alimentação, transporte e moradia da Política de Assistência Estudantil – PAE (IFES, 2011).

Esta política faz parte do Programa Nacional de Assistência Estudantil – PNAES- (Brasil, 2004), que tem como finalidade ampliar as condições de permanência dos jovens na educação superior pública federal e mostrar a vulnerabilidade social sendo decorrente da pobreza, privação (ausência de renda, precário ou nulo acesso aos serviços públicos, dentre outros) e/ou fragilização de vínculos afetivos e relacionais e de pertencimento social (discriminações etárias, étnicas, de gênero ou por deficiências, dentre outras). A presença destes vários elementos extrínsecos numa única variável resulta numa singularidade desta pesquisa.

A escala de Likert foi utilizada neste questionário quando o aluno optava entre 1 (discordância total) e 7 (concordância total) para as afirmações 1 (referente a atitude), 3 (comportamento percebido) e 4 (intenção empreendedora). Em relação à afirmação 2 (norma subjetiva), o aluno também assinalava entre 1 e 7, mas com diferente orientação: desaprovação total (1) e aprovação total (7).

Após a tradução e impressão das cópias do questionário, o pesquisador visitou 18 campi do IFES, que atualmente possui 18.000 estudantes, e solicitou servidores que realizassem a sua aplicação. Depois, estes mesmos servidores devolveram os questionários ao pesquisador. Não houve aplicação via internet.

Após a devolução, cada resposta dos 1.267 questionários foram lançadas manualmente numa planilha do programa Excel para que, numa etapa

posterior, fosse realizada uma regressão linear por meio do programa Stata a fim de identificar a significância (5%) das variáveis da TCP (atitude, norma e comportamento percebido) e da variável fatores socioeconômicos na variável dependente intenção empreendedora (objetivo desta pesquisa), bem como das demais variáveis de controle. Ainda, o Probit foi utilizado no Stata para identificar a influência das variáveis da TCP na variável (binária) fatores socioeconômicos.

Diante do exposto, apresentamos o modelo proposto e as suas variáveis:

$$IE = \beta_0 + \beta_1 A + \beta_2 N + \beta_3 CP + \beta_4 I + \beta_5 G + \beta_6 M + \beta_7 R + \beta_8 FS + \varepsilon_i$$

Onde: **IE** = Intenção empreendedora,  **$\beta_0$**  = Constante,  **$\beta_1 A$**  = Atitude,  **$\beta_2 N$**  = Norma subjetiva,  **$\beta_3 CP$**  = Comportamento percebido,  **$\beta_4 I$**  = Idade,  **$\beta_5 G$**  = Gênero (**dummy**),  **$\beta_6 M$**  = Modalidade (**dummy**),  **$\beta_7 R$**  = Renda Familiar (**dummy**),  **$\beta_8 FS$**  = Fatores socioeconômicos (**dummy**).

#### 4 Análise de Dados e Discussão analysis

Estudantil (IFES, 2011), 57,69% dos estudantes não recebem auxílios (alimentação, transporte e moradia) da referida política. Importante lembrar que esta variável foi responsável pela identificação dos alunos em vulnerabilidade social, uma das peças chaves desta pesquisa.

##### 4.1 Regressão

A TCP é um instrumento adequado para modelar o desenvolvimento da intenção empreendedora (Yang, 2011). Por isso, no primeiro modelo, serão utilizadas as três variáveis da citada teoria para verificar sua influência na intenção empreendedora dos estudantes juntamente com a variável fatores socioeconômicos. A variável intenção empreendedora foi medida por meio da questão 4 do questionário (afirmações 4.a, 4.b, 4.c, 4.d, 4.e, 4.f), a variável atitude por meio da questão 1 (afirmações 1.a, 1.b, 1.c, 1.d, 1.e), a variável norma subjetiva por meio da questão 2 (afirmações 2.a, 2.b, 2.c), a variável comportamento percebido por meio da questão 3 (afirmações 3.a, 3.b, 3.c, 3.d, 3.e, 3.f), as variáveis de controle idade, gênero, modalidade, curso e renda familiar por meio das respostas dos alunos e a devida inserção na planilha e a variável fatores socioeconômicos por meio das

respostas dos alunos se participam ou não de auxílios oriundos da Política de Assistência Estudantil.

Desta forma, esta pesquisa irá propor vários modelos comparando a Intenção Empreendedora com as variáveis da TCP e, depois, colocando-as como variável dependente a fim de verificar a sua significância perante as demais.

Surge, então, o primeiro e principal modelo da pesquisa:

$$\text{MODELO 1: IE} = \beta_0 + \beta_1 A + \beta_2 N + \beta_3 \text{CP} + \beta_4 I + \beta_5 G + \beta_6 M + \beta_7 R + \beta_8 \text{FS} + \varepsilon_i$$

Onde: **IE** = Intenção empreendedora;  **$\beta_0$**  = constante;  **$\beta_1 A$**  = Atitude;  **$\beta_2 N$**  = Norma subjetiva;  **$\beta_3 \text{CP}$**  = Comportamento percebido;  **$\beta_4 I$**  = Idade;  **$\beta_5 G$**  = Gênero;  **$\beta_6 M$**  = Modalidade;  **$\beta_7 R$**  = Renda Familiar;  **$\beta_8 \text{FS}$**  = Fatores socioeconômicos.

O objetivo principal desta pesquisa foi identificar a influência de fatores extrínsecos e intrínsecos na intenção empreendedora de estudantes e o resultado deste estudo mostrou a confirmação de **H1** e **H3**, onde atitude ( $p=0.000$ ) e comportamento percebido ( $p=0.000$ ) foram significantes a 5%.

Outro resultado encontrado foi a rejeição de **H2** e **H4**, indicando que norma subjetiva ( $p=0.477$ ) e fatores socioeconômicos ( $p=0.101$ ) não foram significativos. Cabe ressaltar que esta insignificância, segundo Ajzen (1991), pode estar atrelada a normas sociais, exercendo sua influência diretamente na conveniência percebida e sobre a viabilidade percebida e só, então, indiretamente, sobre a intenção.

**Tabela 1.** Influência das variáveis atitude, norma subjetiva, comportamento percebido e fatores socioeconômicos sobre a intenção empreendedora

Variável Dependente: Intenção Empreendedora				
Variável Indep.	Coef.	Erro Padrão	Estatística t	p-Valor
Atitude	.924	.030	29.92	0.000*
Norma	.039	.055	0.71	0.477
Comp.	.320	.025	12.36	0.000*
Fatores	.613	.374	1.64	0.101
Idade	.069	.041	1.69	0.091
Gênero	-.452	.381	-1.19	0.236
Modalidade	.190	.374	0.51	0.610
Renda	.852	.459	1.86	0.064

_cons	-8.939	1.25	-7.10	0.000*
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\* sigf. a 5%

Fonte: Dados da pesquisa

Estes resultados veem ao encontro aos obtidos por Linán et al. (2011) e Carey et al. (2010). Diferiram os estudos de Rantanen e Toikko (2014) e Zhang et al. (2015), no qual norma subjetiva e comportamento percebido destacaram-se como mais relevantes e os de Yang (2013) onde ambos os fatores (intrínsecos e extrínsecos) influenciaram a intenção empreendedora.

Em relação às variáveis de controle, nenhuma obteve significância a 5%. As variáveis idade ( $p=0.091$ ) e renda familiar ( $p=0,064$ ) destacaram-se a 10%. Estas variáveis foram significantes nos estudos de Minniti e Nardone (2007) juntamente com escolaridade e gênero. Kristiansen e Indarti (2004) também encontraram significância para idade, junto com gênero e a experiência profissional anterior e Garba et al. (2013) para a pobreza (renda).

Dada a existência de vários estudos acerca da influência das variáveis da TCP na intenção empreendedora, o foco dos modelos seguintes será na variável fatores socioeconômicos e na sua relação com a variável dependente intenção empreendedora e como ela se correlaciona com as demais variáveis independentes.

**Tabela 2.** Retiradas as variáveis da TCP (atitude, norma subjetiva e comportamento percebido)

Modelo 2				
Variável Dependente: Intenção Empreendedora				
Variável Indep.	Coef.	Erro Padrão	Estatística t	p-valor
Atitude	Retirada			
Norma Subjetiva	Retirada			
Comp. Percebido	Retirada			
Fatores Socioecon.	-.216	.588	-0.37	0.713
Idade	.217	.064	3.39	0.001*
Gênero	-2.001	.598	-3.34	0.001*
Modalidade	1.043	.588	1.77	0.077
Renda familiar	2.053	.722	2.84	0.005*
_cons	17.993	1.382	13.02	0.000*

\* sigf. a 5%

Fonte: Dados da pesquisa

Assim, no modelo 2 retiramos as três variáveis da TCP a fim de identificar o impacto da variável fatores socioeconômicos sobre a intenção empreendedora e no modelo 3, além das citadas variáveis, também foi retirada a renda familiar, face a sua importância dentro da variável fatores socioeconômicos uma vez que é o principal motivo para o aluno ser contemplado com os auxílios da PAE.

**Tabela 3.** Retiradas as variáveis da TCP (atitude, norma subjetiva e comportamento percebido) e a variável renda familiar.

Modelo 3				
Variável Dependente: Intenção Empreendedora				
Variável Indep.	Coef.	Erro Padrão	Estatística t	p-valor
Atitude	Retirada			
Norma Subjetiva	Retirada			
Comport. Planejado	Retirada			
Fatores Socioecon.	-.360	.588	-0.61	0.540
Idade	.323	.525	6.16	0.000*
Gênero	-2.059	.600	-3.43	0.000*
Modalidade	1.344	.580	2.31	0.021*
Renda familiar	Retirada			
_cons	16.599	1.296	12.81	0.000*

\* sigf. a 5%

Fonte: Dados da pesquisa.

A variável fatores socioeconômicos, como explicado na metodologia, engloba vários elementos: idade, gênero, renda, e o resultado da regressão do modelo 2 mantém a insignificância sobre a intenção empreendedora ( $p=0,713$ ). Entre as variáveis de controle, somente modalidade não obteve significância ( $p=0,077$ ).

Lembramos que, mesmo presentes na variável fatores socioeconômicos, idade, gênero, modalidade e renda familiar se apresentam nesta pesquisa como variáveis de controle e mostraram, individualmente, resultados distintos: significância para idade ( $p=0,001$ ), gênero ( $p=0,001$ ) e renda ( $p=0,005$ ) e insignificância para modalidade ( $p=0,077$ ).

Os resultados obtidos nos estudos de

Kristiansen e Indarti (2004) diferiram quanto a idade, nos de Martinez et al. (2007) em relação ao gênero e nos de Minniti e Nardone (2007), somente renda obteve significância.

Já em relação ao modelo 3, observamos apenas a inclusão da variável modalidade como significativa não havendo nenhuma outra alteração substancial nos resultados, ou seja, a manutenção da insignificância da variável fatores socioeconômicos. Os modelos 2 e 3 mostram a insignificância da variável fatores socioeconômicos mesmo quando retiradas as variáveis da TCP.

Uma vez que na Teoria do Comportamento Planejado (TCP) a norma subjetiva engloba os fatores externos que possam influenciar a intenção empreendedora, esta variável retorna às regressões da pesquisa mantendo excluídas as variáveis atitude e comportamento percebido.

Desta forma, o **modelo 4** apresenta apenas fatores extrínsecos influenciando ou não a intenção empreendedora. Além disso, no **modelo 5**, pretende-se verificar a influência da variável fatores socioeconômicos sobre a norma subjetiva passando esta última a configurar como variável dependente.

**Tabela 4.** Retiradas duas variáveis da TCP: atitude e comportamento percebido

Modelo 4				
Variável Dependente: Intenção Empreendedora				
Variável Indep.	Coef.	Erro Padrão	Estatística t	p-valor
Atitude	Retirada			
Norma Subjetiva	.914	.075	12.10	0.000*
Comp. Percebido	Retirada			
Fatores Socioecon.	-.154	.557	-0.28	0.782
Idade	.229	.060	3.77	0.000*
Gênero	-1.603	.567	-2.82	0.005*
Modalidade	.682	.558	1.22	0.222
Renda familiar	1.826	.684	2.67	0.008*
_cons	2.552	1.828	1.40	0.163

\* sigf. a 5%

Fonte: Dados da pesquisa.

Ao inserirmos apenas a variável norma subjetiva da TCP (excluindo atitude e comportamento – fatores intrínsecos), a mesma apresentou significância (a 5%) para a intenção

empreendedora ( $p=0,000$ ) junto com as variáveis idade ( $p=0,000$ ), gênero ( $p=0,005$ ) e renda ( $p=0,008$ ). Ou seja, estas variáveis representam os possíveis fatores extrínsecos que influenciam a intenção empreendedora quando retiradas os fatores intrínsecos. A variável fatores socioeconômicos manteve-se insignificante como no segundo e terceiro modelo.

**Tabela 5.** Norma subjetiva como variável dependente no lugar de intenção empreendedora. Retiradas duas variáveis (atitude e comportamento percebido).

Modelo 5				
Variável Dependente: Norma Subjetiva				
Variável Indep.	Coef.	Erro Padrão	Estatística t	p-valor
Atitude	Retirada			
Norma Subjetiva	Variável Dependente			
Comp. Percebido	Retirada			
Fatores Socioecon.	-.068	.207	-0.33	0.742
Idade	-.012	.022	-0.57	0.572
Gênero	-.435	.211	-2.06	0.040*
Modalidade	.394	.207	1.90	0.058
Renda familiar	.248	.254	0.98	0.329
_cons	16.880	.487	34.63	0.000*

Fonte: Dados da pesquisa.

Já o resultado do modelo 5 apresentou a variável fatores socioeconômicos não influenciando a norma subjetiva ( $p=0,742$ ). Voltando ao modelo 4, onde somente as variáveis relativas aos fatores extrínsecos foram consideradas e o resultado foi significativo apenas para norma subjetiva ( $p=0,000$ ), podemos concluir que a variável fatores socioeconômicos em nenhum momento influencia a intenção empreendedora, seja diretamente (modelos 1, 2, 3) ou indiretamente (modelo 4), atuando primeiramente sobre a norma subjetiva para que depois esta variável venha a influenciar a intenção empreendedora.

A variável gênero também obteve significância ( $p=0,040$ ) enquanto as demais não influenciam a norma subjetiva chamando a atenção a variável modalidade com  $p=0,058$  (significante a 10%).

Vários autores, como Ajzen (1991) e Linán e Chen (2009), destacaram a importância das variáveis atitude e comportamento dentro da TCP a fim de identificar a intenção empreendedora de

um indivíduo. Por isso, no modelo 6, a variável atitude passou a ser dependente a fim de verificar o grau de influência da variável fatores socioeconômicos sobre ela e no modelo 7 é a vez da variável comportamento percebido como variável dependente.

**Tabela 6.** Atitude como variável dependente e retiradas duas variáveis da TCP: norma subjetiva e comportamento percebido

Modelo 6				
Variável Dependente: Atitude				
Variável Indep.	Coef.	Erro Padrão	Estatística t	p-valor
Atitude	Variável Dependente			
Norma Subjetiva	Retirada			
Comp. Percebido	Retirada			
Fatores Socioecon.	-.521	.400	-1.30	0.193
Idade	.083	.043	1.90	0.058
Gênero	-1.30	.407	-3.21	0.001*
Modalidade	.911	.400	2.27	0.023*
Renda familiar	1.203	.491	2.45	0.015*
_cons	22.64	.940	24.07	0.000*

\* sigf. a 5%

Fonte: Dados da pesquisa.

**Tabela 7.** Comportamento Percebido como variável dependente e retiradas duas variáveis da TCP: atitude e norma subjetiva.

Modelo 7				
Variável Dependente: Comportamento Percebido				
Variável Indep.	Coeficiente	Erro Padrão	Estatística t	p-valor
Atitude	Retirada			
Norma Subjetiva	Retirada			
Comport. Planejado	Variável Dependente			
Fatores Socioecon.	-1.077	.451	-2.39	0.017*
Idade	.224	.049	4.55	0.000*
Gênero	-1.001	.458	-2.18	0.029*
Modalidade	-.015	.451	-0.03	0.973
Renda familiar	.247	.553	0.45	0.656
_cons	16.66	1.059	15.73	0.000*

\* sigf. a 5%

Fonte: Dados da pesquisa.

Assim como nos modelos anteriores, no modelo 6 a variável fatores socioeconômicos manteve a sua insignificância ( $p=0.193$ ) enquanto as variáveis de controle gênero ( $p=0,001$ ), modalidade ( $p=0,023$ ) e renda ( $p=0.015$ ) foram as que apresentaram significância para a variável dependente atitude. Por outro lado, em relação ao modelo 7, verificou-se a variável fatores socioeconômicos influenciando significativamente a variável dependente comportamento percebido ( $p=0,017$ ) assim como as variáveis idade ( $p=0,000$ ) e gênero ( $p=0,029$ ).

Uma vez que a variável comportamento percebido é definida como a percepção de facilidades e dificuldades para ser um empreendedor, por meio dos resultados do modelo 7 podemos afirmar que o fato do estudante participar do Programa de Auxílio Estudantil influencia positivamente nesta percepção. Esta influência foi a única detectada nesta pesquisa.

Se nos modelos de 2 a 7 foi verificada a influência da variável fatores socioeconômicos sobre as demais, neste último modelo (modelo 8) esta variável passa a ser classificada como dependente e as demais como independentes. Por ser binária, utilizou-se o Probit na regressão.

Além da significância da variável fatores socioeconômicos em relação às variáveis da TCP demonstrada no Tabela 8, o resumo de todas as co correlações poderá ser verificado no Tabela 9.

**Tabela 8.** Influência das variáveis da TCP sobre a variável dependente fatores socioeconômicos

<b>Modelo 8</b>				
<b>Variável Dependente: Fatores Socioeconômicos</b>				
Intenção Empreend.	0.008	.005	1.61	0.107
Atitude	-.010	.007	-1.35	0.178
Norma Subjetiva	.003	.010	0.36	0.715
Comp. Percebido	-.013	.005	-2.48	0.013*
Fatores Socioecon.	Variável Dependente			
Idade	.0313	.008	3.64	0.000*
Gênero	-.3548	.074	-4.78	0.000*
Modalidade	.020	.073	.28	0.782
Renda familiar	-.282	.091	-3.10	0.002*
_cons	.030	.256	0.12	0.905
* sigf. a 5%				

Fonte: Dados da pesquisa.

Os resultados da regressão do modelo 8 apresentam a influência da variável comportamento percebido sobre a variável fatores socioeconômicos demonstrando a dependência entre elas. As demais da TCP mantiveram-se insignificantes e em relação as variáveis de controle, idade ( $p=0.000$ ), gênero ( $p=0.000$ ) e renda ( $p=0.000$ ) apresentaram significância.

**Tabela 9.** Resumo da influência da variável “fatores socioeconômicos” sobre as variáveis da TCP.

<b>Modelo</b>	<b>Variável Dependente</b>	<b>Variável Independente</b>	<b>Sig.</b>
1	Intenção empreendedora	Fatores Socioeconômicos	0.101
5	Norma subjetiva	Fatores Socioeconômicos	0.742
6	Atitude	Fatores Socioeconômicos	0.193
7	Comportamento Percebido	Fatores Socioeconômicos	0.017*
8	Fatores Socioeconômicos	Intenção empreendedora	0.107
8	Fatores Socioeconômicos	Atitude	0.178
8	Fatores Socioeconômicos	Norma subjetiva	0.715
8	Fatores Socioeconômicos	Comportamento Percebido	0.013*
* sigf. a 5%			

Fonte: Dados da pesquisa.

A significância da variável fatores socioeconômicos em relação às variáveis da TCP pode ser resumida em:

**Tabela 10.** Resumo da influência da variável “fatores socioeconômicos” sobre as variáveis da TCP.

<b>Modelo</b>	<b>Variável Dependente</b>	<b>Variável Independente</b>	<b>Sig.</b>
1	Intenção empreendedora	Fatores Socioeconômicos	0.101
5	Norma subjetiva	Fatores Socioeconômicos	0.742
6	Atitude	Fatores Socioeconômicos	0.193
7	Comportamento Percebido	Fatores Socioeconômicos	0.017*
8	Fatores Socioeconômicos	Intenção empreendedora	0.107
8	Fatores Socioeconômicos	Atitude	0.178

8	Fatores Socioeconômicos	Norma subjetiva	0.715
8	Fatores Socioeconômicos	Comportamento Percebido	0.013*

\* sigf. a 5%

Fonte: Dados da pesquisa.

Somando os resultados da Tabela 10 com os da Tabela 1 (modelo 1) podemos afirmar que, para esta pesquisa, somente fatores intrínsecos influenciam a intenção empreendedora de estudantes e que a variável fatores socioeconômicos influencia e é influenciada somente pela variável comportamento percebido.

## 5 Conclusão

O objetivo deste estudo foi identificar a influência de fatores extrínsecos e intrínsecos na intenção empreendedora de estudantes e para se chegar a um resultado foram utilizadas quatro variáveis. Duas delas relativas a fatores intrínsecos, atitude e comportamento percebido, ambas retiradas da TCP e duas referentes a fatores extrínsecos: norma subjetiva, também da TCP, e fatores socioeconômicos, relativa a participação ou não de estudantes nos auxílios do Programa de Auxílio Estudantil.

Os resultados obtidos apontam somente fatores intrínsecos (atitude e comportamento percebido) influenciando a intenção empreendedora de estudantes assim como nos estudos de Ajzen (1991), autor da TCP e de outros autores.

Apesar da não influência de fatores extrínsecos na intenção empreendedora, inclusive no que se refere às variáveis de controle, observou-se também que a variável fatores socioeconômicos influencia a variável comportamento percebido que, por sua vez, influencia a intenção empreendedora. Sobre isso, Ajzen (1991) demonstrou que a insignificância das variáveis relativas aos fatores extrínsecos pode estar atrelada a normas sociais, exercendo sua influência diretamente na conveniência percebida e sobre a viabilidade percebida e só, então, indiretamente, sobre a intenção.

Com resultados divergentes desta pesquisa, Davidsson (2015) argumenta que a influência dos fatores externos sobre os fatores individuais pode

ser observada ao examinar os registros de sucessos e insucessos de um dado indivíduo empreendedor em série ao longo de sua carreira. A análise do autor inclui empreendimentos abortados, falhas definitivas ou grandes triunfos empresariais e uma vez que o indivíduo é o mesmo, isso sugere que o conhecimento sobre a pessoa sozinha não pode explicar a ação empreendedora e seus resultados.

A contribuição deste estudo estará no apoio aos programas de empreendedorismo em instituições de ensino destinados a incentivar os estudantes a abrirem o seu próprio negócio, concepção de iniciativas de educação mais eficazes relacionadas ao tema e na confirmação que a TCP é um instrumento que pode ser utilizado para identificar a intenção empreendedora.

As limitações encontram-se na incerteza do comprometimento dos respondentes, o que justifica futuras pesquisas em outras instituições para que novos dados sejam confrontados e seja verificada a existência de alguma distorção mais contundente. Uma limitação encontrada por Turker e Selcuk (2009) também foi constatada nesta: a pesquisa concentra-se em intencionalidade e o comportamento pode não se confirmar no futuro, ou seja, o estudante pode ter uma forte intenção empreendedora nos dias atuais e optar por uma outra carreira no futuro.

Pesquisas futuras poderiam confrontar os dados obtidos entre cada campi do IFES, devendo-se para isto aumentar o número da amostra até que se torne representativa. Outra sugestão seria separar os campi em três grandes grupos, Norte, Sul e Grande Vitória a fim de verificar se há alguma diferença entre o estudante da capital e do interior. Estes estudantes poderiam ser analisados de acordo com a sua idade, gênero (empreendedorismo feminino), modalidade (ensino técnico ou graduação) ou renda e verificar como a intenção empreendedora se comporta em cada grupo visando futura comparação. Nestas pesquisas, poderiam ser identificadas especificidades dos estudantes colaborando para futuras ações do IFES em relação ao empreendedorismo.

Por fim, estender os estudos a outras instituições de ensino do Estado do Espírito Santo, com outras escolas do país e do mundo a fim de identificar particularidades na intenção empreendedora dos estudantes visando dotar os gestores de informações para o planejamento da inserção ou da continuidade do tema

Empreendedorismo junto às suas organizações.

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## The structure of controllership area in organizations

Wendy Beatriz Witt Haddad Carraro<sup>1</sup>, Daniel Henrique Wendland Santanna<sup>2</sup>

<sup>1</sup> Universidade Federal do Rio Grande do Sul (UFRGS) - wendy.carraro@ufrgs.br

<sup>2</sup> Universidade Federal do Rio Grande do Sul (UFRGS) - dhw.santanna@gmail.com

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### ABSTRACT

Controllership is of great importance in organizations, since it seeks to meet the information needs of stakeholders, providing tools to achieve organizational effectiveness, contributing to the survival of organizations. The present study aims to show how the Controllership area is structured in organizations of different sizes and segments. It contributes to the area of knowledge since it verifies if the activities of the area are aligned with the literature. For this, this research is classified as quantitative, with applied nature and exploratory objective. The research involved a sample of 26 organizations of different sizes and segments. The data collection was performed by applying a questionnaire with 16 questions to the Controllers. With the results obtained, in relation to the structure of the organizations surveyed, 88% have mission, vision and values and their Controllership area responds to some directorate, with a centralized (46%) or decentralized (54%) management model. Regarding the scope of responsibility of the Controllership, it is concluded that the activities of Budget, Internal Control and Performance Evaluation are aligned with the literature regarding the participation of this area, while Risk Management, Compliance and Strategic Planning have room for greater participation of the Controller. Time (by the Controllers) for data collection and number of participants are the main limitations of the research. The study is justified since its results potentiate the identification of the positive influence of the Controllership area in the management and development of organizations.

### PALAVRAS-CHAVE

Controladoria;  
Organizações;  
Estrutura;  
Atribuições.

### RESUMO

A Controladoria tem grande importância nas organizações, uma vez que busca atender as necessidades de informação dos stakeholders, fornecendo ferramentas para a obtenção da eficácia organizacional, contribuindo para a sobrevivência das organizações. O presente estudo tem por objetivo evidenciar como a área de Controladoria está estruturada em organizações de diferentes portes e segmentos. Contribui para a área de conhecimento, uma vez que verifica se as atividades da área estão alinhadas com a literatura. Para tanto, esta pesquisa se classifica como quantitativa, com natureza aplicada e objetivo exploratório. A pesquisa envolveu uma amostra de 26 organizações de diferentes portes e segmentos. A coleta de dados foi realizada aplicando-se um questionário com 17 questões junto aos Controllers. Com os resultados obtidos, em relação à estrutura das organizações pesquisadas, verifica-se que 88% tem missão, visão e valores e sua área de Controladoria responde para alguma diretoria, com modelo de gestão centralizado (46%) ou descentralizado (54%). Quanto ao escopo de responsabilidade da Controladoria, conclui-se que as atividades de Orçamento, Controle Interno e Avaliação de Desempenho estão alinhadas com a literatura quanto à participação dessa área, enquanto que Gestão de Riscos, Compliance e Planejamento Estratégico têm espaço para maior participação do Controller. Tempo para coleta dos dados e quantidade de participantes são as principais limitações da pesquisa. O estudo justifica-se, uma vez que seus resultados potencializam a identificação quanto à influência positiva da área de Controladoria na gestão e no desenvolvimento das organizações.

## 1 Introduction

The decision-making process in organizations is influenced by several factors: peer and family counseling; and in-depth analysis of scenarios and indicators. Decisions are made every day and it is through them that, over time, the results of organizations are built. The area responsible for consolidating information to support the decision-making process is the Comptroller's Office, according to Santos (2005). Therefore, its structure and organization, as a corporate area in organizations, cannot be neglected.

Controllanship is vitally important, since it meets stakeholders' information needs and provides tools for achieving organizational effectiveness, contributing to the survival of organizations, say Lima et al. (2011). According to Iudícibus, Marion and Pereira (2003), the Controllanship can be understood as the corporate unit responsible for coordinating the leaderships to achieve their results, generating relevant information for the decision-making of the organization.

Thus, one of the Controllers' main duties is to provide information that helps in decision making. So that these are in line with the overall goals of the organization with the least possible resource expenditure and can cope with the changes that occur in the business environment.

The literature presents a series of definitions for the term Controllanship, even with divergence between authors. Lunkes and Schnorrenberger (2009) explain that this happens because the scope of action is very broad, with both operational and strategic scope, depending on the context and the knowledge of the person who is in the area management.

The structure of the Controllanship may vary depending on the company, as well as its relevance and scope of responsibilities. According to Lunkes and Schnorrenberger (2009), both the characteristics of the Organization and the Controller itself influence the positioning of this area and its respective degree of authority in companies. Although Coelho, Lunkes and Machado (2012) conclude that there is no single standard that should be followed regarding the organizational structure of this area. It is relevant to understand if the organization and the scope of responsibilities positively influence other aspects

in organizations.

The presence of some characteristics and processes, considering the wide discussion in the academic and corporate environments, is considered as criterion of maturity in the organizations. For this study were considered as positive aspects: Strategic Planning; Internal control; Risk management; Compliance; Budgetary process; Performance evaluation; and Mission, Vision, and Values.

In light of these aspects, this research sought to answer the following question: *How is the Controllanship area structured in organizations?* In order to answer it, the study aimed to show how the Controllanship area is structured in organizations of different sizes and segments.

Based on the literature, it was intended to evaluate the structure of Controllanship areas of 26 different organizations. The study is justified, since its results enhanced the identification of the positive influence of the Controllanship area in the management and development of organizations. It contributes to the area of knowledge, since it verifies if the activities of the area are aligned with the literature.

The research was divided into five sections, beginning with this introduction. The second section presents the theoretical revision, which indicates the origin and main concepts of the Controller, as well as its hierarchical position and responsibilities. Next, in the methodology section, the way the study was conducted, and its characteristics is explained. The fourth section presents the data analysis of the 26 organizations and their respective comparisons with the literature. And, ultimately, in the final considerations, a summary of the conclusions are found.

## 2 Theoretical Review of Controllanship

The objective of this section is to present the theoretical revision that was carried out on the most important concepts of Controllanship, central theme of this research. This approach was carried out based on current literature and related studies.

### 2.1 Origin of the Controllanship and its concepts

Controllanship has emerged as a response to the need for organizations to generate managerial information that supports the various decision-

making necessary for the corporate environment. Its origin is highlighted in Beuren, Fietz and Costa (2007, p.2), who mention that “[...] in the early twentieth century, the Controllershship arose due to the companies' need to control their value chain through strategies and planning of their activities, making information increasingly important for decision-making.”

There are authors who claim that the origin of Controllershship is much older. Second, De Rocchi (2007), the earliest records of Controllershship practices would have arisen in Egypt in 2000 BC. Among the main objectives were internal control, with a treasurer responsible for controlling the food supply of the Pharaoh.

On the main concepts of Controllershship, it is possible to find several studies, since the subject is very broad and discussed. In this way, it becomes difficult to have a single definition, as Carvalho (1995, p.14) states, that “the literature researched, and the practical experience verified in the companies evidently shows that, amidst some concordances, they remain many misconceptions and contradictions about what the Comptroller is.”

According to Mosimann, Alves and Fisch (1993), Controllershship is the sum of principles, procedures and methods of the Sciences of Administration, Economics, Psychology, Statistics and, mainly, Accounting. It aims to guide the efficiency of the economic management of companies. That is, the fact of involving so many areas further corroborates the difficulty of conceptualizing it.

In any case, it is necessary to guide the various concepts of Controllershship in order to arrive at basic foundations that make possible the condition of defining it. In this sense, Santos (2005, p. 21) defines Controllershship as “[...] the area responsible for monitoring the planning and control of business activities, ensuring the generation of information appropriate to the decision-making process and the availability of tools that allow managers to achieve the best possible degree of efficiency and business efficiency.”

It is perceived that the role of Controllershship is directly linked to the generation of information useful for decision making. According to Lunkes and Scnorrenberger (2009), its scope of action is very broad, permeating both the operational and strategic areas.

Bianchi, Backes and Giongo (2006, p.22)

state that:

The performance of the Controllershship area can be seen from two perspectives: the first, as a facilitative body that provides information to other areas of the company that can implement its specific strategies; second, as the area that seeks to integrate the process of strategic decisions of each area with the overall objective of the Organization, that is, with the strategic guideline of the company as a whole.

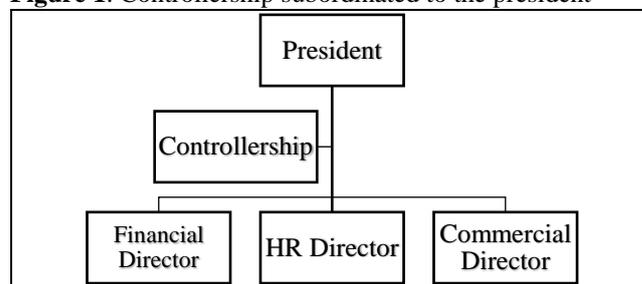
Finally, there are those who define Controllershship as a Science. For Mosimann, Alves and Fisch (1993), it would be an area of human knowledge with foundations, concepts, principles and methods coming from other sciences.

Few authors define Controllershship as an area of knowledge, since it comes from other sciences and has a relatively new field of activity. According to Borinelli (2006, p.103), “[...] authors are not found in the foreign literature researched to define Controllershship as a branch of knowledge.” Therefore, reinforcing the concept that Controllershship is a corporate department and not a science.

## 2.2 Organizational chart and the Controllershship

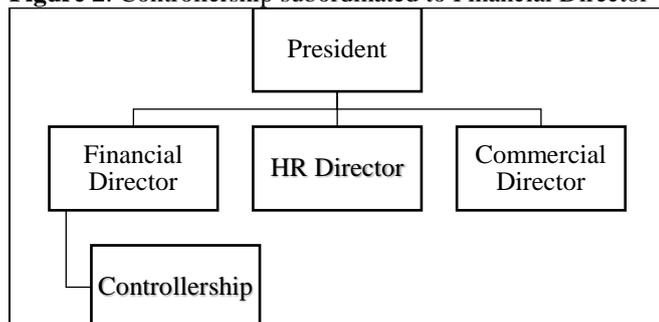
The Controllershship and its hierarchical position, besides being part of the central theme of this study, is very important to better understand the responsibilities of this area. According to Schmidt and Santos (2006), the organizational structure of the Organization has a direct dependence on the level of authority defined and the implemented controls.

**Figure 1.** Controllershship subordinated to the president



**Source:** Adapted from Schmidt and Santos (2006, p.55)

In this perspective, the autonomy and influence in the decision-making process of the Controller is smaller, considering the necessity of its report to the director instead of to the president. Figure 2 demonstrates this situation.

**Figure 2.** Controllership subordinated to Financial Director

Source: Adapted from Schmidt and Santos (2006, p. 56)

In the literature there is no consensus on which hierarchical position generates the greatest benefits to the company. From the perspective of the Controller, the position of greater prominence, as already mentioned, is subordinated directly to the president.

### 2.3 Responsibilities of the Controllership

Considering the operational and strategic scope of the Controllership, and its relevance to the corporate decision-making process, it is important to delimit its mission. Figueiredo (1995, p.4), defines the mission succinctly, being “[...] to ensure the continuity of the company, assuring the optimization of the overall result”.

In line with Figueiredo (1995), but in a more detailed way, Padoveze (2012, p. 36) defines the Controllership's mission as:

Support the entire business management process through its information system, which is a management support system. The Controllership's information system is integrated with the operating systems and has as essential characteristic the economic measurement of the operations for planning, controlling and evaluating the results and performance of the managers of the areas of responsibility.

The positive correlation of the Controllership mission and the companies' results is clear. The more effective it is, the better the quality of information provided to management, resulting in a more assertive decision-making process. That is, the responsibilities of the Controllership contribute directly to the results of the organizations.

Based on this mission, its responsibilities cover several actions, as Oliveira affirms (2009, p. 30), “[...] Controllership works in a variety of

ways: conducts studies, coordinates the budget process, generates information, and helps decision makers to define the economic impacts of their choices”.

It is important to highlight the relevance of the role of Controller, the main professional of Controllership. This professional, considering the strategic contribution of his area, besides technical skills, must master specific behavioral skills to effectively exercise his role. According to Koliver (2005, p. 3), “exercising the Controller role requires knowledge to be able to execute it properly, requires interaction and leadership to thus follow the process dynamics and the exact size of the business for which it is receiving full trust”.

The Controller must know the business to be able to select the most pertinent information for the decision making. In this way, it becomes a professional of high importance for the organization. According to Nascimento, Reginato and Lerner (2008, p. 14), “the definition of roles and responsibilities is related to the clear disclosure of information, since the fact that the manager knows the level of authority and responsibility makes him/her access to certain information necessary for the performance of his/her function”. That is, it is with the Controller's vision and competence that the Organization will be better equipped, or not, with information. In this sense, the greater the access to information and the respective domain on them the Controller has, the greater it's your contribution to the company.

The contribution of the Controllership, both in the operational field and in the strategic field, reaches the positive aspects of an organization that are central themes of this research, highlighting: Strategic Planning; Internal Control; Risk Management; Compliance; Budgetary Process; Performance Evaluation; and Mission, Vision and Values. According to Borinelli (2006), the budget process contributes to a better management of the resources of the organizations and is a constant scope in the Controller's daily life, being part of the strategic managerial function. Also, in this function are the activities related to Strategic Planning, which guide the tactical actions and the corporate projects, being the compass of the companies, for that reason their importance.

Borinelli (2006) defines Internal Control and Risk Management as specific functions of Controllership. The former is responsible for

activities related to the protection of organizational assets and the interests of the entity; and the second, for identifying, monitoring and controlling risks involved in the business. Both are of great importance to organizations, in view of their objectives. In this line, the positive aspect of Compliance does not appear as a specific function, but in the accounting function. The author argues that the Controllership should “[...] develop financial (or corporate) accounting, manage accounting activities, implement and maintain all accounting records, prepare financial statements [...]”. In other words, it is clear the importance of keeping all operations within the norms and regulations.

The aspect of Performance Evaluation is found in the function of information management, since the scope is related not only to the accounting and equity information, but also to the financial, economic, managerial and strategic data. Borinelli (2006) defends its importance for the organizations, since it is the main pillar for the decision making. The more information the company has access to, the greater the chance of targeting resources more effectively. Finally, defining mission, vision and values is not an end-activity of the Controllership, but considering all its functions mentioned, it can be inferred that it contributes to its elaboration.

## 2.4 Related works

The Controllership structure has been studied in recent years by several national and international authors, considering their importance to the organizations. Coelho, Lunkes and Machado (2012) carried out a study on Controllership in the 100 largest companies in the state of Santa Catarina, in order to verify their respective hierarchical positions and their levels of authority. According to the research, considering the conceptual and procedural aspects, the Controllership can be in the advisory area, directly linked to the top management; such as being a corporate body, which responds to the chief financial officer. Therefore, there is no consensus, according to the study, on the hierarchical classification and level of authority of corporations.

Another research by Lunkes, Gasparetto and Schnorrenberger (2010) demonstrates the functions of Controllership, based on empirical studies

conducted in the United States, Germany and Brazil. The most cited functions were, in decreasing order, preparation and interpretation of reports, planning and accounting control. In this way, the authors conclude that the Controllership has acted in strategic activities in the organizations, although it continues with informative scope.

The Controllership under the aspect of corporate governance was studied by Santos (2004), and, according to him, there is no governance without control, and it is necessary to monitor not only the management of resources, but also the associated risks. In this sense, its realization is that these functions have direct identification with the scope of Controllership and therefore this area should, more and more, incorporate activities of Risk Management.

Finally, it is relevant to demonstrate the study by Crozzatti (2003) on Strategic Planning and Controllership, where he argues that Controllership is responsible for the economic management of companies and should be directly involved in the Strategic Planning elaborated by top management. In this sense, it needs to develop tactical planning and support the other areas by providing economic information. It is evident the importance of this area for the organizations and the need to be further studied.

## 3 Methodology

The scientific methodology used in this study, as to its nature, was applied research, which, according to Cervo and Bervian (1996, p. 47), “[...] the researcher is driven by the need to contribute to more or less immediate practical purposes, seeking a solution to concrete problems.” And the aim of this approach is to contribute with practical purposes from the situations presented.

The research is of a quantitative nature, since it works with numbers and statistical instruments in its collection and analysis (RAUPP; BEUREN, 2013).

Regarding the objective, the study will be exploratory. This type of approach, according to Gil (2007), aims to make the problem more familiar, making it more explicit and constructing hypotheses. The research involved a bibliographic study, interviews with Controllers and the analysis of examples that stimulate understanding. Hypotheses about the possible positive impacts that a structured area of Controllership.

Finally, the research was of the multi cases, method that allows working in more than one case that are of similar situations, while the case study deals with isolated cases. Segundo Triviños (1990, p.136), “[...] without the need to pursue objectives of a comparative nature, the researcher may be able to study two or more subjects, organizations, etc. These are, then, multiple cases.”

About the analyzed data, the research sample had 26 organizations of different sizes and segments. The data collection was done by applying a questionnaire with 16 questions, listed below, with the Controllers of each of the organizations.

1. What are the main characteristics of the company? Which segment, product and size of the company, main areas, processes and activities of the company?

2. What organizational structure of the company (organization chart).

3. What are the main characteristics of the company's management model: beliefs, values, mission, vision, degree of authority / hierarchy and delegation of power and authority?

4. Does the company present Strategic Planning?

5. Who participated in its elaboration?

6. What was the participation of the Controller in the elaboration of Strategic Planning?

7. Has Controller been directly involved in the elaboration or only subsidized with the necessary information for its elaboration?

8. What information was provided by the Controller?

9. What is the model of decisions in the company?

10. How is the information system model of the company?

11. How is the process of internal control of the company? What is the Controllershship's participation in this process?

12. Does the company have Corporate Risk Management? What methodology has been adopted?

13. Does the company have Compliance activities? What is the participation of the Comptroller?

14. How do you evaluate your company's performance? What are the methodologies and criteria used? Explain the activities performed by the Controller for this purpose.

15. Does the company draw up a budget? What model / type of budget do you use? How is Controllershship (flow) involved in the budget control process?

16. In relation to the Controllershship area, describe:

- a. The. Mission;
- b. Whom to report to;
- c. Main duties and responsibilities;
- d. Main products and action plan;
- e. and. Main Activities (routine and specific);
- f. Main indicators; and
- g. Other Considerations.

In cases where the Controller figure did not exist in the organization, the research was applied with the entity's chief executive or financial officer. The position occupied by 64% of the interviewees is that of Controller of the company, 25% of CEO and 11% are responsible for the management area (financial, commercial and marketing). The interviews were conducted in person (84.6%) and registered with an average time of 43 minutes, some Controller, chose to answer the questions by email (15.4%). The interview period occurred between 2015 and 2016. All organizations have their headquarters or branch in Brazil.

The data collected in the interviews were tabulated in tables, thus allowing the quantitative analysis in relation to the answers presented by the professionals. The specific and qualitative data of the companies interviewed are not scope of the research, since there is confidential and specific information of the organizations.

#### 4 Analyses of Results

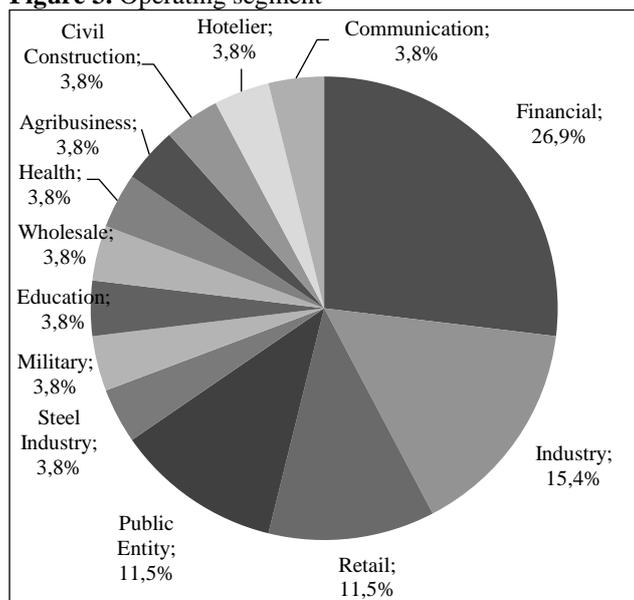
This section presents the data collected and the respective analyzes. The objective is to demonstrate how an adequate Controllershship structure can positively influence its organization, aiming to meet the proposed objective of this research. The analyzes of the questions are presented in three blocks: profile of the organizations researched; the Controllershship in Strategic Planning and Controllershship in practice.

##### 4.1 Profile of organizations researched

The organizations that participated in the

research work in the following segments: Financial (26.9%); Industry (15.4%); Public Entity (11.5%); Retail (11.5%); Steel industry (3.8%); Military (3.8%); Education (3.8%); Wholesale (3.8%); Health (3.8%); Agribusiness (3.8%); Civil Construction (3.8%); Hotelier (3.8%); and Communication (3.8%). Figure 3 shows the distribution of the companies participating in the study, according to the operating segment.

**Figure 3.** Operating segment

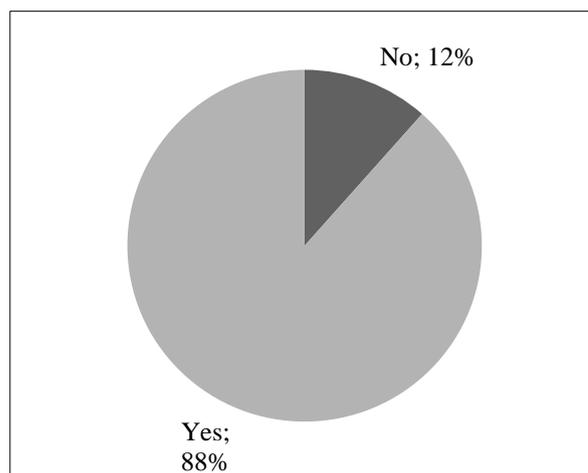


Source: Research data.

As for the size of the organizations, the survey contains from medium-sized companies and prefectures to large financial and multinational institutions. The survey showed that 64% of the companies have a specific area called Controllership. The area has the objective of supporting the business management process through its information system, aligned with what is defined by Bianchi, Backes and Giongo (2006). The others have professionals responsible for this function, although they do not designate this specific area, reinforcing what Santos's conceptualization (2005). Figure 4 shows that 88% of the organizations interviewed have a mission, vision and established values.

In relation to the hierarchical structure, following the line of research of Schmidt and Santos (2006), the Controllership only reports to the presidency in 15% of the surveyed organizations.

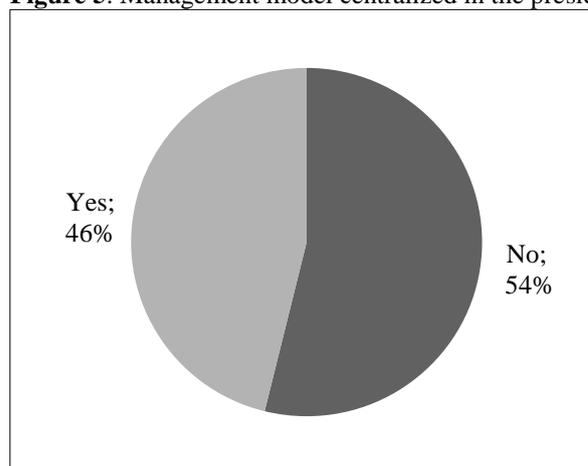
**Figure 4.** Mission, vision and values



Source: Research data

It is understood that the reason is related to the medium and large size of the entities, where the financial director acts as an intermediary. This result is in line with the study by Coelho, Lunkes and Machado (2012) that showed that there is no consensus on the hierarchical classification and level of authority of corporations.

**Figure 5.** Management model centralized in the presidency



Source: Research data.

As for the management model, 46% of the organizations surveyed have their decision making in the presidency, that is, a centralizing model, while the other is in the executive boards, that is, a more decentralized model. The sample is predominantly classified according to Schmidt and Santos (2006) as subordinate to the financial director and not as the president's staff area, since decision-making is decentralized. However, this percentage of 54% could be higher, characterizing a more decentralized and autonomous management model. Figure 5 illustrates this data.

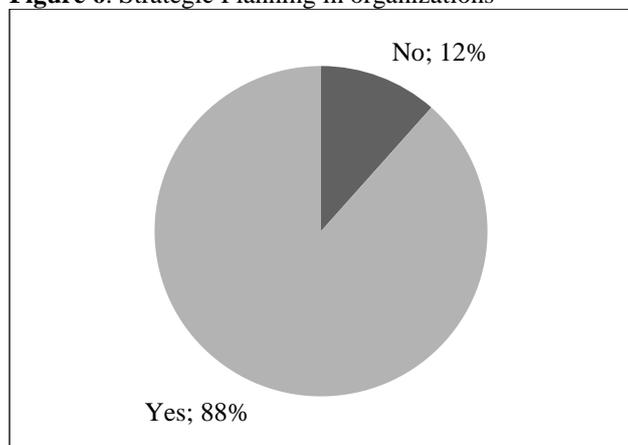
In this way, it was verified that the great majority of the organizations researched have

mission, vision and values and the Controllershship responds to some directorate. As for the management model, it is divided between centralized and decentralized.

#### 4.2 Controllershship in Strategic Planning

Strategic Planning, as Borinelli (2006) states, aims to guide organizations and the Controllershship, in turn, must contribute by subsidizing its elaboration with the necessary information. Thus, the Controllers were asked if the organization for which they worked had Strategic Planning and what their participation in the process. The first observed result is that most of the research organizations have it, as shown in Figure 6.

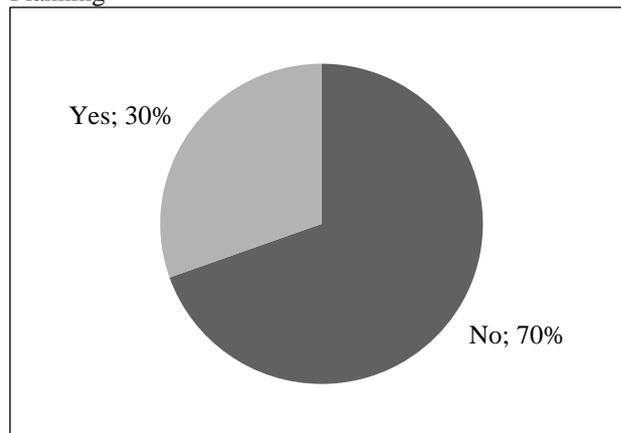
**Figure 6.** Strategic Planning in organizations



Source: Research data.

Considering the organizations that have Strategic Planning, it is verified that, during its elaboration process, the Controllershship subsidizes them with information in 91% of the cases. This data reinforces Crozzatti's (2003) argument that the Controllershship is responsible for the economic management of the companies, getting involved, directly in the strategic plan elaborated by the top management. Thus, it can be said that it is fulfilling its role of information management, as mentioned by Padoveze (2012), contributing to organizational maturity. And when analyzed from a more strategic, and not only informative, perspective, as defended by Lunkes, Gasparetto and Schnorrenberger (2010), only in 30% of the organizations surveyed with Strategic Planning does the Controller actively participate in its elaboration and not only subsidize with information, as shown in Figure 7.

**Figure 7.** Active participation of the Controller in Strategic Planning



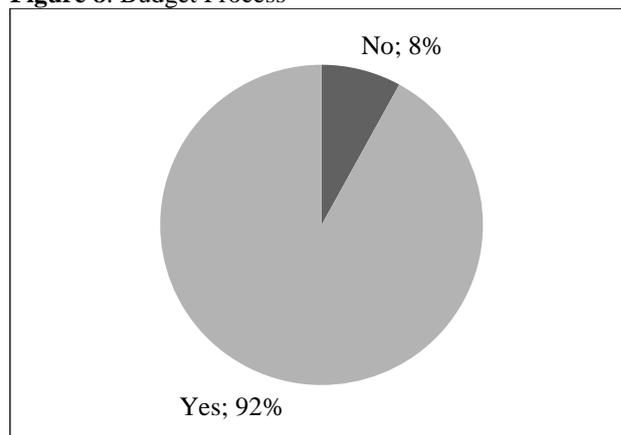
Source: Research data.

Considering the literature discussed in this research on the role of the Controller, it is recommended that the Controllershship participate actively in the discussions of the strategic plans of the organizations.

#### 4.3 Controllershship in practice

Some of the main functions of the Controllershship are: to participate in the budget process; provide information for decision making; perform internal control; and monitor organizational risks, according to Borinelli (2006). As for the budget, it was verified that the great majority of research organizations use this practice in their management, as shown in Figure 8.

**Figure 8.** Budget Process



Source: Research data.

Because it is a specific function of the Controllershship, it was verified the participation of this area in the control and accompanying the budget and not only in its elaboration. The result obtained is positive and is in line with what

Koliver (2005) argues, because in most organizations the Controller, besides subsidizing the budget process with information, is also responsible for monitoring. This result and the other analyzes of Controllership are shown in Table 1.

**Table 1.** Controllership Practices

Results verified	Yes	No
Monitoring of the budget by the Controllership	78%	22%
Internal Control with report to Controllership	63%	38%
Risk Management in the Organization	62%	38%
Risk Management in the Controllership	19%	81%
Compliance in the Organization	65%	35%
Compliance in the Controllership	47%	53%
Controllership responsible for performance appraisal	23%	77%
Information for performance evaluation by the Controllership	81%	19%

**Source:** Research data

When considered the zero-based budget, with greater maturity in organizations, it is verified that all that use this model have their area of Controllership as the person responsible for monitoring and follow up of the budget process.

The next specific function, considered by Borinelli (2006), is the internal control, where it is verified that more than half of the organizations surveyed have their report for the Controllership area. Despite being the majority, it is noticed that there are still organizations where it has no involvement with internal control, which is not recommended in the literature.

Risk Management is also perceived as a specific function of the Controllership, but not all organizations surveyed perform it. It is verified that only in 62% of the sampling the Risk Management happens. For organizations where Risk Management is carried out, it is noticed that in only 19% of cases, the Controllership is responsible for this process. The percentage is considered low, because since it is a specific function, it should be the majority. For this aspect, following Santos (2004) guidance, it is recommended a greater participation of Controllership in Risk Management.

In this same line, Compliance is carried out only in 65% of the organizations surveyed and for this positive aspect the Controllership is not responsible for the management and monitoring in the majority of the times. Only in 47% of organizations that perform Compliance, the Controllership is responsible for this process.

Similar to internal control, it is recommended that the Controllership be more involved with Compliance in organizations, since it is part of its scope of action.

Finally, as regards the function of providing information for decision making, it can be considered that all aspects mentioned in this section contribute to this end. Nevertheless, this research was considered, as a parameter for this function, the participation of the Controllership in the performance evaluation process of the Organization. Most of the time, the Controllership subsidizes this process with information. In this sense, it is in line with that presented by Borinelli (2006), although the Controller is not responsible for the elaboration of the performance evaluation most of the time.

Considering the aspects discussed, it is concluded that the role of Controllership is being fulfilled in the budget process, internal control and performance evaluation. While in Risk Management and Compliance there is an opportunity for greater participation of the Controller.

## 5 Final Considerations

Controllership plays a key role in organizations. Its contribution is in the information generated and transmitted to every corporation, as well as in the monitoring and control of various processes, such as budget and internal. However, there are still differences about its role and conceptualization, which justified this study; enabling, in the same way, a better understanding of its structure and its scope of activities.

Thus, this research sought to identify how the Controllership area is structured in organizations of different sizes and segments. Based on the literature, it was intended to evaluate and make comparisons among the structures of the Controllership areas of 26 organizations. The data collection was performed with the application of a questionnaire to the Controller, addressing aspects of the area's performance in relation to Strategic Planning, Internal Control, Risk Management, Compliance, Budget Process, Performance Evaluation, and Mission, Vision and Values. The collected data were tabulated and analyzed quantitatively.

As a result of the research, it was found that 88% of the sampling organizations have Mission,

Vision and Values and the Controllership area responds to some board, instead of reporting directly to the president, aligning its characteristics to what is defined by Schmidt and Santos (2006) and Coelho, Lunkes and Machado (2012). As for the management model, it is divided between centralized (46%) and decentralized (54%).

In relation to the scope of activities and responsibilities, it can be seen that the Controllership, for the aspects of Budgetary Process, Internal Control and Performance Evaluation, is in line with what is proposed by Koliver (2005), Padoveze (2012), Borinelli (2006) and Lunkes, Gasparetto and Schnorrenberger (2010). That is, it is fulfilling its role, because it has active participation, both in the elaboration as in the accompaniment. However, Risk Management and Compliance activities present little participation, even though they have aspects of their scope of responsibilities, as directed by Santos (2004) and Borinelli (2006).

Finally, for Strategic Planning, there is a greater participation by subsidizing information than in its elaboration, in line with what Crozzatti (2003) argues. For these reason, the more frequent presence of the Controller in this process is a recommendation of this research, as well as in the processes of Risk Management and Compliance.

## 6 Implications and Future Research

The study had as a limitation the number of participants and the time to collect the answers, since in some situations the people in charge of the area had no agenda to return to the questions, either in person or by e-mail.

As recomendações à sociedade empresarial e meio acadêmico quanto às responsabilidades da área de Controladoria dentro das organizações são: fortalecimento quanto à sua importância e atuação; participação de forma ativa nas discussões dos planos estratégicos das organizações; presença mais assídua do *Controller* nos processos de Gestão de Riscos e *Compliance*; continuidade de sua atuação junto ao Processo Orçamentário, Controle Interno e Avaliação de Desempenho.

Como proposta de continuidade, recomenda-se que, além de se verificar a percepção dos responsáveis pela área de Controladoria quanto as suas práticas, que se analise a opinião dos usuários internos da organização quanto ao papel e às funções da Controladoria. Pela relevância desta

área nas corporações e o papel cada vez mais estratégico do *Controller*, recomenda-se maior aprofundamento do tema em futuras pesquisas.

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## Micro strategies and hospital management: an analysis through the lens of complexity

Alechssandra Ressetti Oliveira<sup>1</sup>, Victor Meyer Jr.<sup>2</sup>, Lucilaine Maria Pascucci<sup>3</sup>

<sup>1</sup> Pontifícia Universidade Católica do Paraná - cwb.ale@gmail.com

<sup>2</sup> Pontifícia Universidade Católica do Paraná - v.meyer@pucpr.br

<sup>3</sup> Universidade Federal do Espírito Santo - lucilaine.pascucci@gmail.com

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### ABSTRACT

Hospital organizations play an important social role. Its management, however, has been challenged to seek greater efficiency, quality and relevance of health services provided. The purpose of this study has been the analysis of innovative strategic practices that have affected performance of a hospital as an organization. This is a case study, focusing a community hospital, located in the State of Parana in Brazil. Data were collected through interviews, non-participant observation and document analysis. The analysis revealed that introducing innovative strategies in cost, medical and nursing areas have contributed decisively to the improvement in resource allocation and quality of the health services delivered. Factors such as the practice of micro strategies, support of top management and favorable organizational climate were decisive in this process. Results revealed that micro strategies employed in terms of cost contributed to the reduction of operational expenses, better reallocation of resources and greater investment in health services. Changes in patient care in the nursing sector promoted a higher quality of service. The strategy of introducing the hospitalist provided better management of complications and of care of patients and their families. Finally, we found a greater humanization of health services and improvement of organizational performance and image. The major contribution of this article is the finding that, in complex systems such as hospitals, the practice of micro strategies tends to be more effective in health services management.

### PALAVRAS-CHAVE

Micro estratégias;  
Hospital;  
Custos;  
Enfermagem;  
Médico hospitalista.

### RESUMO

As organizações hospitalares cumprem um importante papel social. Sua gestão, contudo, tem sido desafiada a buscar maior eficiência, qualidade e relevância dos serviços de saúde. Este trabalho teve como propósito analisar práticas estratégicas inovadoras que impactaram o desempenho de uma organização hospitalar. Trata-se de um estudo de caso, com foco em um hospital comunitário, localizado no estado do Paraná. Os dados foram coletados por meio de entrevistas, observação não participante e análise documental. A análise revelou que a introdução de estratégias inovadoras nas áreas de custos, enfermagem e médica contribuíram decisivamente para a melhoria na alocação de recursos e na qualidade dos serviços de saúde prestados. Fatores como a prática de micro estratégias, o apoio da alta administração e o clima organizacional favorável foram decisivos neste processo. Resultados revelaram que micro estratégias praticadas na área de custos contribuíram para a redução de despesas operacionais, melhor realocação de recursos e maior investimento nos serviços de saúde. Mudanças de cuidado com o paciente, no setor de enfermagem, promoveram maior qualidade de atendimento dos serviços. A inserção da estratégia do médico hospitalista proporcionou melhor gerenciamento das intercorrências e nos atendimentos a pacientes e familiares. Por fim, verificamos uma maior humanização dos serviços de saúde e a melhoria no desempenho e imagem organizacionais. A contribuição maior deste artigo está na constatação de que, em sistemas complexos como hospitais, a prática de micro estratégias tende a ser mais eficaz na gestão dos serviços de saúde.

## 1 Introduction

Due to their social nature, hospital organizations fulfill a fundamental role in society as they focus on health promotion services. In the last decades, hospital management has been driven to seek greater organizational efficiency and reliability, a fact that constitutes a great challenge to managers (Porter & Teinsberg, 2006). It is a type of organization identified in its literature as complex, surprising, ambiguous and as such paradoxical (Etzioni, 1964; Bolman & Deal, 2008; Scott, 2008). There work specialized professionals with the purpose of promoting patients' health and providing accessible and reliable services demanded by society.

Once there are no managerial models or approaches appropriate to hospital specificities, management of these organizations has incorporated business managerial models with the purpose of improving organizational performance (Parker, 2002; Grey, 2004; Meyer & Meyer, 2013; Meyer, Pascucci, & Mamedio, 2016) moved by mimicry, consultancies, seminars, literature and best sellers. It is a phenomenon called managerialism that is based on the principle that organizations, independently of their objectives, nature of activity and other specificities, can be managed on the basis of identical models and approaches, most of which of a rational nature (Parker, 2002; Grey, 2004).

However, as Mintzberg (1994) emphasized metaphorically, any attempt to fit rational models in professional organizations, as it is the case of hospitals, becomes an effort similar to fitting square pegs in round holes. This results in unnecessary expenditure of resources, loss of time and frustrations, besides distancing from the organizational mission.

This way it is important to know which practices can be more effective in strategic management of hospitals and, especially, their contributions to the performance of these organizations. In this particular, the concepts arising from organizational strategy and from complexity theory provide solid support for a thorough analysis of management in hospital organizations.

In the perspective of the complexity theory, order emerges from the interactions between the individuals that form it, which are responsible for innovative and transformative actions in the

organizational environment (Stacey, 1996; Cilliers, 1998; Bolman & Deal, 2008). In complex organizations, such as hospitals, it is the micro activities of daily life that materialize the strategy, through speech, initiatives, interactions and rationality that justify and legitimize its practice (Whittington, 2003; Kornberger & Clegg, 2011).

This article presents some main contributions. In the first place, we stand out the examination of the factors responsible for triggering innovative strategies in a complex system. A second contribution refers to the recognition of micro activities materialized as innovative strategies, through experience, creativity, interactions and negotiations of health professionals. Finally, a third contribution is in the rescue of micro strategies as a practice capable of promoting changes in the hospital environment.

## 2 Literature Review

### 2.1 Organizations, complexity and hospitals

Organizations are embedded in dynamic and turbulent environments, constantly confronted with challenges for which they need to find solutions and responses, otherwise they weaken, lose effectiveness, legitimacy, and extinguish (Scott, 2008). In this context, several organizational theories seek to contribute to a better understanding of how organizations function so that they can be better managed.

Organizational theory has been especially influenced by two thoughts from the natural sciences: classical thinking and systemic thinking (Morin, 2006). According to classical thinking, the organization is seen as a rational system, similar to a machine. It has routine operations, efficient and predictable, and reality consists of objects that can be subdivided until they reach their basic ontological units, irreducible and indivisible (Stacey, Griffin, & Shaw, 2000; Morin, 2006). From the perspective of the systemic thinking 'the whole is greater than the sum of the parts'. This means that there are emerging qualities that would not exist if the parts were isolated (Morin & Moigne, 2000).

Although classical thinking is widely disseminated and prevalent in organizational management literature, criticisms of this perspective have grown strongly in recent decades, considering it limited, reductionist, and far from

the reality of organizational management (Mintzberg, 1994; Stacey et al., 2000).

In contrast with simplistic thinking centered on the conception of the fusion of one and the multiple, complexity-based thinking (Stacey et al., 2000) considers the environmental influence on the organization as well as emerging actions that result from the dynamic interaction of individuals who form and transform it. Thus, complexity is seen as a web of events, actions, interactions, feedbacks, determinations, and happenings that constitute the phenomenal world (Morin, 2006).

From the point of view of complexity theory, reality is constituted of abstract relations adopting a paradoxical vision of human nature. Individuals form the organizations, but at the same time they are formed by them. In human systems, unlike other systems, reality can not be expected to be modeled and have its performance or results predicted (Tsoukas, 1998).

In complex systems the interaction between elements is dynamic creating models in which unpredictability is constant. A complex system is distinguished by the multiplicity of interacting elements, by its interdependence and diversity (Sargut & McGrath, 2011).

In the case of hospital organizations, complexity is related to internal factors such as the nature of health promotion services, the organizational structure focused on different areas of specialization, the autonomy of health professionals, the dynamics of interactions between agents, plurality and power of interest groups that strongly influence strategic decisions and practices in this type of organization (Pascuci & Meyer, 2013; Meyer et al., 2016).

Hospital organizations are also characterized as loosely articulated systems. They are structures where multiple agents are connected and interact sharing common aspects, while protecting their identities (Weick, 1976; Orton & Weick, 1990). In hospitals, there is interaction of professionals from different areas of knowledge, grouped in semi-autonomous units of decision and action, that preserve their autonomy and independence forming a complex network of interactions, whose actions and results are unpredictable.

Management of these organizations has been increasingly challenged to seek greater efficiency, quality and social relevance of their services. Their organizational complexity, however, has been poorly understood and managed (Mintzberg, 1994;

Bolman & Deal, 2008; Meyer et al., 2016), with negative implications on the organizational performance.

### 2.3 Strategy in Complex Systems

The concept of strategy does not find consensus in the literature, the debate about its formulation and implementation is extensive and controversial (Mintzberg, 1994; Mintzberg & Quinn, 2001). There is, however, a convergent point, the fact that strategy represents a link between the organization and the environment, from which decisions and actions unfold, configuring organizational behavior directed towards future growth and sustainability. In this particular, the strategy is seen as a rational, intentional process where there is a clear articulation between planning and action, that is, the formulation of the strategy precedes its implementation (Chandler, 1962; Ansoff, 1965; Steiner, 1969; Andrews, 1971). In this perspective are inserted the deliberate strategies, based on the premises of direction and control (Mintzberg & Waters, 1985).

A distinct perspective treats strategy as a set of activities, resulting from a dynamic, social and emergent process and resulting from the interactions between agents present in the daily life of organizations (Quinn, 1980; Mintzberg & Quinn, 1991; Mintzberg, 1994; Mintzberg, Ahlstrand & Lampel, 2000). A third perspective regards strategy as action and reflection that can only be identified *ex post facto*, that is, retrospectively. In this case the strategies would be not only emerging, but also resulting from factors such as luck or chance (Weick, 1987).

The formation of strategy in "professional" organizations - such as universities, hospitals, engineering companies, among others - encompasses multiple elements and rational, psychological, social, cultural and political factors. It involves professionals who work in core activities in this type of organization. The result is a fragmented process of strategy formation that includes initiatives and interactions of individuals and groups (Hardy, Langley, & Rose, 1983; Mintzberg, 1994).

Because they operate in unstable and complex environments, the distinction between formulation and implementation of strategies is not observed in hospital organizations (Meyer,

Pascuci, & Murphy, 2012). In this context, formulator and implementer merge into the same individual or group (Meyer et al., 2016).

In this perspective, the strategy can be understood as a social practice, since it is not an attribute of the organization, but a result of the interaction and daily activities of the people.

For sociologists like Garfinkel (1967) and Cicorel (1975) organizations involve materialization and the social processes in these organizations tend to focus on micro events. And, therefore, they constitute micro foundations, many of individual character, with impact on the organizational action (Felin & Foss, 2005).

It is understood as practice a pattern that involves several interconnected elements that use objects, emotions, intuition, creativity and behavior. Such practice, however, may or may not assume a strategic character (Reckwitz, 2002).

## 2.4 Strategic Practices

Management is an activity that results much more from practice and experience than from science (Mintzberg, 2010). Strategy, in its turn, refers to a set of practices, initiatives and intuition of many agents in organizations. In hospital organizations, where autonomy of the agents predominates, health professionals are the main agents responsible for materializing the strategy (Denis, Langley, & Rouleau, 2007; Meyer et al., 2016).

In a complex system the strategy can be considered a practice. It is a social phenomenon inserted in a certain organizational environment in which autonomous agents work and interact in different forms and intensity (McDaniel, 2007).

Thus the strategy can be understood as a practice arising from interpretations, interactions and activities of people involved in the daily life of organizations (Mintzberg, 1978; Reckwitz, 2002; Johnson, Melin, & Whittington, 2003; Tsoukas & Knudsen, 2005; Whittington, 2006; Fenton & Langley, 2011). The unpredictability of the environment, the internal dynamics as well as the plurality of interests present in the organizations contribute to the emergence of strategies on different fronts and in different places. This includes from small individual actions developed on a daily basis by the agents to group initiatives of agents that enjoy some autonomy (Meyer et al., 2016). In this environment creative and innovative

capacity, as well as interactions, influence actions that can become very relevant for innovation and promotion of organizational changes. Analyzing organizational strategy management Felin and Foss (2005) highlight the importance of the individual as well as the role of their individual and/or group capacities in the materialization of actions. The relevance of micro actions has also been highlighted by Johnson and Huff (1997) in relating strategic innovation to 'periphery' actors rather than central management.

In complex organizations, such as hospitals, strategies emerge from professional levels through initiatives and improvisations, guided by few rules and then validated by the top management, integrating the micro and macro cosmos of these organizations (Eisenhardt & Piezunka, 2011). These actions, carried out by several agents, are considered strategic when impacting the quality of the services and the organizational performance (Johnson et al., 2003; Denis, Langley & Rouleau, 2007; Fenton & Langley, 2011), taking on, therefore, the characteristic of micro strategies.

## 3 Methodology

This research has a qualitative character, characterizing itself as exploratory and descriptive in nature (Denzin & Lincoln, 2006). It was a unique case study (Yin, 2005) that focused on the experience of a Brazilian community hospital, located in Curitiba, Paraná State. Among the criteria adopted for the development of the research at the hospital stand out the most recent innovations that have been adopted by its management, as well as its recognized managerial capacity.

The Hospital was founded in 1947, being the first emergency room in the city of Curitiba and, for years, maintained the main pediatric care sector in the State. In 2016, the infrastructure of the Hospital consisted of 144 beds, seven operating rooms and two Intensive Care Units (ICUs) and approximately 1,000 contracted employees. The Hospital performed an average of five thousand patient attendances in the emergency room, four thousand outpatient visits and had an average of 950 hospitalizations per month (II Interview).

This article focused on the analysis of strategies practiced in the hospital by the administrative and operational centers. In order to do so, we investigated in the different departments the cases of innovative strategies practiced that

resulted in the improvement of hospital services. Three cases were selected for in-depth study: 1) the implementation of the cost system; 2) in nursing the introduction of patient safety protocols, 3) insertion of the concept of the hospitalist. The selection of cases was based on the relevance of health activities that most impacted organizational performance in the period from 2014 to 2015.

Data collection was performed from March to November 2015, through open interviews, documents and non-participant observation.

Selection of the interviewees was made from a non-probabilistic or intentional sample (Richardson, 1999), in view of the interest in people involved in the development of strategic practices focus of the research. Twenty-one interviews were conducted, whose interviewees are referenced throughout this article, as specified in Table 1:

**Table 1.** List of interviewees

Interviewees		
Profile		No.
Director	Technical Director (I1)	04
	Administrative Director (I2 and I3)	
	Nursing Director (I3)	
Manager	Nursing Emergency Manager (I4)	06
	Nursing Surgery Center Manager (I5)	
	ICU Head Nurse (I6)	
	Manager of Nursing Hospitalization Beds (I7)	
	Cost Manager (I8)	
	Contract Manager (I9)	
Coordinator	Nurse Coordinator – Outpatient Clinics (I10)	01
Nurse	Palliative Care Nursing (I11)	01
Physician	Hospitalist (I12 until I20)	09
<b>Total Of Interviewees</b>		<b>21</b>

Note: "I" is used as an abbreviation for "interviewee"

Source: Research data.

Initially, people directly involved in the investigated processes were interviewed, from top management and middle management. From the initial interviews were selected interviewees by means of "snowball" sampling (Malhotra, 2001). In this type of sampling, each of the initial interviewees identifies other individuals belonging to the target population of interest and the interviews continue until the names start to repeat.

The use of open interviews had the objective of extensively exploring the issues studied, stimulating the speech of each interviewee. In this type of approach, the interviewer introduces the subject to be discussed and the interviewee is free to think about the suggested topic (Yin, 2005). The questions focused on the reasons that triggered the strategy, as well as on the way in which the process was developed, observing which practices were adopted, whether they were guided by managerial models or whether they had their origins in initiatives of individuals and leadership groups (individuals and/or groups) that have led and materialized such strategies.

The pre-test of the research instrument occurred through an interview with a director of another organization with similar characteristics.

The non-participant observation happened through the participation of one of the researchers in meetings of the administration and managing committee. The interviews were recorded and transcribed and, in addition to the field journal entries, they totaled 294 pages. Documents such as hospital reports were collected from hospital managers.

For the analysis of the data we used techniques of content and document analyses (Yin, 2005). For Bardin (2006), content analysis is a set of communication analysis techniques, which uses systematic and objective procedures to describe message content. The adoption of different techniques of data collection allowed its triangulation (Denzin, 1989).

#### 4 Analyses of Results

Data analysis is concentrated in three important sectors of hospital management (cost, nursing and medical) where relevant strategic practices were developed. For each of these we analyzed the triggering strategies, purposes, processes and results, as well as their respective impacts on the quality of services and

organizational performance, which we now examine.

#### 4.1 Implementation of a cost system

The economic and financial sustainability of a hospital organization always requires special attention due to the nature of the services provided, unpredictability and interdependence among the various sectors that make up the organization. Increasing costs have pressed hospital managers to seek more efficient management systems. The implementation of a cost system has become a strategic challenge for the hospital since management models designed for "machine" organizations (Mintzberg, 1994) are not very suitable for complex and loosely articulated systems for this type of organization.

The implementation of cost system provided support for the strategic decisions made at the Hospital and a more real basis of operational costs. In this regard, the Technical Director expressed himself:

"[...] the cost system greatly modifies the vision of what was being profitable for the hospital. [...] So when you begin to see this in a different way, you begin to give the decision maker completely different information. You begin to see the hospital from a point of view that had not been noticed before" (I1 Interview)

The decision of the hospital management to provide the organization with a system to support strategic and operational decisions regarding the expansion, maintenance or even cessation of activities was guided by the mission and the main strategic objectives of the organization. In the same way, this same system contributed to a greater agility and safety in the allocation of resources to the different units. An inefficient cost system distorts the actual cost in the organization (Cooper & Kaplan, 1988) and triggers misleading decisions and actions generating management problems. The objective of the cost system was to provide the hospital manager with an information system that offered more reliable parameters for decisions and actions aligned with a budget process.

Hospital management services are essentially qualitative in nature, that is, subjective. Any cost system in a reality so characterized, to become relevant and strategic, needs to consider this factor. In the hospital the current system did not provide

reliable information for the best decisions and actions. Thus, the implementation of the cost system began with the hiring of a qualified financial manager with experience in hospital management, who worked with professionals in the affected areas, providing another way to observe the generated numbers.

We identified that management of the cost system led to safer decision making regarding revenues and expenditures as well as to investments generating internal economy savings and greater operational efficiency. It also allowed the organizational development and attraction of more qualified professionals. As the Cost Manager stated:

"[...] the cost system obviously influenced the organization for good, so that it could achieve its sustainability and strategic objectives". (I8 Interview)

Another contribution of cost management was that it provided a better resource allocation and greater internal savings by reallocating resources to priority strategic areas of the organization. In this particular, we observed a strategic practice that confirms this understanding. The managers of the hospital chose to outsource the outfit and linen, a fact that brought cost reduction, reduction of physical space for storage, and that generated savings in operations.

The fact that operating costs are growing at a faster rate than the capacity to adjust the collection of hospital services has made the implementation of cost management a strategic initiative. This can be confirmed by the opinion of one of the Directors:

"The cost system was fundamental for the hospital to be able to maintain its level of service, often it is, it is not possible to adopt the same management practice of care to a SUS (Sistema Único de Saúde, the Brazilian Public Health Service) patient as to the patient that has medical insurance, because of an issue of payment and viability, but when we show this, that in this mix of medical insurance and such, we have been able to establish a standard. That the SUS (Sistema Único de Saúde, the Brazilian Public Health Service) patient be treated with the same hospital supplies used for the patients that have medical insurance" (I1 Interview)

We have observed that the cost system was also strategic for the organization as it improved its image in the community by offering better quality services and by contributing to the achievement of

economic and financial sustainability and fulfillment of the organizational mission.

#### 4.2 Nursing – patient safety

Nursing services play a key role in the hospital organization. Direct contact with patients, their treatment and recovery depend, in large part, on the professional work of the nursing service. In this particular one of the activities identified as critical was the safety of the patient due to an increasing occurrence of adverse events (AE), such as incorrectly administered medicine, exchange of medical records, among others. Such adversities imply considerable social and economic costs (WHO, 2004; Porto, Martins, & Mendes, 2010), in addition to compromising the reliability of hospital services, which led management to consider it as one of the priority areas.

We observed that several decisions and actions contributed to the transition to a safe environment for the patient in the hospital. The first one, established by top management, was to achieve hospital accreditation. To reach this objective, the hospital constituted a center of patient safety with representatives of the board of directors and assistance care. Six protocols were adopted for this purpose. Top management had identified negligence in the treatment of patients with the occurrence of adverse events. The consequence was the decision to implement the protocols required by the Brazilian Department of Health (WHO, 2004) that aimed at minimizing the occurrence of risks and failures that may compromise patient safety. These are: (i) identification of the patient; (ii) prevention of pressure ulcer; (iii) safety in the prescription, use and administration of medication; (iv) safe surgery; (v) hand hygiene practice in health services; and (v) prevention of falls. In commenting this fact, an experienced nurse said:

"[...] adverse event [...] ended up being common in institutions, I come to operate the left foot, they operate the right foot, [...] but okay, let's continue, no one takes any action, there is no action in relation to this, I hospitalize the patient and he/she acquires an infection in the hospital, it is common." (I5 Interview)

The implementation of the protocols demanded a new standard of care by the nursing team. Professionals in this area began to adopt a multidimensional view on patient care that

contributed to the adoption of treatment plans for each patient. As a result, there was a more dynamic and active attitude, because the nursing team had the greatest contact with the patient.

The insertion of the hospitalist in the organization constituted a relevant strategic decision, analyzed later on, with a strong impact on the nursing sector. This decision triggered the need for a new vision and reformulation in nursing service. The main one was the change in the focus of the routine and in the procedure in terms of the patient and his/her needs. The main strategy here was to integrate the nursing team with the team of hospitalists, in order to develop the patient's therapeutic plan.

We observed that the nursing team proved to be safer when working with the team of hospitalists. This micro strategy introduced a longer stay of doctors at the hospital based on a strong informal relationship among health professionals, characterizing an important and successful action (strategy). The nurses' reports showed this interpretation:

"[...] this hospitalist-nursing relationship is differentiated, this even provides more safety for the team" (I5 Interview)

The adopted practice was carried out with interrelated routines in an integrated practice between the medical and nursing staff. The change of routines promoted greater interaction between nurses and hospitalists represented by the integration of collective practices, giving place to new patterns, routines and structural arrangements (Jarzabkowski, 2003), as was the case with hospitalist medicine. In this same line and reinforcing the importance of this micro strategy for the quality of hospital services two hospitalists expressed themselves plus the technical director:

"[...] Previously the doctor made a short visit and did not know what happened. Not today, the doctor comes, is there, talks, makes questions, discusses, offers an attendance [...]" (I16 Interview)

"[...] The nursing team began to realize that there was a doctor on the patient's side, that there was a doctor that was more available, that there was a doctor who talked to the family, they noticed a difference in the improvement of care. For several months now, we have not had an unexpected cardiorespiratory arrest in the ward in our group." (I12 Interview)

The superior administration also desired that the nursing team developed a greater sensitivity with respect to the patient, mitigating suffering — as it was observed in the case of palliative care, in which the patient has no prospect of cure. In these cases, the nurse began to question certain patient requests and even talk to the family. This behavior served as a mitigating factor to suffering [...] at this moment, certain concessions moderate the psychological suffering of the patient, without worsening the clinical condition" (I1 Interview)

We observed that the change caused opposition from a group of nurses who resisted the process, especially due to the changes in the routines of the nursing sector. The autonomy of nursing professionals, the plurality of interests and the attachment to routines, typical of professional organizations and complex systems (Stacey, 1996; Cilliers, 1998; Jarzabkowski & Fenton, 2006; McDaniel, 2007) can explain the barriers faced by the coordinator of the department. This was corroborated by the statement of a director of nursing that declared "[...] (someone) recently said: it is no good for you to come and keep us on a short leash, because we know how to do it, we do it our way" (I3 Interview)

Change in the procedures in the nursing sector caused a concern with changes of ingrained practices and growth of bureaucracy in the sector. This is reinforced by the report of a nursing professional:

[...] the nurse will be a little overburdened because he already has several activities, this will burden more, because you will stay too much in the system, too much on paper, [...] I think this will create a little more resistance [...] You will have more resistance in this sense, to have to fill out things, to have one more thing to do [...] (I7 Interview)

Then, the chairman of the hospital, encouraged by the feedback of other directors and hospitalists, opted to replace the director of nursing for the lack of follow-up of changes that were happening.

The resistance of the group made it difficult to consolidate strategies. One of the causes of this resistance was attributed to the unpredictability of the environment (McDaniel, 2007), to the uncertainty and autonomy and multiplicity of the agents involved that had different expectations (Jarzabkowski & Fenton, 2006). This has meant that the practices and initiatives of several agents could have contributed for strategies not

materializing in their entirety. As evidenced by the report of a Director:

[...] we depend on the professional to do his way, it will not be a command that will change the way he works [...] or he agrees with it, or he assimilates this, he accepts this, he lives this, as the hospitalists are doing or this does not happen (I1 Interview)

One of the factors that hampered the change in the nursing sector in terms of the development of the necessary strategic practices was the absence, over a long period, of the director responsible for implementing the protocols. Instead, in her place, a former director informally became responsible for the activities of the sector.

Due to this the process of change was interrupted which affected the pro-change attitude of the nurses who followed the guidance of the licensed director and leader of this process. The result was the fact that only two protocols, out of a total of six, advanced in their implementation. With the return of the director of nursing, the process was resumed and continued to develop the strategies aimed at making the safe environment for the patient viable.

This micro strategy, with the change of procedures in nursing, brought clear benefits for the hospital. We can highlight the increase in patient safety, humanization of services and an increase in its reliability, which contributes positively to the performance of the sector and strengthens the image of the hospital with stakeholders (Pascuci, Meyer, Nogueira, & Forte, 2017).

### 4.3 Hospitalist

The continuous improvement of the quality of hospital services has become a priority and strategic objective of hospital management. Inspired by a recommendation from the Mayo Clinic (Berry & Seltman, 2008), top management introduced a new concept, that of hospitalist. This practice became responsible for the management of hospitalized patients, just as general practitioners became responsible for outpatients in their offices. The understanding, at the time, was that it would be undesirable to provide high-quality care with doctors working only a short time in the hospital.

In the concept of hospitalist medicine, the doctor takes on the care command, guaranteeing care to all inpatients, regardless the presence of a

medical specialist. The objective of this micro strategy was to promote a professional team work in a cohesive and collaborative way, with clear benefits for the care of patients.

The process of implementation of this new concept of hospitalist medicine started in 2014 at the initiative of the technical director with the support of the chairman. As can be observed in the report of two hospitalists:

"[...] the model was brought to the Hospital by the current management and colleagues were invited to incorporate this model." (I13 Interview)

"[...] I was hired here by the director of the hospital and then we found here, in this hospital, an ideal environment to put the model into practice, because the chairman of the institution highly regards this model. (I14 Interview).

The purpose of this micro strategy was to provide the hospital with a reliable medical staff that would attend the most complex hospitalized patients, as well as improve the quality and reliability of the care service. We observed that middle managers have gradually created a favorable climate to incorporate this strategy through meetings and training of a select and competent group of professionals.

We verified that institutional support was essential for the success of the strategy of hospitalist medicine. In the first moment the process required a high financial allocation that was only possible due to the implementation of the cost system with the reduction of operational expenses and reallocation of resources thanks to the savings generated.

The hospitalist strategy combined the reduction of the number of patients seen by the doctor as an important return to the high initial investment, and the reduction of the length of stay of the patient. As a consequence, we observed an increase in the satisfaction of users with the services offered by the hospital. The following account corroborates this interpretation:

"[...] it is no longer expensive to maintain such a system, you end up seeing that it is not, because if this patient is admitted to hospital and he leaves the hospital more stabilized and earlier, logically within a margin of safety, that hospital has a free bed to put another patient that needs the hospital, so we end up making that this bed is used by more patients during the month than it would be in the visiting model in which you have extensions in the time for each one

and at the end of the month you will see that you had less use of this physical structure than in the visiting model [...]. " (I17 Interview)

The process of implementation of the hospitalist strategy presented some resistance on the part of medical specialists. Since it was a model unknown to many it caused a feeling of loss of power, The hospitalist model, introduced with the strategy, attributed to this professional the care leadership, consulting medical specialists only in sporadic and specific cases.

In hospital organizations integrating the multiple divisional units always results in an extraordinary effort for managers. The existence of innumerable specialized sectors that are not very well articulated (Orton & Weick, 1990) and that group professionals with autonomy represent an obstacle to any effort of innovation and integration in health services. In this environment ambiguous objectives and diversity of interests produce conflicts and political disputes that also make the introduction of changes difficult (Meyer et al., 2016).

We have observed that the autonomy and power of health professionals constituted elements that contributed significantly to adapt the new strategy to a context as complex as the hospital (Gell-Mann, 1994; Stacey, 1996; Cilliers, 1998; McDaniel, 2007). This could be identified when a new dynamics of care was developed by hospitalists who started adopting new routines and different daily workflows. This was the result of individual micro strategies that were developed informally within the group.

Learning by the negative feedback mechanism (Stacey, 1996) was used at informal meetings between physicians, message groups via WhatsApp, and through classes between medical specialists and hospitalists. The learning resulting from these interactions initiated the modification of routines.

The longer stay of the team of hospitalists at the hospital resulted in a decrease in unexpected complications, since there was a follow-up of the patient's evolution throughout the day and greater openness to the discussion of cases with nursing. Hospitalists entered the patient's safe environment and, from the moment they stayed longer, they began to observe and intervene in situations that exposed the patient to risk.

In the case of the hospitalist, we were able to

observe the introduction of a new pattern of behavior among the professionals, providing improvement of existing practices as well as innovation. If on one side there was a focus on improving and bettering procedures and routines, there was, on the other hand, concern for creativity and innovation, allowing it to be characterized as an ambidextrous organization (March, 1991). On the other hand, we have observed the resistance to change and pressure to maintain the status quo as occurred in the case of nursing, requiring specific actions of managers and groups interested in change.

Three critical factors were identified during the period of materialization of the strategies in cost, nursing and medical areas. The first was the existence of an unpredictable and changing environment pressing the hospital organization towards change. The second was the fact that the work was carried out by health professionals with autonomy in their areas of activity. And finally, the third, the imperative need of the hospital to respond to external pressures and challenges in promoting better and more accessible and liable health services to its users. In this context, the predominant strategies were characterized by their emergent nature (Mintzberg & Waters, 1985) and as a result of individual efforts and simultaneous action of diverse actors supporting the changes. These emerging strategies were later approved by the chairman.

We could identify that important initiatives and changes contributed to the viability of the hospitalist strategy: (i) agility in the process of care; (ii) support to the multidisciplinary team; (iii) attraction of a new patient profile: the patient with chronic disease; (iv) patient safety; (v) improvement of the hospital image; (vi) reduction of hospital stay and rapid turnover of beds; (vii) attraction of good professionals; and (viii) interaction with diagnostic services.

For the clinical staff it was observed positive factors such as: (i) feeling of safety by the nursing staff; (ii) better management of complications, reducing the number of unexpected events; and (iii) incentive to continuous improvement of care.

Table 2 presents the summary of the main micro strategies practiced in the three focus areas of this analysis: cost, nursing and medical.

**Table 2.** Summary of Main Micro Strategies

Main Micro Strategies	
<b>Cost System</b>	<ul style="list-style-type: none"> <li>• Decision of the top management to implement a cost system to support management actions.</li> <li>• Outsourcing services with significant cost reduction advantages.</li> </ul>
<b>Nursing (Patient Safety)</b>	<ul style="list-style-type: none"> <li>• Informal dissemination of the relevance of patient safety to improve hospital services.</li> <li>• Turnaround strategy with the resumption of the implementation of safety protocols.</li> </ul>
<b>Hospitalist</b>	<ul style="list-style-type: none"> <li>• Dissemination of the concept of the hospitalist in the medical area.</li> <li>• Change of working time of doctors from "visiting doctor" to "hospitalist".</li> </ul>

Source: Research data.

## 5 Discussion

The relevant role of organizations as providers of specialized health services is undeniable. However, one of the aspects that has been neglected in the literature of the area has been its management.

The difficulty of promoting change stems from the complexity of hospital organizations. Factors such as the complex nature of this type of organization, ambiguity of objectives, plurality of interests and autonomy of specialized professionals constitute barriers to the introduction of innovative practices and behavioral changes.

The fact that there is a strong autonomy of agents (Stacey, 1996; Cilliers, 1998; McDaniel, 2007) present in the multiple divisional units resulted in a loose coupling (Orton & Weick, 1990) between the units making a desired and necessary integration quite difficult. This becomes more serious in view of the interdependence between the various specialized areas, all of which are directed towards the recovery and promotion of health. In this environment, ambiguous goals and diversity of interests lead to conflicts and tensions and political disputes that hinder the introduction of innovation and improvement of professional practices (Meyer et al., 2016).

It was evidenced that the strategy in hospitals is much more the result of a set of social practices, arising from initiatives of innumerable agents with professional autonomy, than from deliberations and integrated actions arising from top

management and then disseminated in the organization (Reckwitz, 2002; Whittington, 2006; Stacey, 2011). As agents, groups of health professionals who work close to patients were responsible for the strategic initiatives, many of them micro strategies (Johnson et al., 2003) that resulted in the improvement of hospital services.

Humanization is a strategic factor in the hospital environment (Pascuci et al., 2017). In this particular the care provided by the professional nurses and hospitalists resulted in the reduction of the hospital stay and therefore exposed the patient to a lower number of infections. With this, the turnover of beds increased - a positive factor from an economic point of view and an improvement in the quality of care.

In addition to the benefits provided by the innovative strategies for the patient and the hospital, we can also highlight the organizational capacity to attract qualified professionals, from the medical and nursing area, from the market and the fast inclusion of new professionals in the organization. Thus, the integration of these professionals into the diagnostic services generated a clear improvement in the quality of the services provided.

We have noticed that the existence of a friendly environment to new initiatives was fundamental to the development of innovative strategies. This environment was created by management in making decisions and providing incentives and empowerment to critical areas such as costs, nursing and medical, all relevant to improving organizational performance and strengthening the institutional image. This initiative and autonomy granted to the team also allowed the emergence of micro strategies, by giving the group the opportunity to explore their individual and group capacities (Felin & Foss, 2005).

The strong influence of informality on the relationships between specialist professionals (shadow network, Stacey, 1996, 2011, Bolman & Deal, 2008) was present, particularly in the cases of nursing and hospitalist. In the nursing sector, advances in the implementation of the protocols suffered strong resistance and were blocked by the informal influence of the former nursing director that interfered with the aforementioned process, delaying its implementation.

In the case of the hospitalist strategy, the dissemination of the new concept, among the

medical and nursing staffs, initially provoked strong resistance. It was gradually removed by the leaders of the strategic initiative (Mantere, 2005) as agents responsible for introducing changes in routines through new micro strategies. This reinforces the understanding that in professional organizations, real strategists are the agents that spread strategic thinking and practice in the organization in a collective learning process (Mintzberg, 1994, 1996). It also emphasizes the micro character of some strategies, that is, small changes, individually led, in an integrated way or not, but which have been able to promote gradual changes, as in the presented situation,

The search for more effective management has guided the changes that have triggered micro strategies. This was evidenced by the outsourcing of activities that were not related to core or essential functions of the organization, which allowed the reduction of operational costs, improvement of the quality of the services and strengthening of the image.

In addition to a favorable climate, the introduction of innovative strategies also required investments. The introduction of the cost system, for example, required the hiring of specialized professionals. It was the need of management to improve the allocation of resources and investments that guided the investments made. One of the concerns of management was to seek greater coherence between the mission and practiced actions, which has proved to be a partial substitute for the problems of profitability in the hospital management as a non-profit organization (Oster, 1995; Moore, 2000; Powell & Steinberg, 2006).

In order to fulfill its mission and maintain the financial sustainability of the hospital, it was necessary to search for internal revenue sources to compensate the difference between the actual operating costs of hospital services and the amounts received from medical insurance and SUS (Sistema Único de Saúde, the Brazilian Public Health Service). In this particular the savings promoted internally was generated, in large part, by the new cost system, strategically implemented, that provided relevant financial support for consolidating the "hospitalist" strategy. Once again, the importance of the individual performance of autonomous agents in promoting actions (micro strategies) to achieve the effective implementation of the system and its benefits is rescued.

## 6 Conclusions

One of the greatest challenges of hospital management is the continuous search for more effective ways of providing quality, reliable and at the same time accessible services to the population. This requires an integrated and innovative effort with the commitment of managers and professionals operating as agents in different parts of the organization.

This work revealed the practice of strategies that reconciled innovation, audacity, risks, competence and autonomy along with empowerment of top management. The introduction of the cost system provided greater financial control, better allocation of resources and focus on the aim of hospital activity. Benefits such as savings allowed for investments in new initiatives and the reformulation of the nursing sector, bringing greater reliability and humanization to services. The incorporation of the practice of the hospitalist, in its turn, proved to be an innovative initiative by introducing a new pattern of behavior among doctors and nurses with an incentive to continuous improvement of patient care. In this process, we highlight the essential role of micro strategies promoted by agents, individually or in groups, empowered by their autonomy, ability to interact and persuade peers. Adoption of micro strategies also allowed minimizing impacts by acting on the focus of resistance, integrating groups and, mainly, promoting the changes desired by hospital managers, gradually and legitimately.

One of the main contributions of the article was to reveal that the main strategic initiatives, with the exception of the cost system, occurred at the micro level of the organization supported by the autonomy, team spirit and initiatives of nurses and doctors, breaking internal resistance. It was also evidenced that without the existence of an organizational climate favorable to innovation, the strategies would not have achieved the results.

Management of complex systems such as hospitals requires in-depth studies of individual and group behavior, as well as their relationships and interdependencies and influence on organizational performance. In order to contribute to literature of this area we recommend that future studies explore the practice of micro strategy and its effects in hospitals.

Likewise, we believe that in-depth studies focused on the use of improvisation as a complement or substitute for the strategy practiced in hospitals would reveal relevant and poorly explored aspects of management in such complex systems. The development of comparative case studies that consider organizational culture in hospitals and its influence on the practice of innovative strategies would provide a significant contribution to this area of knowledge.

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## Cost Management in Micro and Small Companies in the Mining Sector

Antonio Carlos Guidi<sup>1</sup>, Levi Morgan<sup>2</sup>, Maria Imaculada Montebelo<sup>3</sup>, Dalila Alves Corrêa<sup>4</sup>

<sup>1</sup> Universidade Metodista de Piracicaba – antoniocarlos.guidi@gmail.com

<sup>2</sup> Universidade Metodista de Piracicaba – levi.morgan@hotmail.com

<sup>3</sup> Universidade Metodista de Piracicaba – milmonte50@gmail.com

<sup>4</sup> Universidade Metodista de Piracicaba – dalvescorrea@gmail.com

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### ABSTRACT

The aim of this article is to analyze the operability of cost management among the MPEs which operate in the dimension stone mining and processing sector, seeking emphases related to the presence of isomorphism. In order to implement this study, 164 micro and small companies were analyzed; fifty-six of these are from the mining sector and 108 from the dimension stone processing sector. A structured questionnaire was used as the data collection procedure. Three distinct approaches were used in the statistical analysis of the collected data: descriptive statistics, univariate analysis using the Mann-Whitney U test and multivariate techniques, such as Cronbach's alpha, exploratory factor analysis and cluster analysis. The results of this research demonstrate the presence of mimetic isomorphism in cost management practices, independent of the companies' economic activity. Based on this study, it was observed that future research should further develop the characterization of this economic phenomenon and study which resources would be required to improve cost management in micro and small companies in the segment analysed. As a result of the study, cost managers can reduce the repetition of best practices that do not apply to micro and small enterprises. This mere repetition, a simpler path, may become inadequate.

### PALAVRAS-CHAVE

Gestão de Custos;  
Práticas de Gestão;  
Micro e pequenas empresas;  
Isomorfismo;  
Eficácia do negócio.

### RESUMO

O objetivo deste artigo é analisar a operacionalidade da gestão de custos entre as MPEs que operam na mineração de pedras ornamentais e processamento, buscando ênfases relacionadas à presença do isomorfismo. Para realização desse estudo, 164 micro e pequenas empresas foram analisadas; 56 destas são do setor mineração e 108 são do setor de pedras ornamentais. Um questionário estruturado foi utilizado como procedimento de coleta de dados. Três abordagens distintas foram utilizadas na análise estatística dos dados coletados: estatística descritiva, análise univariada usando o teste *Mann-Whitney U* e técnicas multivariadas, bem como o Alfa de *Cronbach*, análise fatorial exploratória e análise de *cluster*. Os resultados dessa pesquisa demonstraram a presença do isomorfismo mimético nas práticas de gestão de custos, independentemente da atividade econômica da empresa. Baseado nesse estudo, observou-se que pesquisas futuras devem aprofundar a caracterização deste fenômeno econômico e estudar quais recursos seriam necessários para melhorar a gestão de custos em micro e pequenas empresas no segmento analisado. Como resultado do estudo, os gerentes de custos podem reduzir a repetição as melhores práticas que não se aplicam às micro e pequenas empresas. Como caminho mais simples, essa mera repetição, pode se tornar inadequada.

## 1 Introduction

In a context of a high level of competitiveness and globalization, in which the market establishes the sales prices, the importance of cost management at organizations becomes greater. When it is noted that there is no space to increase prices because the product or service has lost its competitive edge in the market, one of the paths used by organizations is cost analysis, in an attempt to produce more with less. A reduction in costs and increase in productivity have been used as a solution for a number of organizations to remain in the market. Generally speaking, large and medium sized companies, seeking effective cost management, hire people specialized in this area and encourage the establishment of working groups. However, micro and small companies are not always able to have their own specialized team. Thus, it is the responsibility of the principal manager who, in various cases, manages all areas, to also establish the specific cost management parameters (Callado & Pinho, 2014).

Some research has analyzed external factors of organizational management and which influence the adoption of strategies which often emulate the practices of companies who are market leaders, by adopting their cost management techniques (Delmas & Toffel, 2004; Yoo & Reed, 2015; Venkitachalam & Willmott, 2015; Park & Ghauri, 2015; Garavan et al., 2016; Daddi et al., 2016; Demir, Wennberg & McKelvie, 2017). Therefore, these strategies are not selected based on their own organizational choice but on what other companies in a position of authority practice. Thus, they legitimize attitudes by using a generalized perception that the actions of a specific institution are appropriate or adequate within a social system formed of idiosyncratic meanings (Barreto & Baden-Fuller, 2006). According to a study carried out by the Brazilian Service to Support Micro and Small Companies (Sebrae), entitled “Participação das Micro e Pequenas Empresas na Economia Brasileira” (The Participation of Micro and Small Companies in the Brazilian Economy), it states that (2014, p. 55):

“Micro and Small Companies (MPEs) have been becoming progressively relevant in the Brazilian economy. It was observed that on aggregate this participation was 21% in 1985, increased to 23% in 2001 and 27% in 2011.

This participation increased both in services, such as commerce, having reduced slightly in industrial activity, where medium and large companies which benefit from economies of scale predominate. The importance of MPEs in the period 2009-2011 is highlighted in all dimensions and activities:

- In the Service Sector, MPEs produced 36.3% of the sector’s total added value; represented 98.1% of the number of companies; employed 43.5% of workers and paid 27.8% of employees’ salaries during the period;
- In the Commerce Sector, MPEs produced 53.4% of the sector’s total added value; represented 99.2% of the number of companies; employed 69.5% of those working in the sector and paid 49.7% of employees’ salaries in the sector during the period;
- In the Industrial Sector, MPEs produced 22.5% of the sector’s added value; represented 95.5% of the number of companies; employed 42% of those working in the sector and paid 25.7% of employees’ salaries during the period.”

In view of the above, in an effort to understand the relevance of cost management to develop micro and small companies, the following research problem emerged: to what extent do the micro and small companies which operate in the mining and processing of dimension stones sector take cost management into account when seeking business effectiveness?

Thus, the aim of this paper was to analyze the operation of cost management in the micro and small companies which act in the mining and processing of dimension stones sector, when seeking emphases on the presence of isomorphism.

The research is justified because it presents an overview of how cost management takes place in that sector, which contributes to improving this important tool to guide decision-making. On account of the fact that many MPE managers do not have knowledge of technical costs, everyday decisions by these companies are taken using intuition. In addition, academia is able to organize and provide materials specifically to orientate these managers, such as: a) developing a costing system for small and medium-sized companies (Fiorioli & Müller, 2013); b) directors’ concentrated attention,

to try to explain the depth for developing this type of leadership (Garavan et al., 2016) and c) proposing a research model which appraises the drive for corporate social responsibility (Yoo & Reed, 2015).

In this context, a gap is noted between the best practices of large organizations' cost management and the practice of MPE managers. Generally speaking, it is believed that the same techniques from this activity can be applied to all of these companies. In addition, studies on cost management in MPEs have not been the main focus of researchers. This gap indicates that recent studies on isomorphism have not considered the objectivist epistemology used in this research and, consequently, the positivist paradigm (Gimenez, Hayashi & Grave, 2007; Haunchild, 1993; Haveman, 1993; Mizruchi & Fein, 1999; Rossetto & Rossetto, 2005 and Serralheiro & Rossetto, 2004; Yoo & Reed, 2015)).

This research is structured in the following way: the second section reconstructs literature on the main concepts of cost management using a theoretical framework. The third section specifies the methodological processes and research practices. The fourth section lists the results found. The fifth section closes the debate, analyzing if the results corroborate existing literature and the research findings. The last section suggests new lines of investigation for future studies.

## 2 Theoretical Framework

Organizational characteristics, with their distinct aspects of competition and legitimization, show that, generally speaking, organizations look to follow successful organizations even when seeking new products or markets. This consideration finds strong evidence of emulation in markets influenced by the presence of successful companies. Thus, the presence of mimetic isomorphism in organizations emerges in an environment which plays a large role in influencing imitation by those of an equivalent size (Haveman, 1993; Battilana et al., 2015; Bogaert, et al., 2016; Abbott, Green, & Keohane, 2016).

In general, accounting has the role of giving rise to information on the various angles required to subsidize the respective managers. However, cost accounting is a specific area which acts as a support to cost management. It emerged at a later date because of the need to evaluate organizations'

stock. Thus, new demands appeared, such as the fields of control and decisions and management accounting also emerged in this context (Martins, 2010; Senftlechner, & Hiebl, 2015).

Marcella and Illingworth (2012) and Ainin et al., (2015) clarify that the effective use of information is a benefit to any organization, independent of its size, as it reduces administrative costs, increases the effective collaboration between members interested in improving cost management and enhances customer service through greater efficiency. With regards to MPEs, Berisha-Namani (2009) confirms that these companies need effective information systems which assist decision-making, particularly economic decisions, which take financial information into consideration. This economic information includes technologies which support decision-making and provides an effective interface between users and IT, as well as management information, in order to improve the business' daily operations (Kemp *et al.*, 2015).

The main role of an information system is administrative (Abernethy & Bouwens, 2005; Amuna, Shobaki, & Naser, 2017). Better information leads to an administrative decision and this, in turn, improves the organization's performance (Baines & Langfield-Smith, 2003; Hair Jr *et al.*, 2015). The relation between adopting management accountancy practices and performance has been the subject of extensive empirical research. The majority of studies support the understanding that management accountancy practices which provide information with a broad scope are positively related to performance (Hoque & James, 2000; Cravens & Guilding, 2001; Baines & Langfield-Smith, 2003; Mahama, 2006 and Ong et al., 2015; Amuna, Shobaki & Naser, 2017).

The various skills required by businessmen can be categorized in the following way, according to Hisrich and Peters (1998): (1) technical skills (written and oral communication, technical management and organization); (2) business management skills (planning, decision-making and accounting) and (3) personal entrepreneurial skills aiming for internal control, innovation, risk-taking, persistence and orientation for change (Mendes, 2012).

In the current business environment, characterized by intensive competitive pressure, organizations need to implement strategies to manage costs and reduce them, not only in the

short- but also in the long-term (Nimocks, Rosiello, & Wright, 2005; Yang & Meyer, 2015). Strategic cost management is the deliberate alignment of company resources and the cost structure, associated to long-term strategies and short-term tactics (Anderson & Dekker, 2009). It represents an aspect of a higher flow of research dedicated to strategic management accounting (Bromwich, 1990; Roslender & Hart, 2003; Cadez & Guilding, 2008 and Smith, 2017).

Generally speaking, due to a lack of resources, people and knowledge, for example, MPEs tend to follow the best methodologies of management accounting applied to large organizations. The preferred opinion to capture the procedure of institutional homogenization refers to isomorphism, although in a generic way. According to Hawley (1968), isomorphism establishes a process of a socio-environmental nature in which a population will present particular similarities to other integrations which are confronted in a similar way to the same combination of environmental categories. Hannan and Freeman (1977) made advances following Hawley's (1968) concepts. These authors corroborated the idea of the presence of isomorphism, or because those responsible for decision-making at organizations study model responses and, consequently, adjust their organizational conduct isomorphically. The concept of institutional isomorphism is a beneficial instrument to cover the policy and the ceremonial peculiarities which intermediate an important element of contemporary organizational life. Therefore, for Dimaggio and Powell (2005), adopting the characteristics of other organizations as an example is the representation of the response to uncertainty (Dufour, Teller & Luu, 2014; Kung, Cegielski, & Kung, 2015).

The concept which best defines understanding of the process of homogeneous organizational behaviour is isomorphism. This process is characteristic and relevant as an information source to understand the way that organizations share specific equivalent organizational behaviour, although undergoing frequent alterations (Dimaggio & Powell, 1983; Dufour, Teller & Luu, 2014; Smith, Couchman & Beran, 2014). According to Barreto and Baden-Fuller (2006), mimetic isomorphism leads to similar results. Seen in these terms, Lacombe and Chu (2008) present two organizational

isomorphisms: competitive, which acknowledges a precept of rationality and highlights market competitiveness and niche diversification and institutional isomorphism, which is able to clarify some of the mechanisms of transformation in further detail and can act in three different ways: coercive isomorphism, mimetic isomorphism and normative isomorphism (Dimaggio & Powell, 1983; Barreto & Baden-Fuller, 2006 and Lacombe & Chu, 2008; Smith, Couchman & Beran, 2014). In these terms, organizations present two dimensions, shown in Table 1.

**Table 1.** The theoretical dimensions of organizations

Technical Dimension	Institutional Dimension
The technical environment is characterized by an exchange of goods and services.	The institutional environment conducts the establishment and dissemination of standards of practice required to achieve organizational legitimacy.

Obs: Thus, organizations submitted to pressures from the technical and institutional environments are evaluated, respectively, for efficiency and suitability to social requirements.

Source: Machado-da-Silva, C. L., Fonseca, V. S., & Fernandes, B. H. R. (1999). Mudança e estratégia nas organizações: perspectivas cognitiva e institucional (p. 113). In M. M. F. Vieira & L. M. B. Oliveira (Orgs.), Administração contemporânea: perspectivas estratégicas (pp. 102-118). São Paulo: Atlas.

The complexity of the organizational phenomenon supports various types of specific influence linked to ontological suppositions inherent to it, which can be formal or informal. According to this specification, some subjective mechanisms force organizations into an isomorphic procedure. These modifications often take place on account of an imposition by a higher authority, giving rise to coercive isomorphism. Universities, training centres and trade associations play a fundamental role in the technical training of professionals from a specific area. Disseminating patterns of behaviour and procedural regulations to these professionals assists toward normative isomorphism (Barreto & Baden-Fuller, 2006; Gimenez, Hayashi, & Grave, 2007; Dufour, Teller & Luu, 2014; Smith, Couchman & Beran, 2014). The uncertainties which currently surround activities and the lack of available human resource knowledge facilitate the emersion of mimetic

isomorphism, in which organizations tend to reproduce market best practices. (Dimaggio & Powell, 1983; Barreto & Baden-Fuller, 2006 and Gimenez, Hayashi, & Grave, 2007; Smith, Couchman & Beran, 2014). Consequently, Table 2 presents a brief theoretical summary of mimetic isomorphism, according to the following authors:

**Table 2.** Definition of Mimetic Isomorphism

Author(s)	Description
Hawley (1968)	Isomorphism establishes a socio-environmental process in which a population will present similarities characteristic of other integrations which are comparable to the same set of environmental categories.
Hannan and Freeman (1977)	Isomorphism may arise since non-ideal with are eliminated from a group of organizations or because those responsible for decision-making at organizations study model answers and, consequently, select conducts which are similar to other leading organizations in the respective economic sector.
Dimaggio (2005)	The concept of institutional isomorphism establishes a favourable instrument to incorporate the policy and ceremonial characteristics which intermediate an important element of contemporary organizational life. Adopting the characteristics of other organizations as an example, constitutes a representation of a response to uncertainty.
Callado and Pinho (2014)	Isomorphism should be understood as a set of exceptions which compels a specific organization to resemble others, in compliances which are established in the same set of environmental concerns. Thus, organizational isomorphism is defined as an assisted tendency among organizations responding homogeneously and holding analogous attitudes.

Source: Prepared by the authors, based on their research.

With the due adjustments and consideration of its usefulness by the business community, accounting management, with its managerial focus, assists in improving decision-making and could become one of the main strategic instruments, with a view to micro and small companies increasing and surviving (Lacerda, 2006; Vuorinen et al., 2017). Thus, cost management needs to produce the information required to improve business effectiveness. A review of literature suggests that mimetic isomorphism could lead to negative performance, as the strategic choices could produce consequences arising from the economic

impact which they caused on organizations. To summarize, emulation based on legitimization could lead to strategic choices (Barreto & Baden-Fuller, 2006).

### 3 Methodology

Seeking to achieve the specific aims proposed for this research, the methodological investigation strategy used was positivist, quantitative deductive study. The ontological orientation observed was realistic, considering the existence of a totally objective reality, independent of human perception or, in other words, made up of tangible structures (Gil, 2008 and Saccol, 2009). The objectivist epistemological position in this regard is an extremely useful research lens, as “[...] it presupposes that the meanings of all objects and institutions exist independent of human beings’ mental operations (Saccol, 2009, p. 253). Therefore, this study defends that an understanding of everything which exists can take place in a mathematical, rational and objective way.

Thus, according to Saccol (2009) and Creswell (2010), the *modus operandi et argumentandi* of a philosophical stance, which will present the basic assumptions of the view of the world was the positivist paradigm, as it considers explaining and predicting what will take place through regularities and the affinities of cause and effect between the elements which form it.

This paper emphasizes a hypothetical-deductive logic (Gil, 2008) and uses a descriptive, quantitative approach with a cross-section. The use of primary data was selected to perform this research. The target population is made up of micro and small companies which are involved in mining and processing dimension stone activities in the southeast region of Brazil in 2016. A structured questionnaire was selected as the data collection method, formed by a standard set of questions with answers limited to a number of mutually exclusive and previously determined possibilities (Creswell, 2010 and Hair, Babin, Money & Samouel, 2005).

With the aim of optimizing obtaining the answers, the primary source of the statistical analysis of the research data, the structured questionnaires were made available to the respondents in two ways: via technological support (email) and in person, in a printed format, which did not prevent the authenticity of the answers attained of being maintained. As the investigator

was not present while the questionnaires were completed, the research questions were all closed, for easy application and analysis, accompanied by clear and specific instructions (Gil, 2008 and Hair *et al.*, 2005; Creswell, 2010).

We decided to use primary data to investigate cost management practices at micro and small companies from this sector of activity and a structured questionnaire made up of a set of standard questions, with answers limited to a number of mutually exclusive and pre-determined possibilities, was selected as the data collection method (HAIR *et al.*, 2005 and CRESWELL, 2010). The variables of perception set out in Table 3 were measured on a Likert-type or 5-point semantic differential scale (Creswell, 2006 and Gil, 2008). The data collection instrument used was made up of three parts, which were answered by the company's cost manager.

**Table 3.** Characterization of statistical variables

Categories		Question N.	Category levels	Scale
<b>Managerial Profile</b>				
	Amount of professional experience	1	5	Ordinal
	Level of education	1	5	Ordinal
	Duties carried out at the company	8	Binary	Nominal
<b>Company Profile</b>				
	Company classification	1	3	Ordinal
	Length of time the company has been in the market (years)	1	5	Ordinal
	Number of direct employees	1	2	Ordinal
<b>Characteristics of Cost Management Practices</b>				
a	Cost management practices used by the company (P11 to P21)	11	Binary	Nominal
b	Information source used by the manager for decision-making (P22 to P26)	05	Likert – 5 points	Ordinal
c	The information source's level of importance (P27 to P31)	05		

d	Level of importance given to identifying problems related to the information source (P32 to P36)	05		
e	Actions considered important as the company's current growth strategy in the cost manager's opinion (P37 to P41)	05		

Source: Prepared by the authors, based on SPSS 22 software.

The first part was made up of three questions about the manager's profile. The second part was made up of three questions about the company profile (Table 3) and the third part is formed of thirty-one questions which were adapted and expanded, based on the instrument applied in a study performed by Callado and Pinho (2014). The items on cost management practices (11 questions with a binary response) were considered from this study, and the others were adapted, based on a theoretical reference Likert scale or 5-point semantic differential. Consequently, they were evaluated by a group of management and cost specialists and all the suggestions were considered to suit the reality of this sector of economic activity. The first version of the instrument was applied to a pilot sample of 75 managers from this sector. Following adjustments, the questionnaire was structured for application (Table 3).

The indicators are described as follows: a) the first 11 indicators of the instrument are cost management practices (P11 – P21); b) five indicators focused on the information source used by the manager for decision-making (P22 – P26); c) five indicators related to the information source's level of importance (P27 – P31); d) five indicators related to the level of importance given to identifying problems related to the information source (P32 – P36) and e) the last five indicators are related to the actions considered important as a the company's current growth strategy in the cost manager's opinion (P37 – P41). These research variables are classified according to type and categories, and the data is classified as ordinal on the measurement scale (Hair *et al.*, 2005).

The structured questionnaire was validated before its application, in order to verify if the scale construction correctly represented the respective concepts. As the population's characteristics are inferred from a sample, the error is introduced in process with respect to the real difference between the sample and the population. In these terms, the data was collected at a single point in time and summarized in a statistical manner (Hair *et al.*, 2005). The stratified sample of this study is not probabilistic and for convenience (Gil, 2008 and Creswell, 2010) and is formed of micro and small companies located in the southeast region of Brazil. This sample attained a total of 164 validated responses, with 108 corresponding to processing companies and 56 to companies which mine dimension stones. Table 4 presents the characterization of the sample and Table 5 presents the characterization of the cost manager.

**Table 4.** Characterization of the research sample

General Characteristics	COMPANY'S ECONOMIC ACTIVITY						
		Wholesale Trade		Block Mining		Total	
		N°	%	N°	%	N°	%
Company classification* (P2)	EPP	62	58%	43	77%	105	65%
	ME	26	25%	7	13%	33	20%
	EMP	18	17%	6	11%	24	15%
Length of time the company has been in the market (in years) (P3)	Up to 5	24	37%	0	0%	24	22%
	6 to 10	19	29%	11	24%	30	27%
	11 to 15	15	23%	15	33%	30	27%
	16 to 20	18	28%	10	22%	28	25%
	More than 20	32	49%	20	44%	52	47%
Number of direct employees (P4)	Up to 19	79	73%	37	66%	116	71%
	20 to 99	29	27%	19	34%	48	29%
<b>General Totals</b>		<b>108</b>		<b>56</b>		<b>164</b>	

Note:\*Small Company = EPP [Company(ies) with a turnover of between BRL 360,000.01 and BRL 3,600,000.00] Micro-company = ME [Company(ies) with an annual turnover equal to or less than BRL 360,000.00]. Medium-sized company = EMP [Company(ies) with a turnover of between BRL 3,600,000.01 and BRL 12,000,000.00].

Source: Prepared by the authors, based on SPSS 22 software.

In order to prepare the data collection instrument, bearing in mind the aim of investigating cost management practices among the specified sample, distinct groups of variables

were considered, namely: the managers and companies' profiles, sector of economic activity and the practice of cost management. The latter group was represented by binary variables. The data was collected during the period 1<sup>st</sup> June to 5<sup>th</sup> December, 2016 (Gil, 2008).

**Table 5.** Characterization of the Cost Manager

General Characteristics	COMPANY'S ECONOMIC ACTIVITY						
		Wholesale Trade		Block Mining		Total	
		N°	%	N°	%	N°	%
Length of time in the position (in years) (P8)	Less than 7	45	42%	23	41%	68	41%
	7 to 14	32	30%	14	25%	46	28%
	15 to 21	23	21%	11	20%	34	21%
	22 to 28	4	4%	4	7%	8	5%
	More than 28	4	4%	4	7%	8	5%
	(n)	108		56		164	
Level of education (P9)	Basic Education Incomplete.	13	12%	2	4%	15	9%
	Basic Education Completed.	45	42%	30	54%	75	46%
	Higher Education Incomplete.	15	14%	11	20%	26	16%
	Higher Education Completed.	25	23%	8	14%	33	20%
	Post-Graduation, Master's, Doctorate.	10	9%	5	9%	15	9%
Duties which the person responsible for cost management carries out at the company (P10)	Administration (Director / Management).	74	69%	31	55%	105	64%
	Commercial/Sales.	79	73%	40	71%	119	73%
	Strategic Planning	40	37%	16	29%	56	34%
	Financial	48	44%	19	34%	67	41%
	Human Resources	36	33%	11	20%	47	29%
	Marketing	36	33%	10	18%	46	28%
	Does not carry out any other activities	5	5%	3	5%	8	5%
	Other (s)	14	13%	18	32%	32	20%

Note: Significant association chi-squared test. Prepared by the authors, based on research data

Source: Prepared by the authors, based on SPSS 22 software.

Three distinct approaches were used for the statistical analysis of the collected data: descriptive statistics (Stevenson, 1986; Hair *et al.*, 2005; Levine et al., 2008 and Creswell, 2010) used to present the general characteristics of the sample; two nonparametric hypothesis tests (Levin, 1987 and Levine, Berenson, & Stephan, 1998; Hair *et al.*, 2005; Creswell, 2010) and the Mann-Whitney U

test, used to analyze the statistical significance of the differences found between the variables related to the information sources used and valued by the cost manager and the frequency of problems related to information sources. The Pearson chi-squared test was used to study the association of cost management practices used by the company with the company's economic activity. The level of statistical significance of 5% and level of reliability of 95% were considered to reject the null hypothesis between the variables for cost management practices.

The multivariate approach was adopted to analyze the structure of the internal relations between the variables related to cost management practice. These variables were measured on a Likert-type scale or five point semantic differential (Creswell, 2006 and Gil, 2008). The exploratory factor analysis technique was used, which employed the principal component method of analysis and Varimax orthogonal rotation, with the aim of describing the variable structure, observed from the factors created.

The following procedures were also carried out in this phase: analysis of internal consistency reliability by calculating the Cronbach alpha coefficient; Bartlett's sphericity test significant at the level of 5%; Kaiser-Meyer-Olkin - KMO test (HAIR et al., 2005); two distinct techniques were also implemented for this research, namely: cluster analysis and factor analysis. To this end, this research sought to apply a further multivariate technique, in order to achieve greater robustness, to characterize the relations and standard structures for companies in the dimension stone sector. All the statistical procedures used were carried out using SPSS 22 software.

#### 4 Analysis

The results relating to the company profile revealed a significant association ( $p < 0.05$ ) with the nature of the economic activity, that is, they showed that companies in commercial activities are younger than those in mining activities. In relation to the company turnover criterion, 77% are characterized as small companies (EPP), as described in Table 4.

With regards to characterizing the research subject, it is observed that the cost manager in this activity has between 7 and 14 years' experience,

independent of the company's economic activity. With regards to the characteristics of the cost manager's duties, the sample reveals that those in mining activities have more cumulative duties in marketing, ( $p < 0.05$ ). However, they also simultaneously accumulate sales duties (Table 5). The operational definition of the constructs observed the aggregation pattern and factor reliability indicated by the Cronbach alpha coefficients. The instrument presented a value of 0.897, while the factor coefficients were located between 0.63 and 0.91, indicating the instrument's good internal consistency for an exploratory study (Table 6).

**Table 6.** Reliability test for the exploratory constructs

Construct	Number of items	Cronbach's Alpha	Consistency
Cost management practices used by the company (P11 to P21)	11	0.915	Good
Information source used by the manager for decision-making (P22 to P26)	05	0.631	Tolerable
Information source's level of importance (P27 to P31)	05	0.719	Good
Level of importance given to identifying problems related to the information source (P32 to P36)	05	0.753	Good
Actions considered important as the company's current growth strategy in the cost manager's opinion (P37 to P41)	05	0.914	Good

Source: Prepared by the authors, based on SPSS 22 software.

The sample ( $n=164$ ) was made up of both male (83.5%) and female (16.5%) respondents. The profile for the most productive age range varied between 26 and 55, forming a total of 82.3% of the sample. The vast majority of the respondents have an average income of between seven and ten minimum salaries and all of them were identified as regularly employed or they performed a formal

activity, such as an administrator. With regards to the level of education, the highest percentage was having completed basic education, representing 46% of those researched. Likewise, the companies presented a framework characteristic of the number of direct employees, in a total of 71% of the sample (Table 7). Thus, a higher male presence is seen in this sector and another finding is that this sector has managers with a limited level of education.

**Table 7.** Cost management practices used by the company

Cost Management Practices Used By The Company	COMPANY'S ECONOMIC ACTIVITY			
	Wholesale Trade (n=108)	Mining (n=56)	Pearson Chi-Squared	p value
Carries out financial analysis of stocks – P11	57.4%	42.9%	3.130a	<b>0.077</b>
Makes a calculation to establish the sales price – P12	76.9%	57.1%	6.837	<b>0.009</b>
Makes a calculation to analyze the unit costs of products to be sold – P13	69.4%	44.6%	9.533	<b>0.002</b>
Makes a calculation to analyze the fiscal contribution margin – P14	56.5%	37.5%	5.315	<b>0.021</b>
Calculates the profit margin when preparing the sales price – P15	67.6%	41.1%	10.687	<b>0.001</b>
Has a structural analysis of the costs system – P16	37.0%	26.8%	1.739	0.187
Carries out a monthly or half-yearly breakdown of accounting, fiscal and budgetary information – P17	44.4%	37.5%	0.730	0.393
Carries out a monthly cash flow analysis – P18	51.9%	39.3%	2.335	0.127
Uses a method to analyze cost settlement (e.g. costs related to production are calculated and distributed for all products) – P19	45.4%	42.9%	0.094	0.759
Records the operating costs on a monthly basis – P20	47.2%	46.4%	0.009	0.923
Uses specific forms to record the above information – P21	30.6%	21.4%	1.543	0.214

Source: Prepared by the authors, based on SPSS 22 software.

Table 5 reveals that there is no significant difference ( $p > 0.05$ ) between the companies' economic activities according to the information sources used by the cost manager for decision-making. In these terms, it should be highlighted

that personal contacts and internal company sources were the most commonly used variables. In contrast, (Table 4) they present a similarity in the number of employees with all the companies from the sample having a maximum of 19 members of staff. In this case, commercial activities formed 73.1% of this variable and mining activities 66.1%. In relation to the criteria of company turnover, they are characterized as small businesses (EPP).

**Table 8.** Information sources used by the manager for decision-making

Currently, As A Cost Manager You Make Decisions Thanks To ...		Company's Economic Activity			
		Wholesale Trade	Mining	Mann-Whitney U	p value
Personal contacts - P22	Never	10.2% <sub>a</sub>		2532.	0.067
	Rarely	13.0% <sub>a</sub>	7.1% <sub>a</sub>		
	Sometimes	42.6% <sub>a</sub>	5.0% <sub>a</sub>		
	Frequently	30.6% <sub>a</sub>	42.9% <sub>a</sub>		
	Very Frequently	3.7% <sub>a</sub>			
Internal company sources – P23	Never	5.6% <sub>a</sub>	8.9% <sub>a</sub>	2739	0.280
	Rarely	9.3% <sub>a</sub>	5.4% <sub>a</sub>		
	Sometimes	48.1% <sub>a</sub>	60.7% <sub>a</sub>		
	Frequently	30.6% <sub>a</sub>	17.9% <sub>a</sub>		
	Very Frequently	6.5% <sub>a</sub>	7.1% <sub>a</sub>		
PARTNER GROUPS (union, clients and suppliers) – P24	Never	13.0% <sub>a</sub>	26.8% <sub>b</sub>	2571.5	0.097
	Rarely	24.1% <sub>a</sub>	21.4% <sub>a</sub>		
	Sometimes	47.2% <sub>a</sub>	39.3% <sub>a</sub>		
	Frequently	14.8% <sub>a</sub>	10.7% <sub>a</sub>		
	Very Frequently	0.9% <sub>a</sub>	1.8% <sub>a</sub>		
SPECIALIZED PRESS (media agencies) – P25	Never	34.3% <sub>a</sub>	44.6% <sub>a</sub>	2650.0	0.171
	Rarely	32.4% <sub>a</sub>	30.4% <sub>a</sub>		
	Sometimes	28.7% <sub>a</sub>	21.4% <sub>a</sub>		
	Frequently	4.6% <sub>a</sub>	3.6% <sub>a</sub>		
PUBLIC NETWORKS (e.g. Databases - IBGE, SEBRAE and BANDES ...) – P26	Never	34.3% <sub>a</sub>	41.1% <sub>a</sub>	2861.0	0.551
	Rarely	31.5% <sub>a</sub>	25.0% <sub>a</sub>		
	Sometimes	28.7% <sub>a</sub>	30.4% <sub>a</sub>		
	Frequently	4.6% <sub>a</sub>	3.6% <sub>a</sub>		
	Very Frequently	0.9% <sub>a</sub>			

Source: Prepared by the authors, based on SPSS 22 software.

With regards to characterizing the subject of research, it can be confirmed that the cost managers in this activity, on average, have between 7 to 14 years of experience, with no distinction between the activities for this variable, as per Table 4. In relation to the cost managers' functions, the sample reveals that mining activities have a higher cumulative function in marketing ( $p < 0.05$ ). However, no correlation was presented but they simultaneously accumulated sales functions. In line with the research carried out by Holatova and Brezinova (2013), this accumulation may contribute to reducing managerial capacity.

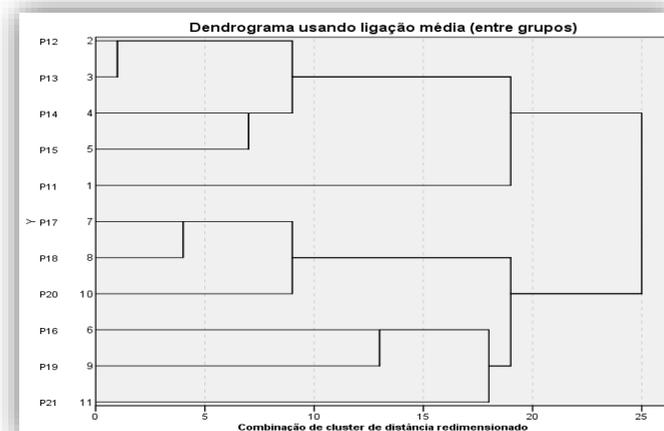
In relation to characterizing cost management activities, as per, a significant association in the P13 variable ( $p < 0.002$ ) is noted, with unit cost analysis exercised by 69.4% of cost managers in commercial activities. Similarly, a significant association was presented in the P15 variable ( $p < 0.001$ ), with calculating the profit margin when preparing the sales price being exercised by 67.6% of commercial activity managers. Thus, expressive data was noted in the P12 variable, in which 76.5% of commercial activity and 57.1% of mining activity managers accumulate the function of performing the calculation to establish the sales price. In addition, other relevant data was noted through the P17 variable, in which 55.6% of commercial activity cost managers and 62.5% from mining activities did not simultaneously break down accounting, fiscal and budget information (Table 7). In contrast, in research performed by Ahmad (2017) in the Malaysian manufacturing sector, the cost evaluation system and performance measurement are the variables most employed by companies. This specific finding and a comparison are further described in the conclusion.

As demonstrated, the data was collected from 164 companies and, after being tested, the answers obtained were validated in order to obtain an overview of this group of analysis. The cost management practices demonstrate that there is no economic association between these activities, that is the research data reveals that the economic activity is independent of economic practices and in order to corroborate the results obtained in this cluster analysis, which, in turn, prove the factor segmentation information presented in Figure 1. Thus, both economic activities analyzed follow the same economic practices with respect to information sources.

Following univariate treatment, to analyze the isomorphic behaviour of the companies investigated, multivariate analysis was performed. A dendrogram is presented in Figure 1, which considers the cost management practices which presented isomorphic behaviour between the groups of small and medium-sized companies analyzed. Three groups of factors can be observed. Factor 1 (F1) comprises the sales price variables (P12), unit cost (P13), contribution (P14) and profit margins (P15). Factor 2 (F2) is formed by these four variables: financial analysis of stock (P11), level of detail (P17), cash flow (P18) and cost

registration. Factor 3 (F3) comprises three variables: cost system structure (P16), cost appropriation method (P19) and use of specific forms (P21). Thus, the dynamic of the relations using cluster analysis was examined.

**Figure 1.** Dendrogram of the indicators by cluster tree (between groups)



Source: Prepared by the authors, based on SPSS 22 software.

Thus, latent relations between the variables could be suggested, such as relating Factor 1 with variables which perform calculations, as there are high positive correlations between them. However, they are correlated, as they have a high communality value (Table 9). The nature of the relations existing between the practices found in each of the clusters, factor analysis carried out using the variables P11 to P21, according to Aranha and Zambaldi (2008) and Hair *et al.* (2005).

**Table 9.** Extraction method: Principal component analysis. Rotation Method: Varimax with Kaiser normalization. Rotation converged in eight iterations

	Component		
	1	2	3
(P11) Financial analysis of stock	.370	<b>.664</b>	.147
(P12) Analysis of sales price	<b>.860</b>	.249	.093
(P13) Calculation of unit cost	<b>.882</b>	.197	.199
(P14) Calculation of contribution margin	<b>.654</b>	.539	.257
(P15) Calculation of profit margin	<b>.701</b>	.468	.198
(P16) Structural analysis of the cost system	.229	.351	<b>.735</b>
(P17) Carry out monthly breakdown of accountancy, fiscal and budget information	.299	<b>.718</b>	.413
(P18) Monthly cash flow analysis	.287	<b>.776</b>	.293
(P19) Cost appropriation analysis	.507	.023	<b>.746</b>
(P20) Recording monthly operating costs	.125	<b>.617</b>	.607
(P21) Use of specific registration forms	.007	.326	<b>.797</b>

Note. Source: Prepared by the authors, based on SPSS 22 software.

The factor analysis carried out using the variables P11 to P21 indicate independence between them, evaluated using Bartlett's sphericity test ( $p < 0.001$ ) and presented the Kaiser Measure of

Overall Sampling Adequacy (KMO) measurement in the value of 0.88 or  $>0.80$ , confirming the suitability of the size to apply factor analysis to the data. With regards to the total variation explained, Table 8 shows the data variance extraction method: Varimax rotation method principal component analysis, which aims to maximize the data variance in the first factors (HAIR et al., 2005). Thus, separate structure dimensions were identified, which allowed a reduction of eleven variables for three factors, obtained through the main components. Therefore, and according to Aranha and Zambaldi (2008), it was ascertained that 76.194% of the data variance observed is explained by these three factors. Thus, a reduction was observed in the data, with a loss of 23.806% of the total data variance noted in the model under analysis.

In Bruin (2006) and Aranha and Zambaldi's (2008) understanding, the initial eigenvalues presented in Table 10 are values obtained from the correlation matrixes, with the aim of obtaining a set of independent, unrelated vectors, which could explain maximum data variability, which indicate the total variance caused by each factor.

**Table 10.** Factor Analysis of Data

Component	Initial self-values			Sums of squared mining loads			Rotational sums of squared loads		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	6.279	57.085	57.085	6.279	57.085	57.085	3.070	27.908	27.908
2	1.355	12.317	69.402	1.355	12.317	69.402	2.779	25.265	53.172
3	.747	6.792	76.194	.747	6.792	76.194	2.532	23.021	76.194
4	.626	5.687	81.881						
5	.498	4.526	86.407						
6	.330	3.000	89.406						
7	.315	2.862	92.269						
8	.274	2.494	94.763						
9	.234	2.123	96.886						
10	.197	1.787	98.673						
11	.146	1.327	100.000						

Source: Prepared by the authors, based on SPSS 22 software.

It was noted in both the economic activities analyzed that independent of the cost managers' activities, the practices are the same in both areas of activity, concomitant with the same information sources. Moreover, decision-making due to personal contacts (P22) was noted as a characteristic of the sample, which is a relevant variable in this study. However, this characteristic was identified more frequently in mining (42.9%) than commercial activities (30.6%). With regards to decision-making, due to information simultaneously collated by unions, clients and suppliers (P24), both the activities under study describe that they sporadically turn to these information sources, with commercial activities

corresponding to 47.2% in this case and mining to 39.3% of the research under analysis.

Thus, it can be confirmed, based on research data, that the cost managers in both activities identify the following information sources as important, independent of association: personal contacts (P27); internal company sources (P28); unions, clients and suppliers (P29); the specialized press (P30) and public networks (P31). The major highlight in this data was shown simultaneously by the variables P27 and P28, which presented the statistical result of 67.6% of cost managers in commercial activities and 76.8% of cost managers in mining activities, respectively, which demonstrated the relevance of this information (Table 12). This data is equally corroborated with Ahmad's (2017) research findings, which revealed that the information generated by cost management is significant and pertinent to determine a company's performance.

**Table 11.** Actions important as the company's growth strategies

Actions Considered Important As The Company's Current Growth Strategy In The Cost Manager's Opinion		Company's Economic Activity			
		Wholesale Trade	Mining	Mann-Whitney U	P Value
Improving Collecting Cost Information (P37)	Not Important	0.9%		2970.5	0.831
	Neutral	9.3%	3.6%		
	Important	56.5%	66.1%		
	Very Important	33.3%	30.4%		
Improving The Storage Of Cost Information (P38)	Not Important	0.9%		3007.5	0.947
	Neutral	9.3%	3.6%		
	Important	57.4%	69.6%		
	Very Important	32.4%	26.8%		
Improving The Internal Distribution Of Cost Information (P39)	Not Important	2.8%		2976.0	0.847
	Neutral	10.2%	8.9%		
	Important	60.2%	66.1%		
	Very Important	26.9%	25.0%		
Preparing The Company For Competitiveness, Followed By A Search For New Markets. (P40)	Not Important	0.9%		2725.0	0.247
	Neutral	7.4%	8.9%		
	Important	47.2%	57.1%		
	Very Important	44.4%	33.9%		
Ensuring Internal Sharing Of Cost Experiences In The Company's Other Departments (P41)	Not Important At All	0.9%		2866.5	0.522
	Not Important	0.9%			
	Neutral	8.3%	14.3%		
	Important	63.9%	62.5%		
	Very Important	25.9%	23.2%		

Source: Prepared by the authors, based on SPSS 22 software.

As shown in Table 11, all the actions were indicated as being important as the companies' growth strategies, independent of the economic activity researched. In continuation, the data allowed a significant association in identifying problems with information originating from the specialized press to be noted, according to the variable P35 ( $p < 0.001$ ) with, in this case, 40.7% of cost managers in commercial activities occasionally identifying problems and 42.9% of these managers have never identified problems through the specialized press. To summarize, the cost manager identifies the following research variables as being important: improving the collection of information on costs (P37); improving the storage of this information (P38); improving the internal distribution of this cost information (P39) and, as a consequence, improving the company's preparation for competitiveness with the identification of new markets at a later date (P40) and, ensuring the internal sharing of cost management experiences in other departments of the company (P41). Table 11 presents the analysis of valuing information sources used by the cost manager and it is highlighted that the most valued information sources researched are as follows: a) personal contacts – with a percentage by the wholesale trade of 67.6% highlighted as an important information source and the mining sector with 76.8%, equally as an important information source and b) internal company sources – highlighting companies in the mining sector forming a percentage of 57.1% and the wholesale trade with a percentage of 55.6%.

**Table 12.** The cost manager's valorisation of the information source

HOW MUCH YOU, AS A COST MANAGER, VALUE THE FOLLOWING INFORMATION SOURCES:		COMPANY'S ECONOMIC ACTIVITY			
		Wholesale Trade	Mining	Mann-Whitney U	p value
PERSONAL CONTACTS (P27)	Not important at all	1.9%	3.6%	2911.5	0.626
	Not important	2.8%			
	Neutral	13.0%	7.1%		
	Important	67.6%	76.8%		
	Very important	14.8%	12.5%		
INTERNAL COMPANY SOURCES (P28)	Not important	1.9%	3.6%	2809.0	0.406
	Neutral	23.1%	25.0%		
	Important	55.6%	57.1%		
	Very important	19.4%	14.3%		
PARTNER GROUPS (UNIONS, CLIENTS AND SUPPLIERS) (P29)	Not important at all	0.9%		2630.0	0.137
	Not important	6.5%	16.1%		
	Neutral	25.0%	26.8%		
	Important	53.7%	46.4%		
	Very important	13.9%	10.7%		
SPECIALIZED PRESS (media agencies) (P30)	Not important at all	2.8%		2632.0	0.145
	Not important	11.1%	26.8%		
	Neutral	40.7%	35.7%		
	Important	43.5%	35.7%		
	Very important	1.9%	1.8%		
PUBLIC NETWORKS (E.G. DATABASES - IBGE, SEBRAE and, BANDES ...) (P31)	Not important at all		3.6%	2846.0	0.503
	Not important	12.0%	21.4%		
	Neutral	38.0%	23.2%		
	Important	47.2%	50.0%		
	Very important	2.8%	1.8%		

Source: Prepared by the authors, based on SPSS 22 software.

In line with these findings, the pertinence of micro and small companies in the economy is observed in various countries. A number of common factors for company insolvency are also highlighted: cost management, business knowledge and capital. Thus, adopting strategic cost management positively impacts performance and, therefore, micro and small companies reproduce the best practices of large-scale companies. Consequently and to reiterate, the results are not adequate, on account of differences, such as: intellectual capital, size, market position, product diversity and culture, among others. In these terms, it is confirmed that every company has its own characteristics and, simultaneously, may be located in distinct regional contexts. Thus, a path adapted to the company and its context should be sought (Dos-Santos, Dorow & Beuren, 2016; Bao & Gong, 2017 and Maziriri & Mapuranga, 2017).

## 5 Conclusion

The aim of this research was to analyze the operations of micro and small companies which currently act in mining and processing dimension stones sector and verify the result of these organizations with regards to exercising cost management, with a view to the presence, or otherwise, of the practice of mimetic isomorphism. In order to analyze the isomorphic behaviour of the 164 companies investigated, a multivariate analysis was performed. The results demonstrated the presence of mimetic isomorphism in these companies' cost management practices, which were studied in three groups of variables.

With regards to company profiles, it was found that commercial activity accounted for 73.1% and mining 66.1%; they are characterized as small businesses (EPP) and have a maximum of 19 employees. With regards to the respondents, 83.5% were male, aged between 26 and 55; had completed basic education; were employed; exercised management activities for a period of 7 to 14 years and accumulated the function mainly with marketing activities. This fact demonstrates that the perceived reality objectively reflects a sector with a massive male presence and limited level of education.

With regards to characterizing cost management activities, it was noted that unit cost analysis is exercised by 69.4% of cost managers in commercial activities. Thus, it was observed that

calculating the profit margin when preparing the sales price is carried out by 67.6% of commercial activity managers. Consequently, the research revealed expressive data: 76.5% of commercial activity managers and 57.1% from mining activities accumulate the function of performing this calculation, in order to establish the sales price. To this effect, the sector analyzed also indicates a major presence of accumulating duties to carry out activities performed by the cost manager. Thus, it is confirmed, based on research data, that cost management is valued in both activities. The most commonly sought information sources are: personal contact and internal company sources.

Further relevant data noted was that 55.6% of cost managers from commercial activities and 62.5% from mining activities do not simultaneously break down accounting, fiscal and budget information. This finding corroborates the conclusions of Chiodi Filho and Chiodi (2009) who found a similar result in their research on this sector and highlighted that the dimension stone sector is almost completely made up of micro and small companies with a very high level of informality. The emphasis of not breaking down this information suggests continuity of this level of informality in this research.

The research was carried out at companies which are positioned in distinctive production chains, which overlap in this field of economic activity. Based on the research data, despite the accumulation of functions, it can be confirmed that cost management is valued in both activities. The cost manager considers the improved internal collection, storage and sharing of this information to be relevant, preparing the company for competitiveness and a search for new markets at a later date.

The results show the presence of mimetic isomorphism when cost management was practiced by these companies, which were studied in three groups of factors. Both the economic activities analyzed follow the same economic practices for the same information sources.

## 6 Implications and Further Research

The research was performed at 162 companies positioned in distinct productive chains, which overlap in this field of economic activity. The conclusions are limited to them.

As a result of the study, cost managers can

reduce the repetition of best practices that do not apply to micro and small enterprises. This mere repetition, a simpler path, may become inadequate.

Based on this study, it was observed that future research should further develop the characterization of this economic phenomenon and study which resources would be required to improve cost management in micro and small companies in the segment analyzed. Similarly, future studies should analyze the reasons why 55.6% of the cost managers in dimension stone wholesale trade activities and 62.5% in the mining sector do not seek to combine accounting, fiscal and budgetary information with cost management practices at their respective companies.

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