
THEORETICAL POSSIBILITIES IN BUSINESS STUDIES: SME'S INNOVATION AND FIRM GROWTH THEORY CONNECTION

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SUMMARY

The emergence of Fintechs as competitors in the financial industry has created a debate concerning their ability to compete with traditional banking institutions. Therefore, to propose ways to study fintechs, this article aims to build research questions and possible topics for future studies in fintechs, using as basis the Innovation Management and Penrose's Theory of Firm Growth. The methodology used was a literature review with documental analysis, in order to find connection

between the theories. The objectives were achieved, making possible to present research questions from the theories. The findings showed that there is an incipient connection between both theories, where few studies point to the possibility of explaining the behavior of small firms (fintechs) using elements from both theories. The novelty in this paper is to propose the use of these theories as basis for a new approach in the study of fintechs.

Introduction

Innovation is one of the main factors leading to organization competitiveness; being conceptualized as the acquisition and improvement of products, processes, organization and marketing, permitting the increase of market share of organizations,

and consequently bringing positive commercial yields and also an increase in profitability. (Oslo Manual, 2010; Moutinho *et al.*, 2015).

The literature highlights the survival problem of many companies in a high competition scenario (Bradonjic *et al.*, 2019). Such concerns comes from many different factors (Shi *et al.*, 2019).

Companies seek to develop new mechanisms in order to strengthen their presence, creating particularities to achieve or create new demands. Then, it is important to develop strategies to expand their abilities in using resources to build their demand, or achieve some specific markets. (Bradonjic *et al.*, 2019).

So, as innovation is a boosting tool in this complex scenario of

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creation, expansion and maintenance in the market, it is still a theoretical theme that demands more investigation (Shi *et al.*, 2019; Bradonjic *et al.*, 2019).

One of the most important and emergent sector on the current financial scenario is the Fintech. There is still no consensus among researchers about the concept of Fintech, or well developed theoretical framework (Milian *et al.*, 2019). However, a Fintech presupposes a set of digital technologies applied to the banking or financial environment, facilitating transactions and providing banking services (Chen *et al.*, 2019).

Bettinger (1972) *apud* Schueffel (2016) describes Fintech as an acronym to “financial technology”, combining banking knowledge with modern business techniques and the use of computers.

For Gromek (2018), some Fintechs are startup companies: service providers, facilitators of financial services and technology providers. Many small financial companies are able to compete with big banks. Why and how they stay in market without expanding or being absorbed by great banks is a phenomenon to be investigated, leading to the following question: How do small Fintechs can remain in the market, attend to specific demands and respond to pressure from great corporations?

So, this article discusses the theoretical possibilities to investigate such phenomenon, the existence from micro and small Fintechs in scenarios of great competition. Far from discussing practical cases, the paper aims to highlight possible theoretical frameworks

to understand the matter and help to develop future research.

Theoretical Framework

As showed in the previous session, this paper discusses two theoretical backgrounds, and then relates them with one another in order to give rise to possible research questions.

Innovation Management in SME's

Schumpeter (1982), was the first to explain innovation from an economic point of view. Before, it was treated as something intuitive and unstructured; these practices occurred in a timely or occasional manner. There was no system for quantifying or measuring this innovation. (Bradonjic *et al.*, 2019).

Innovation, as conceptualized by the Oslo Manual (2010), includes changes in products or processes, but also structural and organizational reengineering, or even in new ways of configuring market analysis.

Gunday *et al.* (2011), state that the type of innovation, the scope (scope) and the actors involved should be considered in the study. For an innovation to establish itself and allow the generation of value, there must be interest among all authors who participate in the process, and who somehow have their share of contribution to the process (Löfqvist, 2017).

Thus, some relevant issues are observed: the importance of innovation for organizations in general; the conceptual diversity of innovation for

different organizations; the latent advantages and difficulties of SME's in identifying innovations. (Löfqvist, 2017; Edwards, 2017). Edwards (2017) corroborates some of these points of view, and indicate innovation as a structured, interdependent process, far from being an isolated act.

Anyway, the elements raised throughout this chapter on innovation management in SMEs are listed briefly in Table I. Subsequently, these elements can be identified for Fintechs.

So, these are the elements of analysis in innovation, which, when added to the elements of the Theory of Firm Growth, shown in the next chapter, may help explain the survival of small fintechs in high competitive scenarios.

Theory of Firm Growth (TFG)

The firm's growth theory brings the aspects of innovation management. According to Guarascio and Tamagni (2016), this theory emanates from an economic perspective, and is not necessarily associated with management theories.

Penrose is one of the first to consider a theoretical construction to explain the firm's internal growth. According to Pelaez (2007), one can verify the main points of analysis of this theory.

Elements of analysis of the TFG

The starting point for the use of the TFG is centered on the fact that SMEs have innovation characteristics

TABLE I
INNOVATION MANAGEMENT IN SME'S: ELEMENTS OF ANALYSIS

Elements of analysis of Innovation Management in SME's	Authors
Strategies of creation and maintenance of demand	Bradonjic <i>et al.</i> , 2019; Löfqvist, 2017; Oslo Manual, 2010; Chaochotechuang and Mariano, 2016; Carvalho and Yordanova, 2018
Innovatin/Specialization strategy	Gancarczyk and Gancarczyk, 2018; Edwards, 2017; Oslo Manual, 2010; Chaochotechuang and Mariano, 2016
Production/adaptation flexiblility	Edwards, 2017; Bradonjic <i>et al.</i> , 2019; Carvalho and Yordanova, 2018; Kesting and Günzel-Jensen, 2015
Types and scope of innovation	Bradonjic <i>et al.</i> , 2019; Carvalho and Yordanova, 2018; Choi <i>et al.</i> , 2016; Kesting and Günzel-Jensen, 2015
Core business analysis	Oslo Manual, 2010; Chaochotechuang and Mariano, 2016
Productive specialization	Edwards, 2017; Carvalho and Yordanova, 2018; Choi <i>et al.</i> , 2016; Kesting and Günzel-Jensen, 2015
Risk/investment analysis	Gancarczyk and Gancarczyk, 2018; Martínez-Román <i>et al.</i> , 2011; Bradonjic <i>et al.</i> , 2019; Chaochotechuang and Mariano, 2016
Resource limitation	Martínez-Román <i>et al.</i> , 2011; Choi <i>et al.</i> , 2016
Absorption and improvement of practices from competitors	Bradonjic <i>et al.</i> , 2019; Carvalho and Yordanova, 2018; Kesting and Günzel-Jensen, 2015

Source: The authors (Serpe *et al.*, 2021).

quite particular (Innovation Management in SMEs), different from large companies, and that may indicate a pattern of behavior or conditions of existence (Theory of Firm Growth) in environments highly competitive that differ from that of large corporations. (Nassar *et al.*, 2014); (Rezende *et al.*, 2015).

And these existence conditions are only partially explained (Penrose, 1995); the author indicates that there is an analysis of specific cases, which disregard a statistical strength to explain the phenomenon, as may be the case of SMEs, especially in startups. In this case, the Firm's Growth Theory indicates the theoretical assumptions that guide this growth and stay in the market, but does not clearly explain how a significant group of small companies manage to remain efficient in highly competitive environments for long periods of time. This is precisely the meeting point between the two theories: there seems to be a gap in how and why the phenomenon occurs.

So, by studying the TFG literature, we are able to identify the elements of analysis, shown in Table II.

After showing the Table II with the elements of analysis, and observing the connections that can emerge from the association between the two main axis, it is possible to conjecture some insights that could help to understand how the elements in Innovation Management and the Theory of Firm Growth can explain the survival of Fintechs in high competitive scenarios.

Methodology

A theoretical article presupposes reflection on the related themes, theoretical foundation and the development of new possibilities, according to Bense (1947), cited by Meneguetti (2011).

This article, as a theoretical analysis, uses the form of essay, describing two main theoretical axes, in order to find interconnections between them that could help create a research design.

“The essay article is the form of the critical category of our spirit, because whoever criticizes needs to experiment, needs to create conditions under which an object becomes visible again and differently than in an author” (Bense, 1947: 420). Then, for the survey of articles relevant to the two theoretical axes, a theoretical review of the proposed themes was carried out.

Thus, the preliminary search for relevant works was carried out in online article bases: Science Direct, Scopus and EBSCO. In the initial filter, the following criteria were used: selection

of articles published in the last five years (originality and topicality); research papers (exclusion of review articles). The search words used were the same in all databases, namely: “innovation management”; “MPE”; “Startup”; “Theory of firm growth”. In Table III, there is a synthesis of the articles obtained in this primary research.

After reading the titles and abstracts, the articles were recorded, and the articles that included the following themes were included: concepts of innovation; innovation activities; implementation and maintenance of innovation in SMEs and startups; as for the elements involving SMEs, we sought those that dealt with productive flexibility; adaptability; conceptual diversity.

Of the filtered articles, 28 were used. After performing the aforementioned reading and filing of the works, those who did not meet the established criteria were excluded, that is, the works that did not directly discuss the theme of innovation management associated with the Theory of Growth of the Firm in SME's.

Additional articles were researched, filtering them by the 5 years criteria for state-of-the-art articles on the subjects. It should also be noted that other articles that were already part of the researcher's database were used, which explains the existence of works with more than 5 years considered useful to help establish the theoretical arguments.

Results and Discussion

This session discusses the core and objective of the paper: present research propositions that may emerge from the connection between both theories previously described. The first subitem, discusses the research possibilities that may emerge from elements from both theories. The previous tables highlight elements of analysis, and now these elements are compared and discussed altogether.

The discussion, in the first subitem, presents these possible connections through text, pointing that there are gaps and possibilities of discussion between the theories, concerning the study of fintechs. As a result from a theoretical

TABLE II
ELEMENTS OF ANALYSIS OF THE THEORY OF FIRM GROWTH

Elements of analysis of the Theory of Firm Growth	Authors
Recombination of productive resources	Penrose, 1995
Resource allocation	Penrose, 1995; Nassar <i>et al.</i> , 2014
Use of competitive advantages	Garnsey and Heffernan, 2015; Nassar <i>et al.</i> , 2014
Productive specialization	Penrose, 1995; Nassar <i>et al.</i> , 2014; Guarascio and Tamagni, 2016
Identification of growth limits	Penrose, 1995; Guarascio and Tamagni, 2016; Greve, 2017; Rezende <i>et al.</i> , 2015
Evolution: foundation, growth, stabilization.	Penrose, 1995; Almeida and Pessali, 2017

Source: Elaborated by the authors (Serpe *et al.*, 2021).

TABLE III
SEARCH TERMS, BASES AND RESULTS

Search terms (all fields): “innovation management*” AND “SME” AND “startup” OR “theory of firm growth”	
Science Direct	38 articles
Scopus	16 articles
EBSCO	21 articles
Total	75 articles
After download, it was proceeded to exclude the common articles to two or more bases	
Results after filtering	30 articles

Source: Elaborated by the authors (Serpe *et al.*, 2021).

essay, the subsection 4.1 focuses on the inexistence of connection between both theories in the present literature.

The sequence, subsection, summarizes the possible connections and hypothesizes about managerial problems that could be explained using both theories. In other words, the subsection shows possible questions that could give rise to future discussions. And these theory inferences may help comprehend how innovative fintechs operate in the market.

The incipient connection between Innovation Management and the Theory of Firm Growth

The connection between the theoretical axis of the Theory of Firm Growth and the Innovation Management theories are: the strategies of diversification and specialization. According to Penrose (1995), these strategies are driven by the wishes of entrepreneurs. However, they obey competitive pressures, internal structural changes, analysis of consumer market behavior, other micro and macro-economic issues, and forces that are not directly under the manager's control or that cannot be predicted with accuracy. Accordingly, all elements underlying a company, such as strengths and weaknesses, threats and opportunities, environmental and internal characteristics form the backdrop for analyzing the behavior of a group of companies.

Although the expansion makes latent the need for investments in innovation, whether in the productive area, in the administration of marketing and distribution of products or in the administrative structure itself, expansion is not always desirable, mainly, according to Penrose, when the costs for this expansion are far beyond the possible returns that would be obtained with this expansion. (Almeida and Pessali, 2017; Garnsey and Heffernan, 2015).

The Firm's Growth Theory highlights the reasons for the expansion of the firm, and that such growth is absolutely desirable, or even inevitable. The discussion about the advantages of accessing technical services or other categories, which would not be available to small companies, stands out. Penrose calls this the administrative problem.

According to the author, financial limitations inhibit growth and facilitate the sale of the company, imposed by competitive pressure or by fiscal limitations; as access to credit, associated with the difficulty of obtaining the necessary capital to mobilize its internal resources.

Penrose also indicates that, in order to avoid these growth problems, the organization has some alternatives, such as "the sale of its assets; stop growing significantly; or gradually become inefficient, eventually failing". (Penrose, 1995: 249).

In this case, it becomes clear the observation that there are small companies that obey a standard of operation capable of maintaining their efficiency, specializing their activities and avoiding a growth trend with all the problems inherent to this. Such companies remain competitive in markets with fluctuating demands, but are not acquired and still manage to specialize their portfolio of products and services.

When Penrose says that, for this analysis, one should resort to individual biographies and the cases of successful entrepreneurs, she indicates that mergers and acquisitions are recurrent phenomena to avoid the growth problems mentioned above. But a possibility suggested in the reading of these texts, and in association with the theory of innovation management, indicates another way, or alternative, capable of facing the pressures of demand, which would be the use of the elements of innovation management in the formatting of a competition strategy (Garnsey and Heffernan, 2015; Nassar *et al.* 2014).

It is important to highlight that, by reading and identifying the elements of analysis, productive specialization can be the theoretical element that could support the analysis of maintaining the competitive standard in a specific set of companies. This is the clearest association in the article, and it can become the starting point from which other relationships can be investigated. In this way, it is possible to trace some relationships between the elements of analysis, presenting some paths of investigation, listed below.

For example, a recombination of productive resources (Penrose, 1995), could be explained by the limitation of present resources (Martínez-Román *et al.*, 2011; Choi *et al.*, 2016). In this case, how companies can pose different results without having to commit extra resources or even external resources.

The forms of resource allocation (Penrose, 1995; Nassar *et al.*, 2014), can be associated with the concepts of innovation/adaptation strategies (Gancarczyk and Gancarczyk, 2018; Edwards, 2017; Oslo Manual, 2010; Chaochotechuang and Mariano, 2016), in order to explain how the disposition of internal resources can be affected by internal policies or innovation strategies.

As for the use of comparative advantages in TFG (Garnsey and Heffernan, 2015; Nassar *et al.* 2014), the following associations can be created: with the flexibility of production / adaptation, meaning that MPE's have the flexibility to adapt to scenarios that favor meeting regional demands, which brings to the fore the question of the use of potential advantages or opportunities presented by the local market

With limited resources (Martínez-Román *et al.*, 2011; Choi *et al.*, 2016), comparative advantages could become a strategy to face this small amount of resources. When it comes to the absorption and improvement of competitors' practices, this can be achieved with the use of certain specific advantages of small businesses, which would generate another point of investigation. More clearly, the analysis of the core business (Manual de Oslo, 2010; Chaochotechuang and Mariano, 2016) is a strategy for the identification and focus on comparative advantages that can become differentials in the market.

With regard to productive specialization (Penrose, 1995; Nassar *et al.* 2014; Guarascio and Tamagni, 2016), the possibility of investigating the core business (Manual de Oslo, 2010; Chaochotechuang and Mariano, 2016), as a way for the company to focus on the elements that really bring some kind of competitive advantage without diverting resources to activities or innovations that are not involved in this aspect of competitive advantage.

This relationship seems to point to a great possibility for research, since the two elements highlighted here have great conceptual proximity. Productive specialization can still join the scope / types of innovation (Bradonjic *et al.*, 2019; Carvalho and Yordanova, 2018; Choi *et al.*, 2016; Kesting and Günzel-Jensen, 2015), which mean radical or incremental innovations; and product, process, marketing or organizational. Here, there is the possibility to focus on a particular type of innovation according to your specialization strategy.

As for the identification of growth limits (Penrose, 1995; Guarascio and Tamagni, 2016; Strike, 2017; Rezende *et al.*, 2015), may be linked to demand creation and maintenance strategies (Bradonjic *et al.*, 2019; Löfqvist, 2017; Manual de Oslo, 2010; Chaochotechuang and Mariano, 2016; Carvalho and Yordanova, 2018), since, according to these authors, the company can develop a defensive stance against larger competitors, observing the service to specific niches of demand, not yet served by

large competitors. these niches, there would be a growth limitation when it comes to products and services already operated by large companies.

In addition, growth limits can be linked to innovation / specialization strategies (Gancarczyk and Gancarczyk, 2018; Edwards, 2017; Oslo Manual, 2010; Chaochotechuang and Mariano, 2016), since this innovation strategy can be limited by factors such as very localized specific interests, as well as by the innovation strategies developed to create demand for large companies. In this case, small companies would have this difficulty due to the positioning of some large companies in certain markets. Another point refers to the limitation of resources (Martínez-Román *et al.*, 2011; Choi *et al.*, 2016), which can again indicate a growth limit.

This limitation can be of different types, as seen throughout this text, such as the asymmetry of access to information; the lack of external support, whether technical or financial; internal resource limitations.

Finally, regarding issues of foundation, growth and stabilization in the market (Penrose, 1995; Almeida and Pessali, 2017), can be determined by strategies for creating and maintaining demand (Bradonjic *et al.*, 2019; Löfqvist, 2017; Oslo Manual, 2010; Chaochotechuang and Mariano, 2016; Carvalho and Yordanova, 2018); in the case of meeting specific demands not identified by major competitors, creating specific niches that provide the basis for stabilizing the market, even without growth, which could help answer the main research problem, which is precisely the explanation of the phenomenon stabilization of startup-type Fintechs in highly competitive markets. In addition, the history of foundation, growth and stabilization may constitute a defensive innovation strategy (serving niche markets).

Propositions for future research

After discussing the state-of-art of the main theories used in this paper, and analyzing their possible connections and gaps that could be explored in the study of fintechs, we aim at providing research propositions. Again, we are only presenting possibilities for future studies, and we do not state that these questions are the only ones concerning the use of these themes in studying fintechs, but they could offer ways to use the connections previously described in subsection 4.1 to help answer them.

So, we present here five research propositions, making possible

connections between the gaps and themes from both theories and how they could explain the behavior of innovative fintechs in the market:

P1. Innovation management can explain the maintenance of small Fintech type companies in highly competitive markets;

P2. Models can be developed, in the light of the firm's GI and Growth theories, that contribute to explaining how small Fintechs businesses remain in competitive markets;

P3. Innovation Management can provide, in the light of the Firm's Growth Theory, a proposal to explain reality through a model that identifies the issue of the survival of small Fintechs businesses in highly competitive markets;

P4. No models were found to assess, in the light of the Theories of Firm Growth and Innovation Management, the reasons for the permanence of micro and small companies in the financial area in highly competitive environments;

P5. The existence and permanence of small businesses in the financial sector in highly competitive environments presupposes that these companies have a business model that favors innovation as a strategy.

Figure 1 shows the basic structure proposed for the research. In general, the study proposes to use Innovation Management in SMEs and TFG to help explain the survival of small Fintech businesses in highly competitive markets. As highlighted in the article itself, no more in-depth study was found within TFG concerning small businesses in highly competitive markets. Moreover, other elements of the TFG could be

explained, as a proposal, using the Innovation Management in SME's.

In this case, this study highlights the basic structure proposed for future research, aiming at proposing a basic framework and research questions from which develop innovation studies in digital financing companies, i.e. fintechs, which have been through intense competition with traditional banking institutions. This study also give special attention to characteristics of small businesses in general, and the fintechs in particular.

The article serves as a basis for future research, proposing the use of both theories to further comprehend the characteristics and relationships of fintechs in the modern financial industry. According to a study by SEBRAE (2016), the identification of size and sector is key to comprehend the questions concerning a company or a group of companies. In this case, the proposal involves small companies that provide remote and digital financial services.

Conclusion

This article has showed the theoretical possibilities of using both Innovation Management and Theory of Firm Growth to help create a future framework and research ground in Fintechs. There was no indication of usage of both theories together. Their theoretical elements draw possibilities that can be intertwined with competition with larger banks and their capability to sustain their business model in the long term.

Far from studying the immediate consequences or specific dynamics showed by Fintechs in the market,

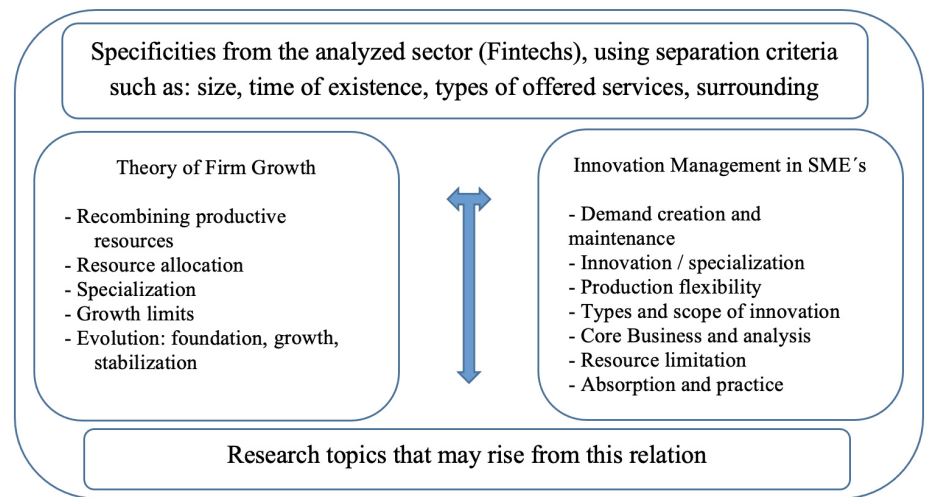


Figure 1. Research framework for Fintechs. Source: Elaborated by the authors (Serpe *et al.*, 2021).

this article serves as a basis, or a proposal, using these theories in order to better comprehend how fintechs behavior in the market.

As a new business model, and thanks to its specific virtual service model, they offer new possibilities of discussion in an ever changing environment. The banking system has been going through a series of changes as new competitors rise; the use of digital tools and the internet enable for the emergence of remote services. The possibility posed by fintechs to reach new markets remotely gives rise to discussions about regulatory systems and how they behavior, as frauds and other crimes could harm not only customers, but their own survival in the market.

As we couldn't find any study that treat fintechs specifically from the Theory of Firm Growth and Innovation Management theory perspectives, we sought to find in the specific literature from both themes separately, the subthemes and elements that could help comprehend fintechs.

Then, the main objective was achieved: to intertwine elements from both theories in order to open new possibilities for investigation. For the choice of both theories, it could be justified that Innovation Management in small firms help comprehend how fintechs, most part of them small companies, create and manage an innovation culture based on specific services or specialized services.

The Theory of Firm Growth, by its turn, help to comprehend how these companies are created, and how they manage to survive in competitive markets, specifically, the financial market, which presents giant and well established and consolidated financial institutions.

Further investigation should focus then in seeking to understand how these small and highly innovative companies operate in the market, facing major external forces such as competitors and the regulatory framework itself. As a theoretical article, it serves as a preliminary study in proposing several research possibilities, and a basis to discussions and partnerships in other projects that revolve around the study of fintechs and their characteristics.

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POSIBILIDADES TEÓRICAS EN ESTUDIOS EMPRESARIALES: INNOVACIÓN EN PYMES Y SU CONEXIÓN CON LA TEORÍA DEL CRECIMIENTO DE LA EMPRESA

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RESUMEN

El surgimiento de Fintech como competidores en la industria financiera ha creado un debate sobre su capacidad para competir con las instituciones bancarias tradicionales. Por lo tanto, para proponer formas de estudiar fintechs, este artículo tiene como objetivo construir preguntas de investigación y posibles temas para futuros estudios en fintechs, utilizando como base la Gestión de la innovación y la Teoría del crecimiento empresarial de Penrose. La metodología utilizada fue una revisión de literatura con análisis documental, con el fin

de encontrar conexión entre las teorías. Los objetivos fueron alcanzados, posibilitando plantear preguntas de investigación desde las teorías. Los hallazgos mostraron que existe una conexión incipiente entre ambas teorías, donde pocos estudios apuntan a la posibilidad de explicar el comportamiento de las pequeñas empresas (fintechs) utilizando elementos de ambas teorías. La novedad de este trabajo es proponer el uso de estas teorías como base para un nuevo enfoque en el estudio de las fintechs.

POSSIBILIDADES TEÓRICAS EM ESTUDOS EMPRESARIAIS: CONEXÃO ENTRE INOVAÇÃO EM PMES E TEORIA DO CRESCIMENTO DA FIRMA

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RESUMO

O surgimento das Fintechs como concorrentes no setor financeiro criou um debate sobre sua capacidade de competir com as instituições bancárias tradicionais. Portanto, para propor formas de estudar fintechs, este artigo visa construir questões de pesquisa e possíveis tópicos para estudos futuros em fintechs, utilizando como base a Gestão da Inovação e a Teoria do Crescimento da Firma de Penrose. A metodologia utilizada foi uma revisão de literatura com análise documental, a fim de en-

contrar conexão entre as teorias. Os objetivos foram alcançados, possibilitando apresentar questões de pesquisa a partir das teorias. Os achados mostraram que há uma conexão incipiente entre ambas as teorias, onde poucos estudos apontam a possibilidade de explicar o comportamento de pequenas empresas (fintechs) utilizando elementos de ambas as teorias. A novidade neste artigo é propor o uso dessas teorias como base para uma nova abordagem no estudo das fintechs.