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**INTERNATIONALIZATION THROUGH PROJECT MANAGEMENT: A STUDY
ON HOW TO PRIORITIZE INTERNATIONALIZATION PROJECTS WITHIN
INCUBATED COMPANIES¹**

*INTERNACIONALIZAÇÃO POR MEIO DE ADMINISTRAÇÃO DE PROJETO:
UM ESTUDO SOBRE COMO PRIORIZAR PROJETOS DE
INTERNACIONALIZAÇÃO DE EMPRESAS INCUBADAS*

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ABSTRACT

Internationalization is no longer perceived as a strategy of gradual expansion, but rather a prerequisite for long term survival, not only for larger organizations but also for SMEs and incubated companies. Thus, business incubators have to adapt to this new reality, preparing entrepreneurs for international expansion providing managerial tools, knowledge management support and networking connections. The article presents a technique that prioritizes the choice of key areas for project portfolio management based on the most relevant constructs found in the business literature on internationalization strategies and barriers, business incubators management and international entrepreneurship. The study was carried out as a three stages business-oriented research of qualitative and quantitative nature; focusing on the study of internationalization, project management and the development and application of a prioritization tool for project portfolio management in four incubated companies in the city of Natal/RN. The researchers have reached some valuable insights that can be explored to further support the internationalization strategy of incubated companies and the utilization of the Life Cycle Canvas Methodology, such as:

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the possibility of shared project efforts amongst the incubated companies (cutting costs and improving the business incubators' processes); the creation of a project portfolio management process (helping incubated companies to prioritize key internationalization); and the development of the concept for a Internationalization Balance Score Card (expanding the scope of the present study into a broader scenario).

Keywords: internationalization, project management, LCC model; international entrepreneurship, business incubators.

RESUMO

A internacionalização já não é percebida como uma estratégia de expansão gradual, mas sim como um pré-requisito para a sobrevivência a longo prazo, não só para organizações de maior dimensão, mas também para PMEs e empresas incubadas. Assim, as incubadoras de empresas precisam se adaptar a esta nova realidade, preparando os empreendedores para a expansão internacional fornecendo ferramentas de gestão, suporte à gestão do conhecimento e conexões de networking. O artigo apresenta uma técnica que prioriza a escolha de áreas-chave para gestão de portfólio de projetos com base nos construtos mais relevantes encontrados na literatura empresarial sobre estratégias e barreiras de internacionalização, gestão de incubadoras de empresas e empreendedorismo internacional. O estudo foi realizado como uma pesquisa de negócios orientada para três etapas de natureza qualitativa e quantitativa; com foco no estudo de internacionalização, gestão de projetos e no desenvolvimento e aplicação de ferramenta de priorização para gestão de portfólio de projetos em quatro empresas incubadas na cidade de Natal/RN. Os pesquisadores chegaram a alguns insights valiosos que podem ser explorados para apoiar ainda mais a estratégia de internacionalização das empresas incubadas e a utilização da Metodologia Life Cycle Canvas, tais como: a possibilidade de esforços compartilhados de projetos entre as empresas incubadas (redução de custos e melhoria processos das incubadoras de empresas); a criação de um processo de gestão de portfólio de projetos (auxiliando as empresas incubadas a priorizar a internacionalização-chave); e o desenvolvimento do conceito de Internationalization Balance Score Card (ampliando o escopo do presente estudo para um cenário mais amplo).

Palavras-chave: internacionalização, gerenciamento de projetos, modelo LCC, empreendedorismo internacional, incubadoras de empresas.



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INTRODUCTION

In the current business literature, internationalization has ceased to be seen as a strategy of gradual expansion, being now considered a requisite for long term survival, not only for larger organizations but also for SMEs and even incubated companies since their very inception (Costa et al., 2019a; Camilsón and Villar-Lopes; 2010; Gassman and Keupp, 2007).

As a result of that, business incubators have to also adapt to this new reality, preparing organizations for international development and expansion through the utilization of managerial tools, knowledge management and mainly networking connections (Engelman, Zen and Fracasso 2015; Theodorakopoulos et al. 2014).

Notwithstanding the fact that the barriers to internationalization, even for SMEs, have been considerably reduced, they remain complex and to many companies, unsurmountable (Narayanan, 2015; Andersson; Evers, 2015; Anderson *et al.*, 2013; Liesch *et al.*, 2011). Such barriers have different natures that are essentially interrelated and can hardly be dealt with separately. They may be internal (usually related to resources and managerial practice) such as: a) restrictions on non-tangible resources; b) financial restrictions; c) entrepreneurial and managerial restrictions; as well as external (mainly market related barriers out of the entrepreneurs' sphere of influence) such as: a) political interferences; b) economic barriers; c) cultural distances; d) legal barriers; e) physical distances (Costa et al, 2019; Kahiya, 2017; Wasowska, 2016; Cahen; Lahiri; Borini, 2016; Toulouva; Votopalova; Kubickova; 2015; Narayanan; 2015; Baum; Schwens; Kabst, 2013; Ojasalo; Ojasalo; 2011; Crick, 2007).

It is important to notice that poor networking is a barrier that increases the severity of other barriers both internal and external, being thus an internal



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as well as an external one (Agostinho *et al.*, 2015; D'angelo *et al.*, 2013; Schweizer, 2013; Wallin *et al.*, 2015).

Given the complexity and diversity of these barriers, entrepreneurs need to prioritize key challenges as resources are limited for incubated companies and not all challenges can be met.

One of the central arguments in the present article is that such barriers and challenges could potentially be tackled from a project management approach, including the use of the LCC tool as a visual technique, thus facilitating project management processes – including project portfolio management, project sharing, stakeholders' engagement and international entrepreneurship (Costa *et al.*; 2019a; Luiz *et al.*, 2017; Silva; Medeiros; Veras, 2018; Medeiros, 2017).

Despite the fact that there is no significant studies focused on project management within incubated business and business incubators, especially concerning internationalization, which results in a theoretical gap that can be further explored (Costa *et al.*; 2019a; Luiz *et al.*, 2017; Vanderstraeten and Matthyssens, 2010, Bruneel *et al.* 2012, Engelman, Zen and Fracasso, 2015); the internationalization process can be approached from a project management perspective in order to optimize the utilization of resources and maximize results, becoming an alternative tool to meet international market demands and create global competitive advantage into four fundamental categories: a) regulatory, legal or social requirements; b) stakeholders' requests; c) business or technological strategies; d) products, processes or services changes (Costa *et al.*, 2019a; Luiz *et al.*, 2017; Kerzner, 2017; Carvalho & Rabechini, 2017; PMI, 2017; Kerzner, 2017).

The present research was developed in order to support the utilization of visual project management tools, specifically the LCC Model (Veras, 2016) to promote the internationalization process of incubated companies through a



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technique that prioritize the choice of key areas for project management based on the most relevant constructs found in the business literature on internationalization strategies and barriers, business incubators and international competitiveness (Costa et al, 2019a).

Its main endeavour is to analyse the results of the application of a project prioritization tool for internationalization planning previously developed by Costa et al (2019a) in order to assess its usefulness as well as the likely new developments that its application may suggest for entrepreneurs and business incubators alike.

THEORETICAL REFERENCE

The concept of internationalization offers a vast range of perspectives and approaches that need address five interrelated questions: a) why internationalize; b) what internationalize; c) when internationalize; d) where internationalize; and e) how internationalize (Welch; Luostarinen, 2017; Carneiro and Dib, 2007; Johanson and Vahlne, 1990). Chart 1 summarizes the main school of thoughts and method of internationalization each offering specific answers to the abovementioned questions.

The overall internationalization models do not cover the internationalization strategies and processes of business incubators and incubated companies, owing to their variety, scope and size. However, given that business incubators are resource-sharing structures – particularly relevant for knowledge sharing and networking – which are designed to optimize the process of consolidation of the companies in the market, the understanding about incubated companies' strategies for international growth becomes paramount (Welch; Luostarinen, 2017; Engelman and Fracasso, 2013; Engelman, Zen and Fracasso, 2015; Dias, 2008; Etzkowitz, 2008).



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Chart 1: Internationalization – Main Schools of Thought

School of Thought	Main References	Theme and Units of Analysis	Method of Internationalization
Eclectic Economic Theory	Williamson (1975); Dunning (1977)	The interrelated factors are analysed to determine the extent, form and pattern of international involvement: Ownership(O); Location (L); Internationalization (I)	Determination of the entry mode via ownership and location analysis.
Process Theory	Johanson & Vahlne (1977; 1990)	A process of gradual international involvement, with a systematic development of market knowledge and resource commitment.	Progression from regular exporting to exporting with international partners to overseas manufacturing.
Network Theory	Johanson & Mattson (1988)	Internationalization is primarily the exploitation of network advantage, integrating the company into larger networks.	Establishment of relationships in country network and connection of those networks with other countries.
International Entrepreneurship Theory	Oviatt & McDougall (1994)	Focused on individual capabilities, considering entrepreneurial behaviour and activities as to foster international expansion.	Individual initiative via personal experience and vocation drives entrepreneurial activities.

Source: Created by the authors

As the incubation process became more complex in the digital economy, it also has acquired more tools to support internationalization; whilst the first and second generation of business incubators focused on infrastructure and corporate intelligence respectively; the new generations are more prone to focus their efforts on networking facilitation and virtual incubation, making easier to break regional economic frontiers (Costa et al, 2019; Alias et al, 2014; Dinsmore and Cabanis-Brewin; 2014; Tzafestas 2018; Bruneel et al., 2012; Engelman, Zen and Fracasso, 2015; Luiz et al, 2017).

The initial studies that has led to the present work were based on the relevant literature concerning internationalization and internationalization barriers, specifically for SMEs and business incubators (Costa, 2018; Costa et al., 2019; Costa et al, 2019a), which has pointed out to four fundamental constructs, divided into phenomenon, object and attribution (Bardin, 2011), that



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must be studied interdependently in order to encompass the overall academic consensus about the internationalization process and to support attempts to develop instruments to measure the internationalization potential of companies in general and incubated companies in particular. The constructs are: a) Strategic Management of Internationalization; b) Business Incubators Strategy; c) Internal Barriers; and d) External Barriers.

Those four constructs were presented by the authors not as isolated aspects of internationalization but as an essentially interrelated group of phenomena; *“whilst a preliminary analysis can benefit from studying those constructs separately; a robust and inclusive research instrument must encompass a global analysis of all constructs interrelations”* (Costa et al, 2019 p. 348).

Furthermore, given their relevance to the development of internationalization projects (Luiz et al., 2017; Nghi, and Nguyen 2010; Danesh, Ryan and Abbasi, 2017; Nieto-Rodrigues, 2016; Gosenheimer, 2012) and based on the principle that the internationalization process, due to its intrinsic characteristics, can be managed more effectively as a project aided by visual tools (Costa et al., 2019a; Veras, 2016), those constructs were used to develop a research instrument to support projects aiming at incubated business internationalization in order to optimize the prioritization models to define the right project to initialize the internationalization efforts and to integrate efforts from both entrepreneurs and incubated business managers alike.

On referring to project management approach to internationalization the present authors focus on a relatively modern managerial approach having been developed from the 90s onwards with the purpose of restructuring and adapting management tools and techniques in order to obtain better control and use of existing resources (Scheley; Lewis, 2017; Padalkar and Gopinath, 2016; Alias et al. 2014; Binder, Aillaud and Shilli, 2014; Kepner and Tregoe, 1965; Coleman



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2007). The relevance of such concept is agreed upon by both corporate executives and academics as one of the several feasible options for future organizations to integrate complex efforts and reduce bureaucracy (Costa et al; 2019a; Kerzner, 2017; Heldman, 2015; Saeed, 2012; Yasin, 2000), which leads to the belief that it may also optimize internationalization efforts in the organizations.

Each stage of the internationalization process as project management would demand specific efforts and implication into the overall project strategy (Costa et al 2019a; PMI, 2017; Kerzner, 2017; Carneiro; Dib, 2006), such as: a) identifying project requirements – What should be internationalized? When should the process occur?; b) establishing and maintaining active communication with stakeholders – Is there a growth strategy in place? Who is responsible for each stage of the internationalization process? How advanced is the networking strategy?; c) managing resources – What are the resources restrictions? How does the project integrate with the overall organization objectives?; and d) balancing conflicting project constraints – What are the budget constraints? How will the process of internationalization impact the established products/services and processes? Is there a need to rethink the portfolio strategy?

Moreover, the shortcomings of a project management approach are also taken into account in the current study, the problems that arise from poor planning and execution are well known and all may affect the internationalization process. Chart 2 summarizes the main limitations present in the relevant literature as well as its impact on the internationalization process.



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Chart 2: Limitations of Project Orientation and Impact on Internationalization

Limitation	Authors	Potential impact on an internationalization project
Mechanical, inflexible and bureaucratic models.	Geraldi, Maylor & Williams (2011); Whitney & Daniels (2013); Lafetá, Barros & Leal (2016).	Problems with cultural and operational adaptability.
Failure to tackle organizational and environment complexity.	Whyte, Stasis & Lindkvist (2016).	Poor reading of the international market – its opportunities and threats.
Content risks, failures and unsatisfactory results.	Prieto, 2015; Vidal, Marle & Bocquet (2011).	Insufficient expansion, poor ROI.
Poor communication and networking.	Bomfin, Nunes & Hastenreiter (2012).	Failure in integrating stakeholders into the project.
Complex project models are difficult to be managed/ understood.	Whyte <i>et al.</i> (2016); Williams (1999); Pinto, Vasconcelos & Lezana (2014).	Difficulty in engaging senior management.
Inadequate and complex tools.	Lafetá <i>et al.</i> (2016); Whitney & Daniels (2013); Geraldi <i>et al.</i> (2011).	Difficulty in engaging employees; poor strategic execution.
Difficulties to integrate projects to line processes.	Prieto (2015); Morris and Geraldi (2011)	Impossibility to adapt operations to support strategy.
Focus on standardization and operational issues as opposed to innovation and leadership	Judgev (2010); Cooke-Davies and Arzymanow (2003); PMI (2017)	Failure to recognize international market specificities and opportunities.
Failure to meet sponsors' expectancy especially on functionality requirements	Mir and Pinnington (2014); Binder, Aillaud and Shilli (2014)	Loss of senior management/ investors' support.
Poor budget planning and cost control	Binder, Aillaud and Shilli (2014); Judgev (2010)	Problems with liquidity; high cost of capital; poor ROI.

Source: Adapted by the authors.

The use of visual tools is widely recognized as way to simplify project processes and integrate stakeholders, as they provide a simpler, albeit efficient, managerial structure (Gurgel et al, 2017; Medeiros et al., 2018, Veras, 2016). Its use can be traced back to the lean management approach, employing tools and techniques that build a more effective information management system, concentrating on the business rather than on the business plan and emphasizing the right product/market fit (Eaidgah et al, 2016; Tezel & Aziz, 2017).



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Several benefits have already been listed by a myriad of project management authors from different backgrounds and regions such as: a) agile model for strategy launching; b) greater interaction amongst stakeholders; c) improved communication; d) higher level of communication and productivity; d) increased adaptability to SMEs; and e) objectivity (Veras, 2016; Mei 2015; Silva Filho et al., 2018; Nagamatsu, Barbosa, Rebecchi, 2014; Glória and Gonçalves, 2016, Finocchio Jr, 2013; Zandoval Bonazzi & Ari Zilber, 2014).

The present article follows the works of Finocchio Jr (2013) and Veras (2016) when approaching visual tools from a project management perspective, proposing a technique of general presentation and construction of a project on a canvas as well as presenting essential points related to its planning, organization, direction and control.

The Life Cycle Canvas (LCC) is presented below on figure 1; it utilizes both the PMBOK and PRICE 2 methodology in order to contemplate the whole life cycle of the project as well as to allow the development of a project through a sequential workflow (Gurgel et al, 2017; Medeiros et al., 2018).



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Figure 1: Life Cycle Canvas (Veras, 2016)

METHODOLOGY

The present study is a three stages business-oriented research of qualitative and quantitative nature (Costa et al, 2019; Costa et al 2019a; Saunders et al, 2016) it has taken place between March 2017 and November 2019 focusing on the study of internationalization, project management and development and application of visual tools.

On the first stage, the authors followed the precepts highlighted by Saunders et al. (2016), as to identify primary, secondary and tertiary sources regarding the phenomenon of internationalization and its impact on business incubators. Web of Science, Periódicos Capes/MEC, Google Academics and SciFinder were analysed on October 2nd, 2017 and afterwards on March 2nd, 2018 for relevant literature both in English and Portuguese. The following



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search terms were utilized: “Internationalization”, “Internationalization Barriers” and “Business Incubators”. (Costa et al, 2019a).

On the second stage, a different bibliographical and documental research was carried out as to adapt the initial results into a project management model based on the Life Cycle Canvas (Veras, 2016) with the purpose of supporting incubated companies throughout their internationalization planning and process.

Once that analysis was concluded, it was possible to suggest how to develop the project selection and prioritization tool in order to optimize the internationalization process, increasing the success rates of strategic projects. Thus, the constructs’ attributes that could become internationalization projects were highlighted and through the utilization of the GUT Matrix methodology were assembled into a research instrument (Costa et al, 2019a).

Finally, the third stage of the research was the application of the research instrument into some incubated companies chosen randomly by the authors with the support of two different business incubators in the city of Natal/RN – Inpacta and Empreende.

The pilot survey was applied between August and September, 2019. The survey was given in hands to the companies’ CEOs and throughout the processes of response the researchers were available to address any queries from the respondents, given the technical and organizational complexity revolving around the topic (Whyte, Stasis & Lindkvist, 2016). The details about the companies analysed are summarized on chart 3.

The companies already trading preferred not to disclose data regarding revenue, as the information was not directly relevant to this stage of the research, two of the companies were not trading yet, as they were still adjusting their product.



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Chart 3: Companies' Profile

	Company 1	Company 2	Company 3	Company 4
Industry	Beauty Services/ Digital	Chemicals/ Construction/Oil	Cementing Technology Industry	Fuel supply/ digital
Co. time	Less than a year	Over 4 years	1 to 2 years	1 to 2 years
No of employees	Between 2 to 4	Between 5 to 7	Between 2 to 4	Between 5 to 7
Incubator	Empreende – UNP	InPacta – UFRN	InPacta – UFRN	InPacta – UFRN
Revenue	Not trading yet	Undisclosed	Undisclosed	Not trading yet

Companies 1 and 4 had a digital business model, based on the app economy; the remaining companies were derived from the chemical/petrochemical industry, a clear influence of the interaction between the InPacta Business Incubators and the Institute of Chemistry at the Universidade Federal do Rio Grande do Norte.

RESULTS

The results below are summarized on Tables 1, 2, 3 and 4. They were divided by construct in order to allow for a seamless analysis with the possibility of future development of joint projects. As to be succinct in the current analysis, only the top four scores in each construct will be highlighted which should already give a robust perspective on the companies' main priorities and/or necessities. In case more than four objects have the same high score, they will all be presented; conversely, if several scores tie up at the bottom level (4th place) they will not be presented, as to concentrate on the top three priorities only.

The core of the first construct is the inter-relation of the strategic management to these internal and external economic, cultural e managerial attributes related to the internationalization process (Costa et al, 2019).



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Table 1: Construct 1 – Strategic Management of Internationalization

Problem/ Project Focus		G	U	T	Score
Co.1	The international consumer's behaviour was properly analysed.	5	5	5	125
	The company's networking with the external market is satisfactory.	3	4	4	48
	The company structure is adequate/can easily adapt to attend to the external market.	3	3	3	27
	The product/service has characteristics that make it competitive on an international level.	2	3	4	24
Co. 2	The product/service can be marketed through multiple sales channels.	5	5	5	125
	The company structure is adequate/can easily adapt to attend to the external market.	5	5	5	125
	The company's networking with the external market is satisfactory.	4	5	5	100
	The company has a strategic plan oriented towards international expansion.	5	3	3	45
Co. 3	The company's networking with the external market is satisfactory.	5	5	5	125
	The company structure is adequate/can easily adapt to attend to the external market.	4	4	4	64
	The company has a strategic plan oriented towards international expansion.	4	3	3	36
	There is an oriented managerial action towards innovation	4	3	3	36
Co. 4	The product/service can be marketed through multiple sales channels.	5	5	5	125
	The company has a R&D strategy to address its innovation efficiencies and deficiencies.	5	4	5	100
	The company structure is adequate/can easily adapt to attend to the external market.	5	3	3	45
	Resources are planned taking innovation as a driving force.	5	3	3	45

For Company1 it is noticeable that the problems with the highest ranking – which means, the problem given the highest values in the GUT Matrix in gravity, urgency and trend that can reach up to 125 points each ranking scoring between 1 to 5 (Kepner and Tregoe, 1965; Coleman 2007) – were related to knowledge about external markets and networking. The business model was originally developed for the regional market despite the fact that it is a digital company with considerable potential to scale up processes. Without knowledge of the external market, networking and processes are bottlenecked and international expansion impaired (Ahokangas; Juho; Haapanen, 2010).

For Company 2 it is possible to see similar issues regarding external market knowledge, especially issues with networking. Their problem is also



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structural, since they do not possess the productive structure and operations to attend to the external markets, which is aggravated by the lack of options on sales channels. Their issue is both strategic and operational.

For Company 3 it is noticeable again key problems on networking and international planning coupled with operational limitations (apparently not as severe as company 2). It seems that the issue with networking aggravates the operational limitations as there are no points of reference on to what markets to expand and how to improve the expansion model.

For Company 4 it is possible to notice more severe issues on the operational aspect of international expansion. The company business model was planned solely to attend regional and national markets and there is no plan of international expansion. The issue or R&D was raised, differently from the other companies, denoting the need to orienting efforts towards innovation.

The second construct is related to the orientation of the business incubators towards international expansion. It focuses on elements of all four generations of incubators (Bruneel et al, 2012) with emphasis on knowledge management and networking (Costa et al, 2019).

For Company 1 the key problems are related to provision of information and networking opportunities. It can be argued that so far in the incubation process the issues were not addressed which is coherent with the fact that the international expansion was not considered in the company original business model.

For Company 2 the issues are quite similar, even though the higher score denotes a more urgent need, which makes sense since Company 2 is already trading. Given that all 4 attributes got maximum marks (125 points), it is feasible to say that that company has maximum urgency in addressing the main issues on international process and somehow that urgency is not receiving its



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due attention from the business incubator, either by lack of communication or a different hierarchy of priorities.

Table 2: Construct 2 – Business Incubators Management

Problem/Project Focus		G	U	T	Score
Co.1	The incubator provides the necessary information regarding exporting.	4	4	3	48
	The incubator often organizes/offers the opportunity to attend international events.	4	4	3	48
	The incubator offers consulting, advice, research and training for internationalization.	3	4	3	36
	The incubator supports the companies with the issues on technology transfer.	3	3	3	27
Co.2	The incubator offers consulting, advice, research and training for internationalization.	5	5	5	125
	The incubator prepares entrepreneurs to meet international quality standards.	5	5	5	125
	The incubator provides the necessary information regarding exporting.	5	5	5	125
	The incubator often organizes/offers the opportunity to attend international events.	5	5	5	125
Co.3	The incubator offers adequate physical resources for the development of companies with a view to internationalization.	5	5	5	125
	The incubator offers consulting, advice, research and training for internationalization.	5	5	5	125
	The selection criteria for companies in the incubator focused on projects with products/services of an international nature.	5	5	5	125
	The incubator provides the necessary information regarding exporting.	5	5	5	125
	The incubator often organizes/offers the opportunity to attend international events.	5	5	5	125
Co.4	The incubator prepares entrepreneurs to meet international quality standards.	5	3	5	75
	The company's human resources are prepared to support internationalization.	3	4	4	48
	The recruitment process in the incubator established criteria focused on the entrepreneurial competence of the candidates.	4	2	4	32
	The incubator offers consulting, advice, research and training for internationalization.	5	1	5	25

For Company 3 we have an even more serious scenario, with 5 different attributes scoring maximum points. Once again, it is mainly an issue of knowledge management and networking; however, the company also raises issues about the selection criteria from the business incubators as well as its physical resources.



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For company 4 issues related to networking and knowledge management are also paramount; furthermore, there are concerns regarding the incubators' recruitment criteria as well. It was the first time that international standard of quality was raised, denoting an interest on that level of international engagement.

Table 3: Construct 3 – Internal (Managerial and Operational) Barriers

Problem/Project Focus		G	U	T	Score
Co.1	The strategy and operations are seamlessly integrated within an international expansion plan.	4	4	4	64
	The company's human resources are prepared to support internationalization.	3	4	4	48
	My marketing research is aimed at identifying potential international clients.	4	4	3	48
	I have established contacts with international stakeholders.	5	3	3	45
Co.2	I have established contacts with international stakeholders.	5	5	5	125
	My marketing research is aimed at identifying potential international clients.	5	4	4	80
	The company has analysed the external markets, its opportunities and threats.	5	3	3	45
	The company's human resources are prepared to support internationalization.	4	3	3	36
Co.3	The company's human resources are prepared to support internationalization.	5	5	5	125
	The company has a plan to acquire information and knowledge on external markets.	5	5	5	125
	I have established contacts with international stakeholders.	5	5	5	125
	My marketing research is aimed at identifying potential international clients.	5	5	5	125
	The company has developed partnerships for technology exchange.	5	5	5	125
	The company has analysed the external markets, its opportunities and threats.	5	5	5	125
	The company has analysed the external markets, its opportunities and threats.	5	5	5	125
	The R&D process has been properly planned and structured.	5	5	5	125
	The strategy and operations are seamlessly integrated within an international expansion plan.	5	5	5	125
	Employee acquisition and retention strategies aimed at international expansion.	5	5	5	125
HR efforts are integrated into the internationalization process.	5	5	5	125	
Co.4	The efficiencies/shortcomings of my product/service have been studied in order to favour a continuous innovation process.	5	5	5	125
	The R&D process has been properly planned and structured.	4	4	5	80
	The company has developed partnerships for technology exchange.	3	3	5	45
	Employee acquisition and retention strategies aimed at international expansion.	4	2	4	32



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The third construct refers to the phenomenon of internal and operational/managerial barriers. They are intrinsically related to the first construct; though, they have a distinct nature, focusing on the operational side of the business, its resources restrictions and internal barriers, it can be argued that it encompasses similar attributes to Construct 1, but from a different point of view, emphasizing the need for process and resources optimization (Costa et al, 2019).

For company 1, the issues were quite similar to the Construct 1 results, denoting the need for international planning to guide operations and structured networking. Also, the problems with market research reinforce the initial impression of lack of knowledge of international markets.

For Company 2 the results are pretty similar, focused on marketing knowledge and networking, presenting a coherence of the responses already given. The issue of human resources preparation is also emphasized, implying the need for further training and development of staff.

For Company 3 it is not possible to establish a priority focus for the construct, as several attributes obtained maximum score. It is necessary to further analyse the company's processes to establish key project priorities; however, given the results of Construct 1, it may not be too farfetched to suggest a prioritization of operational projects related to networking optimization.

For Company 4 the main issue is R&D, which bear coherence given that the company was still not trading and thus still developing their business model. The issue of networking and human resource development is also important, denoting a coherent idea thread across all companies regarding operational needs.

Finally, the fourth construct refers to the external barriers to the internationalization process. Its key element is the focus on attributes that are



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factually out of the entrepreneurs' control; which, nevertheless, does not imply the possibility of risk mitigation though strategic planning and driven operations towards internationalization and growth (Costa et al, 2019).

Table 4: Construct 4 – External Barriers

	Problem/Project Focus	G	U	T	Score
Co.1	The company is aware of the regulatory variations between the home country and the international target market.	4	3	3	36
	Adaptation of management procedures and operations has been planned for the internationalization.	4	3	3	36
	The company's intellectual property is protected and does not infringe any copyrights.	2	4	4	32
Co.2	The company is aware of the regulatory variations between the home country and the international target market.	5	4	4	80
	The company legal and compliance team as well as the financial team is aware of all trades and custom barriers and their impact on competitiveness.	4	4	4	64
	All elements of the marketing mix have been properly adapted to the international target market.	4	3	4	48
	The company is aware of any legal constraints involved in the internationalization process.	3	3	3	27
Co.3	All elements of the marketing mix have been properly adapted to the international target market.	5	5	5	125
	The company legal and compliance team as well as the financial team is aware of all trades and custom barriers and their impact on competitiveness.	5	5	5	125
	The company is aware of the best channels for funds transfer.	5	5	5	125
	The potential international client will recognize the original product/service application.	3	4	4	48
Co.4	The potential international client will recognize the original product/service application.	4	1	4	16
	All elements of the marketing mix have been properly adapted to the international target market.	4	1	4	16
	The company is aware of the regulatory variations between the home country and the international target market.	4	1	4	16

For Company 1 only three attributes with the higher score were presented, all of them related to external information and regulations that can be acquired and should be available given that they are in the incubation process and knowledge management is a key aspect of the process (Engelman; Zen; Fracasso, 2015).

For Company 2 regulatory and compliance issues also turned out to be the key factors that entrepreneurs need the most information about. There is



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also a lack of marketing mix adaptation, which indicates that external markets are not well known in their details.

For Company 3 the reality is quite similar, there is a pattern of lack of information about regulatory and compliance issues as well as external market peculiarities. Company 3 also emphasizes their lack of knowledge on funds transfer, which can impair operations significantly (Costa et al, 2019).

For Company 4 there are, according to the respondent, very little elements that are urgent, as the company was designed for the internal market only and its operations do not encompass external growth, as there is lack of knowledge about the international market, there is a concern of their product/service not being recognized for its original application. In a lesser extent, regulatory and market mix issues are also deficient, which maintain the original pattern observed in all companies.

Based on the results of the analysis as well the suggestions of the authors grounded on the relevant literature, the focus, scope and timeframe of the projects for each company can be resumed on the table 5. Also, on table 5, it is presented the priority (low, medium or high) that each company was giving on its internationalization process for short and medium term at the time of the research as well as the possibility (low, medium or high) of those projects being shared amongst companies in the business incubators, those maximizing the use of resources.



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Table 5: Research Results Summary

	Focus	Scope	Timeframe	Priority for internationalization	Project Sharing Potential
Co.1	International market reconnaissance and networking expansion.	Strategic	Long term	Low (company has a regional business model)	Low (There is no other company in the incubators facing the same target market)
Co. 2	International market reconnaissance and networking expansion. Knowledge management training within the business incubator. Adaptation of production and commercial process to international process.	Strategic, Tactic and operational	Short and medium term.	Medium (company already studying potential international clients)	High (as projects focusing on process optimization, knowledge management and production adaptation can be shared by similar companies in different business incubators)
Co.3	International market reconnaissance and networking expansion. Project sharing and knowledge management within the business incubator. Adaptation of production and commercial process to international process.	Strategic, Tactic and operational	Short and medium term	Medium (company already studying potential international markets)	High (as projects focusing on process optimization, knowledge management and production adaptation can be shared by similar companies in different business incubators)
Co.4	International market reconnaissance and networking expansion. Development of international sales channels. Innovation management training within business incubator.	Strategic	Medium and long term	Low (company was not trading yet and the original business model was focused on regional markets)	Medium (Despite not having similar companies in the business incubators, some of the projects such as sales channels and innovation management can be adapted to many companies)



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CONCLUSION

The present work was an attempt to analyse the results of the application of a project prioritization tool for internationalization planning, in order to support a project management approach to the internationalization of incubated companies utilizing the Life Cycle Canvas Model (Veras, 2016).

The key idea was to be able to offer insights on which projects should be prioritized given the myriad of options and strategies concerning internationalization expansion and growth in order to overcome the most common barriers and challenges to internationalization, such as poor networking orientation, vague international growth strategies; operational restraints and lack of resources – financial and otherwise (Costa et al, 2019; Cahen; Lahiri; Borini, 2016; Baum; Schwens; Kabst, 2013, Crick, 2007).

Based on the results aforementioned, there are some insights that can be explored to further support the internationalization strategy of those incubated companies, such as:

The possibility of shared project efforts amongst the companies

The quantification of the most critical attributes per company (highest score) could lead to different companies engaging in the same project (as they would share the same critical attributes) which could result in a considerable economy of efforts, resources and in shorter and more robust learning curve for all companies involved.

This could be particularly relevant to projects related to the business incubators – Construct 2 – as the incubators could work as catalysts, driving the internationalization process and incorporating such strategies in their managerial practice.

Furthermore, the issues on Construct 4, essentially related to external factors, may be quite similar for companies that are aiming the same external



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markets, even if they have different products/services. Projects aiming at identification and development of internationalization competencies and knowledge management and sharing could result in a great economy of resources and a useful guide to best practice.

The LCC model could potentially work as a tool for converging ideas from these projects that two or more companies share, being the focal point of shared efforts. The concept of shared projects is not clear neither explored in the specialized literature (Kerzner, 2017; Dinsmore; Cabanis-Brewin, 2014; Hanisch; Wald, 2011; Morris; Pinto; Söderlund, 2011; Köster, 2010; Judgve, 2010) which would open a considerable new field of study that could potentially go beyond incubated companies, incorporating other organizations that may intend to use a project management approach for international expansion.

It is important to point out that without further research the idea of shared projects makes sense only with regards to Construct 2, as it involves incubators and Construct 4 because it deals with external factors that may be common to many companies; given the particularities of the other constructs, and especially the subjective aspect of Construct 1, further research should be made to inquiry into the concept wider feasibility.

The creation of a project portfolio management process

The entrepreneur has to make a difficult and complex decision on how to pursue the internationalization strategy. It seems feasible to argue based on the initial results of the research that to a considerable and feasible extent, critical projects could be chosen from utilizing the proposed tool (Costa et al, 2019a), and this would give the company a greater focus on its strategy, processes and priorities.

In most circumstances the leading scores on each Construct was clear-cut and not open to misinterpretations. Also, many of the attributes are



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complementary, especially elements from Constructs 1 and 3, integrating strategy and operations; and Constructs 2 and 4 integrating incubators' management and best practice with knowledge management.

The optimization and prioritization of processes would most likely maximize the LCC results which in other situations are already significant (Silva Filho et al, 2018; Medeiros et al, 2017; Veras et al; 2016).

The development of a Balance Score Card for Internationalization

It is also possible to explore the option to choose the most critical projects in each company and lay them out on a strategic map following a BSC model for internationalization.

A brief analysis of the companies already point out to four different perspectives:

- Customers (behaviour and identification)
- Networking (planning and operations)
- Knowledge management (legal, compliance and technology)
- Human resources (staff development)

Such an approach should be to each company individually, but that does not exclude the possibility of shared projects, all reflection points proposed are to a considerable extent, interrelated.

This study also possesses some important limitations. First, as previously seen in some circumstances, the prioritization will be more difficult, as many attributes are given the same high score by the entrepreneurs. If everything is perceived as equally urgent in the research instrument results, what could be the criteria to prioritize?

Also, given that the attributes are ranked by the entrepreneurs' perspective only, it is far from being free from imprecisions derived from prejudiced or narrow perspectives. It is necessary a careful approach to avoid



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the possibility of the instrument becoming a magnifying glass that only increases what the entrepreneur or business incubator manager wants to see.

Finally, the utilization of the GUT Matrix is far from being free from limitations and there is no support in the specialized literature to ascertain that its format is the best for the proposed research instrument (Nieto-Rodrigues, 2016; Meireles, 2001; Kepner and Tregoe, 1965; Coleman 2007) which still leaves room for debate on how to rank and prioritize the attributes in the research instrument (Costa et al, 2019a).

REFERENCES

Alias, Z., Zawawi, E. M. A., Yusof, K. and Aris, N. M. (2014) 'Determining Critical Success Factors of Project Management Practice: A Conceptual Framework', *Procedia - Social and Behavioral Sciences*.

Ahokangas, P., Juho, A. and Haapanen, L. (2010) 'Toward the theory of temporary competitive advantage in internationalization', *Advances in Applied Business Strategy*.

Andersson, S., & Evers, N. (2015). International opportunity recognition in international new ventures—a dynamic managerial capabilities perspective. *International Entrepreneurship Journal*, 13, 260-276.

Binder, J., Aillaud, L. I. and Schilli, L. (2014) 'The Project Management Cocktail Model: An Approach for Balancing Agile and ISO 21500', *Procedia - Social and Behavioral Sciences*.

Bruneel, J. et al. (2012) 'The evolution of Business incubators: Comparing demand and supply of business incubation services across different incubator generations', *Technovation*. doi: 10.1016/j.technovation.2011.11.003.

Camisón, C. and Villar-López, A. (2010) 'Effect of SMEs' international experience on foreign intensity and economic performance: the mediating role of internationally exploitable assets and competitive strategy', *Journal of Small Business Management*.

Carneiro, J. M. T.; Dib, L. A. (2007). 'Avaliação comparativa do escopo descritivo e explanatório dos principais modelos de internacionalização de



RELISE

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empresas'. *Revista Eletrônica de Negócios Internacionais da ESPM*, v. 2, n. 1, 2007.

Carvalho, M. M. and Rabechini, R. (2017) 'Can project sustainability management impact project success? An empirical study applying a contingent approach', *International Journal of Project Management*. doi: 10.1016/j.ijproman.2017.02.018.

Coleman, D. S. (2007) 'Book Reviews: Charles H. Kepner and Benjamin B. Tregoe. *The Rational Manager*. New York: McGraw-Hill Book Company, Inc., 1965.

Cooke-Davies, T. J. and Arzymanow, A. (2003) 'The maturity of project management in different industries: An investigation into variations between project management models', *International Journal of Project Management*. doi: 10.1016/S0263-7863(02)00084-4.

Costa J.F. (2018). *Um estudo sobre as barreiras no processo de internacionalização das empresas incubadas em Natal/RN*. Dissertação (Mestrado). UFRN, Centro de Tecnologia, Programa de Pós-Graduação em Engenharia da Produção. Natal,RN.

Costa, J.F. et al (2019): A Study on the Internationalization Barriers to Incubated Companies: Defining the Constructs to Develop an Effective Research Instrument. *European Journal of Scientific Research* ISSN 1450-216X / 1450-202X Vol. 152 No 3 April, 2019, pp. 334-359

Costa, J. F. et al (2019a): Internationalization through Project Management: Considerations on how to utilize The LCC Model® to support the internationalization of incubated companies. *Iberoamerican Journal of Project Management*. Vol.10, No.2, A.I., pp.15-50. ISSN 2346-9161

Danesh, D., Ryan, M. J. and Abbasi, A. (2017) 'A systematic comparison of multi-criteria decision making methods for the improvement of project portfolio management in complex organisations', *International Journal of Management and Decision Making*. doi: 10.1504/ijmdm.2017.085638.

Dias, D. C. (2008). *A Importância das Incubadoras de Empresas no Processo de Inovação nas Empresas de Base Tecnológica – O Caso da Incubadora de Empresas de Base Tecnológica CENTEV/UFV*. IV Simpósio Acadêmico de Engenharia de Produção SAEPRO, 1–15.



RELISE

143

Dinsmore, P. C.; Cabanis-Brewin, J. (2014) *AMA Handbook of Project Management*, 2nd ed. New York: American Management Association.

Eaidgah, Y., Maki, A. A., Kurczewski, K., & Abdekhodae, A. (2016). Visual management, performance management and continuous improvement: a lean manufacturing approach. *International Journal of Lean Six Sigma*, 7(2), 187-210.

Engelman, R., & Fracasso, M. (2013). Contribuição das incubadoras tecnológicas na internacionalização das empresas incubadas. *Revista de Administração*, 48, 165-178.

Engelman, R., Fracasso, E., Schmidt, S., & Zen, A. (2017). Intellectual capital, absorptive capacity and product innovation. *Management Decision*, 55(3), 474-490.

Engelman, R., Zen, A., & Fracasso, E. (2015). The impact of the incubator on the internationalization of firms. *Journal of Technology Management and Innovation*, 10, 29-39.

Etzkowitz, H. (2008). *The Triple Helix: Industry, University, and Government in Innovation*. Nova York: Routledge.

Finocchio, J., Jr. (2013). José. *Project Model Canvas: gerenciamento de projetos sem burocracia*. Elsevier Editora.

Geraldi, J.; Maylor, H., & Williams, T. (2011). Now, let's make it really complex (complicated): a systematic review of the complexities of projects. *International Journal of Operations and Production Management*, 31(9), 966-990.

Gurgel, A. M. et al. (2017) Life Cycle Canvas® (Lcc): Uma Análise da Sua Aderência ao Guia Pmbok®. *Proceedings of the 14th CONTECSI International Conference on Information Systems and Technology Management*. Anais.

Heldman, K. (2015). *PMP project management professional exam deluxe study guide: updated for the 2015 Exam*. John Wiley & Sons.

Johanson, J., Vahlne, J. E. (1977). The internationalization process of the firm: a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1).



RELISE

144

Judgev, K. (2010) 'Project management: the managerial process', *International Journal of Managing Projects in Business*. doi: 10.1108/17538371011076145.

Kepner, C H.; Tregoe, B. *The Rational Manager*. New York: McGraw-Hill Book Company, Inc., 1965

Kerzner, H. (2017) *Project management: a systems approach to planning, scheduling, and controlling*. New York: John Wiley & Sons.

Knight, G., & Cavusgil, T. (2004). Innovation, Organizational Capabilities, and the Born Global Firm. *Journal of International Business Studies*, 35(2), 124-141.

Knight, G., & Liesch, P. (2016). Internationalization: From incremental to born global. *Journal of World Business* , 51, 93-102.

Köster, K. (2010). *International project management*. New York: Sage

Lafetá, F. G., Barros, C. F. O, & Leal, P. O. C. D. (2016). Projetos complexos: estudo de caso sobre a complexidade dos projetos de engenharia de telecomunicações em uma empresa do setor de óleo e gás. *Revista de Gestão e Projetos*, 7(1), 41-55.

Liesch, P., Håkanson, L., McGaughey, S., Middleton, S., & Cretchley, J. (2011). *The evolution of the international business field: A scientometric investigation of articles published in its premier journal*. *Scientometrics*, 88, 17-42.

Luiz, A., Schelini, S., Dai, C., Martens, P. and Piscopo, M. R. (2017) 'Project management as a competitive advantage for the internationalization of Brazilian companies', *Internext*. doi: 10.18568/1980-4865.1231-15.

Medeiros, B. C. (2017). *Life Cycle Canvas (LCC): análise de um modelo de gestão visual para o planejamento de projetos*. (Tese de Doutorado em Administração). Universidade Federal do Rio Grande do Norte. Natal/RN.

Medeiros, B. C., Araújo, V. F. da S. and Oliveira, M. K. de A. e S. (2018) 'Life Cycle Canvas (LCC): Um Modelo Visual para a Gestão do Ciclo de Vida do Projeto', *Revista de Gestão e Projetos*. doi: 10.5585/gep.v9i1.628.

Medeiros, B. C., Danjour, M. F. and Sousa Neto, M. V. de (2017) 'Escritório de Gerenciamento de Projetos (EGP): Uma Análise Bibliométrica Comparativa de Artigos Nacionais e Internacionais', *Revista de Gestão e Projetos*. doi: 10.5585/gep.v7i3.343.



RELISE

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Medeiros, B. C., Sousa Neto, M. V. de, Nobre, A. C. dos S. and Nogueira, G. M. F. (2017) 'Planejando projetos com o Life Cycle Canvas (LCC): um estudo sobre um projeto de infraestrutura pública estadual', *Exacta*. doi: 10.5585/exactaep.v15n1.6947.

Mei, P. (2015). *PM Mind Map®: A gestão descomplicada de projetos*. Rio de Janeiro: Brasport.

Meireles, M. (2001). '*Ferramentas administrativas para identificar, observar e analisar problemas: organizações com foco no cliente*'. São Paulo: Editora Arte & Ciência.

Mir, F. A. and Pinnington, A. H. (2014) 'Exploring the value of project management: Linking Project Management Performance and Project Success', *International Journal of Project Management*. doi: 10.1016/j.ijproman.2013.05.012.

Morris, P. W. G. and Geraldi, J. (2011) 'Managing the institutional context for projects', *Project Management Journal*. doi: 10.1002/pmj.20271.

Morris, P. W. G., Pinto, J. and Söderlund, J. (2011) *The Oxford Handbook of Project Management, The Oxford Handbook of Project Management*. doi: 10.1093/oxfordhb/9780199563142.001.0001.

Mort, G., Weerawardena, J., Liesch, P. (2012). Advancing entrepreneurial marketing: Evidence from born global firms. *European Journal of Marketing*, 46, 542–561.

Munns, A. K. and Bjeirmi, B. F. (1996) 'The role of project management in achieving project success', *International Journal of Project Management*. doi: 10.1016/0263-7863(95)00057-7.

Nagamatsu, F. A., Barbosa, J. & Rebecchi, A. (2014). Business model generation e as contribuições na abertura de startups. In: *II Simpósio Internacional de Gestão de Projetos (SINGEP)*, São Paulo, SP, Brasil.

Narayanan, V. (2015). Export Barriers for Small and Medium-sized Enterprises: A Literature Review based on Leonidou's Model. *Entrepreneurial Business and Economics Review*, 3(2), 105-123.



RELISE

146

Nghi, M. and Nguyen, P. . (2010) 'The Globalization of Project Management', *Global Governance*. doi: 10.1016/S1529-2126(05)09006-5.

Nieto-Rodriguez, A. (2016) 'How to Prioritize Your Company's Projects', *Harvard Business Review Digital Articles*.

Ojasalo, J., & Ojasalo, K., (2011). Barriers to internationalization of b-to-b services: theoretical analysis and empirical findings. *International Journal of Systems Applications. Engineering & Development*. 1(5), 109-116.

Osterwalder, A. and Pigneur, Y. (2010) *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*, *Booksgooglecom*.

Padalkar, M. and Gopinath, S. (2016) 'Six decades of project management research: Thematic trends and future opportunities', *International Journal of Project Management*. doi: 10.1016/j.ijproman.2016.06.006.

Pinto, E. B., Vasconcelos, A. M, & Lezana, A. G. R. (2014). Abordagens do PMBOK e CMMI sobre o sucesso dos projetos de softwares. *Revista de Gestão e Projetos*, 5(1), 55-70.

Prieto, B. (2015) *Is it Time to Rethink Project Management Theory?* PM World Journal, Vol. IV, Issue III.

Project Management Institute (PMI) (2017). *Um guia do conhecimento em gerenciamento de projetos* (guia PMBOK®) (6a ed.). São Paulo: Saraiva.

Saeed, J. (2012) 'Strategies for best practice in international project management with some reference to China', in *China and the Global Economy in the 21st Century*. doi: 10.4324/9780203806388.

Saunders, M., Lewis, P., Thornhill, A. (2016). *Research Methods for Business Students*. (7th edition). Essex: Pearson Education Limite.

Scheley, D.G; Lewis; D.(2017). The Theoretical Foundations of Project Management. *Journal of Business and Economics*, ISSN 2155-7950, Volume 8, No. 5, pp. 407-419 DOI: 10.15341/jbe(2155-7950)/05.08.2017/003

Silva Filho, A. M., Silva, R. R. da, Silva, D. C. da and Medeiros, M. F. M. de (2018) 'O processo empreendedor: associando o business model Canvas (BMC) ao life cycle Canvas (LCC)', *Exacta*. doi: 10.5585/exactaep.v16n4.7991.



RELISE

147

Silva, R.R.; Medeiros, B. C. Veras, M. (2018). *Life Cycle Canvas e Engajamento no Trabalho: Uma proposta de Integração*. Anais do VII SINGEP – Simpósio Internacional de Gestão de Projetos, Inovação e Sustentabilidade. SP, Brasil.

Tezel A, Aziz Z (2017). From conventional to IT based visual management: a conceptual discussion for lean construction. ITcon Vol. 22, pg. 220-246, <http://www.itcon.org/2017/12>

Theodorakopoulos, N., Kakabadse, N., & MCGowan, C. (2014). What matters in business incubation? A literature review and a suggestion for situated theorizing. *Journal of Small Business and Enterprise Development*, 21(4), 602-622.

Tzafestas, S. (2018). The art and impact of physical and virtual enterprise incubators: the Greek paradigm, *Communications in Computer and Information Science*, 19, 549–559.

Vanderstraeten, J., & Matthyssens, P. (2010). *Measuring the performance of business incubators A critical analysis of effectiveness approaches and performance measurement systems*. International Council for Small Business (ICSB) World Conference Proceedings; Washington, 1–26. <https://doi.org/10.1254/fpj.118.334>

Veras, M (2014). *Gerenciamento de Projetos: Project Model Canvas (PMC)*. Rio de Janeiro: Brasport.

Veras, M. (2016). *Gestão Dinâmica de Projetos*. Rio de Janeiro: Brasport.

Veras, M. et al. (2017) *Parque Tecnológico Metrópole Digital: planejamento estratégico*. Natal: UFRN.

Vidal, L. A., Marle, F.; Bocquet, J.C. (2011). Measuring project complexity using the Analytic Hierarchy Process. *International Journal of Project Management*, 29(6),718-727.

Welch, L. S. and Luostarinen, R. (2017) 'Internationalization: Evolution of a Concept', *Journal of General Management*. doi: 10.1177/030630708801400203.

Whitney, K. M. & Daniels, C. B. (2013). *The root cause of failure in complex IT projects: complexity itself*. *Procedia Computer Science*, 20, 325-330



RELISE

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Whyte, J., Stasis, A., & Lindkvist, C. (2016). Managing change in the delivery of complex projects: Configuration management, asset information and 'big data'. *International Journal of Project Management*, 34(2), 339-351.

Williams, T. M. (1999). The need for news paradigms complex projects. *International Journal of Project Management*, 17(5), 269-273.

Zandoval Bonazzi, F., & Ari Zilber, M. (2014). Innovation and Business Model: a case study about integration of Innovation Funnel and Business Model Canvas. *Revista Brasileira de Gestão de Negócios*, 16(53), 616-637.