ENTREPRENEURIAL PROFILE OF ARCHITECTURE AND URBANISM PROFESSIONALS: DIFFERENT DIMENSIONS PRESENT IN THE FORMATION

PERFIL EMPREENDEDOR DE PROFISSIONAIS DE ARQUITETURA E URBANISMO: DIFERENTES DIMENSÕES PRESENTES NA FORMAÇÃO

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A B S T R A C T

This study aims to analyze the entrepreneurial profile of architecture and urbanism professionals based on the dimensions proposed by Schmidt and Bohnenberg (2009). It is a quantitative study that used the Structural Equation Modeling (SEM) technique. Data was collected through an electronic questionnaire, resulting in 175 responses from professionals registered with the Council of Architecture and Urbanism. The collected data were analyzed using the Partial Least Squares Method (PLSM) with the software SmartPLS v. 3.0. The results indicate a hierarchical order among the dimensions that comprise the entrepreneurial profile of the surveyed professionals, namely: self-sufficiency, planning, sociability, innovation, leadership, and risk. These findings suggest that such professionals have a profile primarily focused on market perception (self-sufficiency), which obtained the greatest weight in the formation of the profile, and planning, which had the second-highest weight. As a contribution, this study provides important clues about the formation of the entrepreneurial profile of professionals trained in architecture and urbanism.

K E Y W O R D S

Entrepreneurship; Urban architect; Self-sufficiency; Planning; Formation.

R E S U M O

Este estudo tem como objetivo analisar o perfil empreendedor de profissionais de Arquitetura e Urbanismo com base nas dimensões propostas por Schmidt e Bohnenberg (2009). Trata-se de um estudo quantitativo que utilizou a técnica de Modelagem de Equações Estruturais (SEM). Os dados foram coletados por meio de um questionário eletrônico, resultando em 175 respostas de profissionais registrados no Conselho de Arquitetura e Urbanismo. Os dados coletados foram analisados utilizando o Método de Mínimos Quadrados Parciais (PLSM) com o software SmartPLS v. 3.0. Os resultados indicam uma ordem hierárquica entre as dimensões que compõem o perfil empreendedor dos profissionais pesquisados, a saber: autossuficiência, planejamento, sociabilidade, inovação, liderança e risco. Essas descobertas sugerem que tais profissionais têm um perfil primariamente voltado para a percepção de mercado (autossuficiência), que obteve o maior peso na formação do perfil, e planejamento, que teve o segundo maior peso. Como contribuição, este estudo oferece pistas importantes sobre a formação do perfil empreendedor dos profissionais formados em Arquitetura e Urbanismo.

P A L A V R A S - C H A V E

Empreendedorismo; Arquiteto urbanista; Autossuficiência; Planejamento; Formação.

INTRODUCTION

In this study, it is understood that undertaking is having the ability to perceive opportunities and take advantage of them to obtain profits by exploring them in a creative and innovative way, different from the way that other individuals do it, and the way they act in the face of different phenomena and opportunities (Sarasvathy & Venkataraman, 2011). This means that the entrepreneur has a set of characteristics, skills or abilities that differentiate him.

The entrepreneur is a social subject, a product of the environment in which he lives. A person who lives in an entrepreneurial environment will suffer stimuli from this environment to also undertake. Understanding entrepreneurship from this angle means understanding it as a cultural phenomenon, the result of the environment and habits, values and other social elements of the individuals that make up the group (Shane, 2003; Shane & Venkataraman, 2000). One who thinks differently than other individuals, makes decisions in unsafe environments, with high risks, time pressures and considerable emotional investment (Hisrich, Peters & Shepherd, 2014).

It is necessary to know the entrepreneurial profile and deepen the characteristics common to a group of subjects that work in the same segment (Kumar & Ali, 2010; Santos, Cazarini, Neto & Oliveira, 2008). In this regard, the research problem that guides this study is: What is the entrepreneurial profile of architecture and urbanism professionals registered with the Council of Architecture and Urbanism? To achieve this, the objective was to identify the entrepreneurial

profile of urban architects registered with the Council of Architecture and Urbanism. To achieve this objective, a quantitative study was carried out using Structural Equation Modeling (SEM) by the Partial Least Squares Method (MMQP) using the software *SmartPLS v. 3.0*.

For data collection, questionnaires were applied to a sample of 175 urban architects. The results demonstrate the existence of a hierarchy in the dimensions that make up the entrepreneurial profile of architects, which are more concentrated in self-sufficiency and planning. As for the dimensions of innovation, an important entrepreneurial characteristic (Jung & Peña 2004; Farah, Cavalcanti & Marcondes, 2008; Rocha, Carneiro & Amorim, 2015), and sociability, these obtained positive and significant relationships with the entrepreneurial profile.

The Leadership and Risks dimensions also showed positive and significant relationships with the entrepreneurial profile, however, they were the dimensions with the lowest coefficients, demonstrating the weakest associations. The contributions of this study lie in a better understanding of the dimensions that make up the entrepreneurial profile of urban architects.

This article is composed of the following structure: this introduction, the theoretical framework, the method, the results, the discussion of the results, the conclusion, and the bibliographical references.

THEORETICAL FRAMEWORK

Entrepreneurship is a recent field of study, but it has advanced significantly in different areas of knowledge. One of its main characteristics is the contrasting challenges, such as ambiguous roles, intense competition and uncertainty. However, this progress is still slow due to the fact that this knowledge is a set of different themes. The field of study, despite its breadth, is delimited and contributes to the understanding and conceptual advancement of entrepreneurship in a multifaceted way (Shane & Venkataraman, 2000; Shane, 2003; Ferreira et al., 2015; Ferreira, Colares, Rocha & Carvalho Junior, 2013; Agustian et al., 2023).

The creation of businesses is a factor that generates wealth and, for this reason, encourages entrepreneurship to begin to appear as an objective in the most diverse higher education courses at all universities, whether these are public or private. When entrepreneurial learning is encouraged and research on the subject is developed, this allows for the economic leverage and development of a given geographic space (Kuratko, 2005; Pittaway & Cope, 2007). Jobs, income, product and process innovation are just some of the benefits caused by encouraging entrepreneurship, and these benefits also move the local economy in a positive way, which helps markets to overcome crises (Vandor & Franke, 2016; Cross 2018).

Due to the importance that entrepreneurship has gained in recent years, several undergraduate courses offer it as a mandatory or even elective course. Certainly not all courses have entrepreneurship as a subject or even address it in their political and pedagogical projects. SEBRAE - Brazilian Support Service for Micro and Small Companies (2016), states that the university plays

a fundamental role in the training of entrepreneurs. Teaching entrepreneurship is essential for developing entrepreneurial behavior in students, which makes it indispensable in the formation of individuals with an entrepreneurial profile and, above all, with the necessary knowledge to transform ideas into successful businesses. Teaching should take place in different ways, with extracurricular training programs and efforts to improve contact with business environments (Souza et al., 2004; Sousa et al., 2023).

There have been numerous attempts to teach entrepreneurship in the world, including Brazil, since its teaching began at the Harvard Business School in 1947 with the aim of teaching and encouraging ex-combatants of the Second World War to open their own business (Rocha & Bacchi, 2010). Teaching entrepreneurship requires institutions to apply non-traditional study methods, as it requires, in addition to traditional teaching methods, that students practice entrepreneurial behavior through engagement with market entrepreneurs, development of projects and business plans, creation of new products, services and processes, and participation in other innovative and creative academic practices. Contact with external institutions, such as incubators and accelerators, which are known for generating knowledge and immersion in the field of business, are also efficient mechanisms (Vesper, 1987; Serpente et al., 2025).

In a practical sense, which is also defended by the authors as already mentioned, entrepreneurship can be defined as the process of elaborating and developing new business ideas, that is, it is a sequence of steps that begins with the conception of a business idea, going through its planning and maturation until its implementation and continuity. Another concept for entrepreneurship encompasses the involvement of people and processes in an effort to convert ideas into business opportunities (bygrave, 2004).

As for entrepreneurial behavior, it reveals individuals with an inclination towards the business world, helping to define their profiles and areas of activity, since entrepreneurship is a process and, as such, requires time, dedication and financial investment. This process generates a certain personality, in this case, inclined towards entrepreneurship, with characteristics focused on innovation, risk-taking, achievement orientation, locus of control, proactivity, self-efficacy and orientation towards autonomy (Howard & Boudreaux, 2024). At the end of this process, the entrepreneurial individual takes risks, generates wealth and achieves his/her own economic and personal satisfaction (Hisrich et al., 2009).

This pattern of behavior can be an indicative parameter to establish concepts of what entrepreneurial profiles are. Characteristics common to a certain group of individuals who undertake successfully are the objects of study of numerous researchers (Santos et al., 2008). Because many researchers from many different areas dedicate themselves to studying entrepreneurs, and because they are from different areas, it becomes impossible to define a standard entrepreneurial profile. For researchers in the area of economics, an entrepreneur is an individual with a strong sense of innovation – whether in products or processes – however, for researchers with a behavioral approach, an entrepreneur would have behavior or competence more related to creativity and the desire for achievement. In any case, the entrepreneurial individual would be the one with the

capacity to, from an innovative idea, obtain success and consequently profit while assuming the risks involved in the process, configuring themselves within an environment that can be called the field of entrepreneurship, used both for action and for research, which makes the theme broad, covering topics such as skills, capabilities and competencies to be developed for this environment (Shane & Venkataraman, 2000; Shane, 2003; Pennetta et al., 2024).

Some individuals possess a natural inclination toward entrepreneurship, characterized by a desire to innovate, grow, and achieve success. These individuals have the ability to transform discoveries and ideas into products or services that are perceived as novel within their social context. By actively seeking opportunities, even in everyday situations, they enhance their observational skills and capacity to identify surrounding needs, thereby cultivating the competencies essential for entrepreneurial endeavors (Cher, 2008; Degen, 1989; Sarasvathy, 2024; Stevenson et al., 2024).

It is interesting to note that the concept of entrepreneurial profile undergoes minor changes over time. When observing the first studies on the subject, there are definitions of the entrepreneur as an individual who takes risks (McClelland, 1961; Salim & Silva, 2010; Hisrich, Peters & Shepherd, 2014), with the ability to perceive and exploit opportunities of business (Shumpeter, 1959; Drucker, 1986; Lemes & Pisa, 2010). Another characteristic present in many definitions is innovation (Shumpeter, 1959; Drucker, 1986; Bernardes, 2005; Farah; Cavalcanti & Marcondes, 2008) alongside key traits like strategic vision, proactive planning, and strong leadership, the ability to manage and expand networks effectively is a powerful driver of business success. Sarasvathy (2024) emphasizes the role of effectual commitments in turning opportunities into reality, while Stevenson et al. (2024) highlight the MVP (Minimum Viable Product) approach as a strategy to strengthen connections and enhance entrepreneurial agility, which collaborates with other authors (Schumpeter, 1959; Gimenez, Inacio & Sunsin, 2001; Tachizwa & Faria, 2004; Bernardes, 2005; Mendes, 2009; Lemes & Pisa, 2010; Salim & Silva, 2010; Hisrich, Peters & Shepherd, 2014).

It is noticed that the authors have a common inclination regarding innovation, the ability to take risks and recognize opportunities as fundamental characteristics of the entrepreneur. However, there is no single profile capable of defining the entrepreneur, even with this similarity of characteristics. Many authors dedicated themselves to studying entrepreneurial profiles, Lopes and Souza (2005) aimed to build an instrument capable of measuring the entrepreneurial profile, which they did based on four factors, namely: accomplishment; planning, power and the innovation factor. It is interesting to point out that the analysis of his study identified the existence of two composite factors – Prospecting and innovation; Management and persistence – which led the authors to empirically conclude that there is only one factor, which they called entrepreneurial attitude, a kind of behavior that is a combination of the factors mentioned above. However, Schmidt and Bohnenberg (2009) carried out a study in which they identified characteristics common to entrepreneurs, namely: self-efficacy, ability to take risks, planning skills, ability to identify opportunities, persistence, sociability, innovation and leadership. Such characteristics are shown in illustration 01.

Illustration 01: description of entrepreneurial characteristics

Characteristics	Description
Self-efficacy	An individual's cognitive estimate of their ability to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their own lives.
Ability to take risks	A person who, when faced with a social project, lists and analyzes the variables that can influence its result, deciding, based on this, the continuity of the project.
Planning skills	Individual who prepares for the future
Ability to identify opportunities	Ability to capture, recognize and make effective use of abstract, implicit and changing information.
Persistence	Ability to work intensively, even subjecting oneself to social deprivation, in projects with uncertain returns.
Sociability	Degree of use of social network to support professional activity.
Innovation	Individual who relates ideas, facts, needs and market demands in a creative way.
Leadership	An individual who, based on his own objective, influences other people to voluntarily adopt that objective.

SOURCE: SCHMIDT AND BOHNENBERG (2009).

Based on the definition of the eight initial constructs, observed in illustration 01, Schmidt and Bohnenberg (2009) developed a research instrument to measure the entrepreneurial profile. The final instrument, a structured questionnaire measured using a five-point Likert scale, consists of six dimensions, since the authors identified that self-efficacy, ability to detect opportunities and persistence can be grouped to compose a single construct, self-sufficiency, as presented in item 3.1 of the Methodology.

Although the measurement of entrepreneurial profiles has evolved in recent years—incorporating dimensions related to cognitions, emotions, entrepreneurial orientation, and risk propensity, as evidenced by recent studies that assess individual characteristics (for example, innovative behavior, need for autonomy, proactivity, self-efficacy, locus of control, and tolerance for ambiguity)—the approach of Schmidt and Bohnenberg (2009) was adopted for its robustness and applicability in similar contexts. It is, however, recognized that other approaches might offer different perspectives, a fact that is noted as a limitation and suggested for future research.

METHODOLOGY

This is a quantitative study that features an exploratory and descriptive analysis, as it seeks to identify entrepreneurial profiles in architecture and urbanism professionals through tests and statistical analysis (Vergara, 2009). It is noteworthy that the study is also presented as interpretative,

since the data collected and the results obtained by the analyzes require interpretation by the authors (Creswell, 2007). The study consists firstly of a theoretical review, followed by the adaptation and application of an instrument for data collection, and subsequently the analysis of these data.

Data collection instrument

To identify the entrepreneurial profile, a questionnaire adapted from Schimidt and Bohnenberger (2009) was used as a data collection instrument, which originally has 24 questions distributed among 6 research dimensions: Self-sufficiency, Leadership, Planning, Innovation, Risks and Sociability, according to observed in illustration 02.

Illustration 02: Questionnaire to measure entrepreneurial profiles.

No.	Construct	Question
01	Self-sufficiency	I often spot business opportunities in the market.
		I believe I have to detect business opportunities in the market.
		I have control of the factors for my full professional achievement.
		Professionally, I consider myself a much more persistent person than the others.
02	Accept risks	I would assume a long-term debt believing in the advantages that a business opportunity would bring me.
		I accept taking risks in exchange for possible benefits.
		I always try to study a lot about each professional situation that involves some kind of risk.
03	Planning	It bothers me a lot to be taken by surprise by factors that I could have foreseen.
		I have matters related to work always very well planned.
		I have a good plan for my professional life.
		In my work, I always plan everything I do very well.
04	Sociability	The social contacts I have are very important for my professional life.
		I relate very easily with people.
		I know several people who could help me professionally, should I need it.
		I dedicate myself to helping people professionally.
		My social contacts have very little influence on my professional life.

05	Innovation	I always find very creative solutions to professional problems that I face.
		I prefer a job full of novelties to a routine activity.
		I like to change my way of working whenever possible.
		I like to suggest changes in my work environment.
06	Leaderships	At work, I often influence other people's opinions on a particular subject.
		I am often chosen as a leader in projects or professional activities.
		People respect my opinion.
		People often ask for my opinion on work matters.

SOURCE: ADAPTED FROM SCHMIDT AND BOHNENBERG (2009).

The Illustration 02 presents six main constructs that comprise the entrepreneurial profile: self-sufficiency, risk-taking, planning, sociability, innovation, and leadership. Each construct is represented by a set of questions that aims to capture specific aspects of behavior and related competencies. For example, the self-sufficiency construct addresses the ability to identify opportunities and control factors to achieve professional goals, while the risk-taking construct evaluates the willingness to engage in risky situations in exchange for potential benefits. The structure of the questions is clear and straightforward, which facilitates obtaining consistent and relevant responses.

Additionally, the constructs address essential characteristics for entrepreneurial development, enabling a comprehensive analysis of the professional profile. The inclusion of aspects such as innovation and sociability reflects the importance of interactive and creative competencies in today's market. Similarly, leadership is explored through questions that highlight influence and respect in work environments. The approach is robust, covering both individual and interpersonal dimensions, making it useful for diagnostic analyses and planning interventions in educational and professional contexts.

Although the data were collected in 2020, during the height of the COVID-19 pandemic, the present study remains highly relevant. The data collection period provided a unique perspective on the entrepreneurial profile, as the health crisis imposed unprecedented challenges and accelerated transformations in the business environment. Thus, the results not only reflect the resilience and adaptability of professionals in times of uncertainty, but also offer valuable insights for understanding the competencies required in a post-pandemic scenario.

Population and sample

The research was applied in the city of Cascavel, state of Paraná - Brazil, a municipality located in the western mesoregion of Paraná and composed of just over 300 thousand inhabitants. According to the Council of Architecture and Urbanism – CAU – Cascavel has a population of

architecture professionals registered at the regional office with 814 individuals and 187 architecture companies, by the year 2020, an ideal scenario for choosing these professionals as the object of this research study.

The sample was calculated a priori to have a confidence of 95%, the sample calculation was performed using the G*power software and adopted the values of effect size 0.3; alpha (standard error) 0.05; power 0.95, which resulted in a minimum sample of 134 questionnaires answered, as can be seen in Illustration 03. Only questionnaires answered by architects with up to 15 years of training and whose graduation took place in a Higher Education Institution were accepted – IES of the municipality of Cascavel - PR.

Illustration 03: Study sample calculation

t tests – Correlation: Point biserial model			
Analysis:	A priori: Compute required sample size		
Input:	Tail(s)	=	Two
	Effect size |ρ|	=	0.3
	α err prob	=	0.05
	Power (1−β err prob)	=	0.95
Output:	Noncentrality parameter δ	=	3.6404323
	Critical t	=	1.9780988
	Df	=	132
	Total sample size	=	134
	Actual power	=	0.9509217

SOURCE: SURVEY DATA (2020).

Based on this calculation, the research sample consisted of 175 professionals from the city of Cascavel-Paraná-Brazil who answered the questionnaire, which generated the database for statistical analysis using the *SmartPLS v. 3.0*. Only completely answered questionnaires were considered.

As the final sample was larger than initially calculated, a Post Hoc test was also performed to test the power of the sample. The result obtained was (Power = 0.985), which means that the confidence of the analyzed sample is approximately 99%, considering data with a normal and two-tailed distribution.

Data collection and analysis

For the collection of this data, the questionnaire was made available on Google Forms and the access link was sent virtually to the population of architects in Cascavel, Brazil, through social networks and e-mail, being available for access between August 24th and September 7th, 2020. The database obtained from the responses in Google Forms was downloaded in excel and subsequently imported into SmartPLS, after which the analyzes were carried out.

RESULTS

Of the total responses obtained, 66.29% were between 20 and 30 years old, 29.71% between 31 and 40 years old, 3.43% between 41 and 50 years old and 0.57% between 51 and 60 years old. As for gender, 77.14% were women and 22.86% were men. Among the respondents, 54.29% are single, 14.86% are in a stable relationship, 28.57% are married, 1.71% are divorced and only 0.57% are separated.

The structural model was composed by the Entrepreneur Profile construct (second-order construct) and its respective dimensions in a reflective model. Initially, the analysis of factor loadings between the researched variables was carried out, in this phase of analysis of the measurement model it was identified that some variables had low factor loadings, less than 0.6 (Cohen, 1988; Dancey & Reidy, 2006), being excluded from the final model, as shown in Illustration 04.

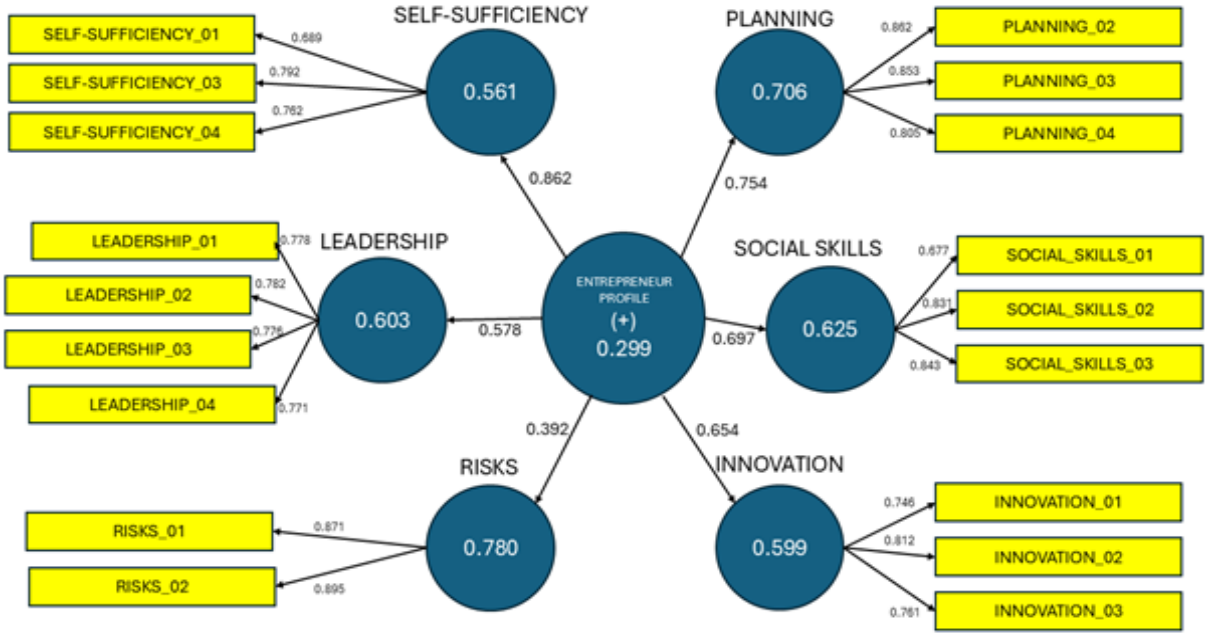
Illustration 4: Excluded variables

Construct	Excluded variables
Self-sufficiency	I believe I have to detect business opportunities in the market.
Planning	It bothers me a lot to be taken by surprise by factors that I could have foreseen.
Accept risks	I always try to study a lot about each professional situation that involves some kind of risk.
Innovation	I like to suggest changes in my work environment.
Sociability	I dedicate myself to helping people professionally.
Sociability	My social contacts have very little influence on my professional life.

SOURCE: SURVEY DATA (2020).

After removing these variables, a new round of analysis was carried out, where the values of Cronbach's Alpha (> 0.7), Composite Reliability (> 0.6), Average Variance Extracted (> 0.5) were verified (Cohen, 1988; Dancey & Reidy, 2006). Discriminant validity was attested by the criterion of Fornell and Larcker (1981). The final model can be seen in Illustration 05.

Illustration 05: Final analysis structure



SOURCE: SURVEY DATA (2020).

Observing Illustration 05, it is clear that there is a hierarchy of importance between the analyzed constructs. Observing the values indicated on the arrows that leave the main research dimension (Entrepreneur Profile) towards the latent constructs, it is noticed that it is possible to order the importance of the constructs based on the value of the presented path coefficient: 1) Self-sufficiency; 2) Planning; 3) Sociability; 4) Innovation; 5) Leadership and 6) Risk.

After verifying the factor loadings, the measurement model was analyzed using Composite Reliability, Cronbach's Alpha and AVE. To be accepted, the Composite Reliability must present a value greater than 0.6 since the closer to 1, the greater the reliability (Hair, Hult; Ringle & Sarstedt, 2014). As for Cronbach's alpha, it is an indicator of the relationship of one item with another, or with more items in the set (Nunnally & Bernstein, 1994). Cronbach's Alpha also has values between 0 and 1 where proximity to 1 shows greater consistency between the analyzed items.

In Illustration 06, the Composite Reliability, Alpha Cronbach and AVE values are observed. This last index must be greater than 0.5, an indicative result that a construct explains at least half of the variance of its own indicators (Hair et. al., 2014). All showed satisfactory rates for all constructs, demonstrating the internal consistency of the variables and reinforcing the existence of convergent validity of the model (Tabachnick & Fidell, 2001).

Illustration 06: Indices observed by the modeling of reflected equations

Construct	Cronbach's alpha	Composite reliability	Average variance extracted	Path Coefficient
Self-sufficiency	0.606	0.792	0.561	0.826
Innovation	0.665	0.817	0.599	0.654
Leadership	0.781	0.859	0.603	0.578
Planning	0.795	0.878	0.706	0.754
Risks	0.718	0.876	0.780	0.392
Sociability	0.693	0.829	0.620	0.697

SOURCE: SURVEY DATA (2020).

The next step of the analysis included checking the discriminant validity between the constructs. It is important to prove that the variables of a "Construct A" are not associated with a "Construct B" (Fornell & Larcker, 1981; Hair et. al., 2014). Discriminant validity compares the square roots of the AVE values of each construct with the correlations between latent variables. To validate, it is necessary that a construct presents a greater correlation with it than with other constructs (Hair et al., 2014).

The value of the square roots of the AVEs – highlighted in bold – as well as the correlations between the values of their roots, can be seen in Illustration 07. All constructs present results that confirm the discriminant validity of the model.

Illustration 07: Correlation and the square root of the average variances extracted from the latent variables of the constructs.

	Self-sufficiency	Innovation	Leadership	Planning	Risk	Sociability
Self-sufficiency	**0.749**					
Innovation	0.378	**0.774**				
Leadership	0.383	0.405	**0.776**			
Planning	0.583	0.320	0.356	**0.840**		
Risk	0.347	0.244	0.090	0.096	**0.883**	
Sociability	0.459	0.291	0.439	0.380	0.146	**0.788**

SOURCE: SURVEY DATA (2020).

Based on the analyzes carried out, it is possible to state that architects have an entrepreneurial profile more focused on self-sufficiency and planning than on taking risks, which will be further explored in the discussion of the results, as shown in Illustration 08. This means that these professionals understand the themselves as capable of perceiving market opportunities and that they are persistent in their search for professional success.

Illustration 08: Path coefficients between latent constructs and entrepreneurial profile

Construct	Path Coefficient	*P. value*
Self-sufficiency	0.826	<0.05
Innovation	0.654	<0.05
Leadership	0.578	<0.05
Planning	0.754	<0.05
Risks	0.392	<0.05
Sociability	0.697	<0.05

SOURCE: SURVEY DATA (2020).

Having the ability to perceive opportunities and plan to exploit them is a necessary factor for an entrepreneur. However, it is also necessary to have certain skills or competences to carry out such actions, therefore, in addition to knowing the entrepreneurial profile of architects, this study identified the necessary competences for these professionals to venture into the world of entrepreneurship.

DISCUSSION OF THE RESULTS

When observing the Self-sufficiency dimension, which stands out for having the highest path coefficient (0.826) – a value higher than that found by Schmidt and Bohnenberg (2009) which was 0.76 – this result corroborates the view that the entrepreneur is able to perceive opportunities that can be exploited (Schumpeter, 1959; Drucker, 1986; Farah, Cavalcanti & Marcondes, 2008; Lemes & Pisa, 2010; Rocha, Carneiro & Amorim, 2015). In the analysis of this construct, the only variable that obtained a correlation value lower than 0.7 was variable 01 "I often detect business opportunities in the market", which presented a value of 0.689, still a positive value within the adopted value of 0.6 based on Cohen (1988) and Dancey and Reidy (2006), as described in the methodology, which indicates that in the Self-sufficiency dimension, the ability to perceive business opportunities is precisely what needs to be improved.

Self-sufficiency and the ability to perceive business opportunities are closely linked to entrepreneurship and how individuals identify and leverage innovation potential in their environment. Sarasvathy (2024) argues that through effectual commitments and a flexible approach, entrepreneurs

create opportunities through their actions, continuously adapting to market changes. This process requires self-sufficiency, as the entrepreneur must trust their own ability to identify and act on emerging opportunities. Additionally, Stevenson et al. (2024) highlight the importance of strategies like the MVP, which allows entrepreneurs to quickly test new ideas, identifying opportunities in an agile and effective manner. This combination of strategic vision, self-sufficiency, and adaptability reflects the entrepreneur's ability to perceive and transform business opportunities into tangible successes.

As for the Innovation dimension, attributed to the entrepreneur since the classic vision of entrepreneurship (Schumpeter, 1959), it presents a coefficient of 0.654, this may mean that the Innovation dimension is not a characteristic that stands out in the entrepreneurial profile of architects, when compared to the other evaluated dimensions. This does not mean that the architect is not innovative as an entrepreneur, since the results still approximate the entrepreneurial profile of these professionals to the concepts of authors who relate the innovation aspect directly to the exploration of opportunities (Jung & Peña 2004; Farah, Cavalcanti & Marcondes, 2008; Rocha, Carneiro & Amorim 2015).

For an architect seeking training in innovation and entrepreneurship, innovation must be closely aligned with ethical principles and social responsibility, playing a key role in developing solutions that minimize environmental and social impacts (Agustian et al., 2023). Additionally, personal traits such as proactivity, resilience, and willingness to take risks are essential for creative entrepreneurship in the field of architecture. Innovation is a competency that can be cultivated, and architects should enhance their leadership and project management skills to identify new market opportunities and adapt to technological and strategic changes in the field (Howard & Boudreaux, 2024; Pennetta, Anglani & Mathews, 2024).

When observing the results for the Leadership variable, it showed a low coefficient (0.578), but even so, architecture professionals have the perception that they are opinion leaders. The results obtained by the correlations of the variables, all above 0.7 and very close to 0.8 – as can be seen in illustration 05 – demonstrate that these individuals believe they are opinion makers and, therefore, are often seen as leaders and influencers, this characteristic is related to what was observed in studies by Renko (2018) that indicate the ability to influence people as a leadership characteristic in the entrepreneurial profile.

A dimension that presented a significantly high coefficient was Planning (0.754). This points out that the architect has a planner profile – possibly due to the characteristics of his training (Tibo & Safe, 2005). However, even with the emphasis on the Planning dimension, which demonstrates – by the results obtained – that these professionals have planning skills, it is emphasized that this capacity does not necessarily refer to strategic planning (Hofer & Schendel, 1978). Given this statement and the fact that only 44.90% of undergraduate courses in architecture and urbanism in Brazil offer entrepreneurial training courses (Piacentini & Meneghatti, 2020), it can be understood that this planning capacity, although perceived by those surveyed, still has a certain disability, when referring to planning at the strategic level of a business.

When observing the risk characteristic of the entrepreneurial profile of architects – or the ability to take risks – it presented a low coefficient (0.392), which may mean that professionals in this segment avoid risks, preferring safer markets and/or business models. This result goes

against some definitions that relate the entrepreneur to the ability to take risks. Although a planner, as already noted, this ability to plan is not enough for these professionals to take risks when undertaking (Schmidt & Bohnenberg, 2009). The ability to take risks is an important feature for an entrepreneur, from the beginning of studies on entrepreneurship to more recent studies (McClelland, 1961; Tachizawa & Faria, 2004; Lemes & Pisa, 2010; Salim & Silva, 2010; Hisrich, Peters & Shepherd, 2014).

Finally, the last evaluated dimension, which makes up the entrepreneurial profile of architects, is Sociability, which obtained a coefficient result (0.697). These professionals consider that the network of contacts has little influence on their professional activities, despite its relevance. All these investigated dimensions are the traits that make up the profile of an architect as an entrepreneur, however, having a profile, or having characteristics of an entrepreneur are not enough to guarantee that the individual will follow this path (McClelland, 1961; Hisrich, Peters & Shepherd, 2014).

In general, the results show that the architect, as an entrepreneur, does not have the classic inclination to take risks and still faces difficulties in innovating. On the other hand, their entrepreneurial profile gives them the ability to perceive market opportunities and seize them through planning. Sarasvathy (2024) reinforces this idea by suggesting that entrepreneurship, particularly in the case of architects, can be more effective when adopting an effectuation approach, where the focus is on utilizing available resources and continuous adaptation, rather than relying solely on seeking high-risk opportunities. It is interesting to note that this corroborates the view of Lopes and Souza (2005), the authors state that there is not a single profile that defines what it means to be an entrepreneur, despite the fact that the different profiles and their definitions have similar characteristics.

This leads to the conclusion of the study that pointed out that the characteristics of the entrepreneurial profile in architecture professionals can be classified on a hierarchical scale, different from the one proposed in the study by Schmidt and Bohnenberg (2009), through the values obtained in the final model, where this scale has the following organization 1) Self-sufficiency; 2) Planning; 3) Sociability; 4) Innovation; 5) Leadership and 6) Risk. This means that an entrepreneurial architect is more self-reliant and planning than leadership and risk-taking. However, it does not indicate that these professionals do not do it, just that there is a greater inclination for classes 1 to 4 than for 5 and 6.

Through the analysis of the data collected by the questionnaires, it was observed that a hierarchy of perception classes regarding the characteristics that make up the profile of entrepreneurial architects, different from that found by the study by Schmidt and Bohnenberg (2009), while these authors present the following order ; Self-sufficiency, Innovation, Leadership, Planning, Risks and Sociability The present study demonstrated that the entrepreneurial profile of architects is organized in; 1) self-sufficiency; 2) Planning; 3) Sociability; 4) Innovation; 5) Leadership and 6) Risk. Although this study presents contributions regarding a better understanding of the dimensions that compose the entrepreneurial profile of architecture and urbanism professionals, it emphasizes the need for further research on the topic in order to better understand the relationship between the entrepreneurial profile of architects and how it affects their businesses.

CONCLUSIONS

Part of the motivation for this study is the assertion that entrepreneurship is a generator of wealth and, for this reason, should be encouraged and researched, since it is responsible for generating jobs, income and innovation, among other benefits. This indicates the need to understand the entrepreneurial profile of the various professions, as the concepts of these profiles differ over time. This was presented in the theoretical framework where several concepts for the entrepreneurial profile were presented in order to build a theoretical basis for identifying the entrepreneurial profile in architects and consequently the possibility of discussing the results.

It is important to highlight that, although the present research was based on the approach of Schmidt and Bohnenberg (2009)—a well-established and robust tradition in the measurement of entrepreneurial profiles—this methodological choice can be enriched by incorporating more recent approaches. Future research may explore other theoretical perspectives and instruments that consider additional dimensions, such as cognitions, emotions, and entrepreneurial orientations, thereby broadening the understanding of the entrepreneurial profile in diverse contexts.

The limitations of this research do not invalidate it, but only reinforce the need for further studies on the subject. The geographic limitation, since the study is limited to only one municipality, demonstrates the need to expand the scale of coverage, allowing the comparison of results from a larger sample and verifying whether the same phenomenon is confirmed. Future work can also take this research as a basis, making it possible to expand the geographic scale.

Another limitation refers to the knowledge of the interviewees on the subject of entrepreneurship, due to their own training, they do not have extensive knowledge about management or administration. This limitation does not necessarily need to be overcome, since it indicates a phenomenon that can and should be investigated in future studies, including the possibility of comparing the different training programs that may or may not include disciplines focused on business management. It should be noted that this study contributes as a base material for future research, since the identification of the entrepreneurial profile of architecture professionals is a topic that needs further study.

This study contributes to the understanding of the entrepreneurial profile of Architecture and Urbanism professionals, highlighting that self-sufficiency and planning stand out as primary dimensions. These results can guide the revision of architecture curricula, encouraging the inclusion of courses that strengthen strategic competencies and the ability to identify market opportunities. Furthermore, the identification of methodological limitations points to avenues for future research that adopt alternative and more integrated approaches.

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