RESEARCH

Financial risk tolerance and the Socioeconomic Variables of investors from Sonora for the financing of technology Startup Companies

La tolerancia al riesgo financiero y las variables socioeconómicas de los inversionistas sonorenses para el financiamiento de empresas startup de tecnología

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Abstract

This article is a study aimed at defining and analyzing risk tolerance and its socioeconomic variables among investors from Sonora for the financing of technology startup companies. Using a snowball sampling method, 147 investors with assets exceeding 7 million dollars were selected. With informed consent, they were given a questionnaire on risk tolerance, time horizon, and financial goals, developed based on prior research on investment risk.

The results indicated that the selected sample shows low to moderate levels of risk tolerance. Similarly, it was found that variables such as education level and age are related to risk tolerance. The findings of this study are particularly relevant for financial advisors and planners, professional organizations, industry regulators, and especially for those seeking funding for a technology startup.

Keywords: Risk tolerance, investors, technology startup.

JEL Code: E22.

Resumen

El presente artículo es un estudio que tiene como objetivo definir y analizar la tolerancia al riesgo y sus variables socioeconómicas de los inversionistas sonorenses para el financiamiento de empresas startup de tecnología. A partir de un muestreo bola de nieve se seleccionaron a 147 inversionistas con patrimonio por encima de 7 millones de dólares. Por medio de consentimiento informado, se les aplicó un cuestionario de tolerancia al riesgo, horizonte de tiempo y objetivos financieros realizado a través de investigaciones sobre el tema de riesgos en las inversiones. Los resultados indicaron que la muestra seleccionada presenta niveles de bajos a moderados de tolerancia al riesgo. De igual manera se encontró que variables como el nivel de escolaridad y edad se relacionan con la tolerancia al riesgo. Los hallazgos del estudio son de particular relevancia para los asesores-planificadores financieros, las organizaciones profesionales, los reguladores de la industria y, sobre todo, los que están en la búsqueda de financiamiento para una startup de tecnología.

Palabras clave: Tolerancia al riesgo, inversionistas, startup tecnológica.

Código JEL: E22.

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Introduction

Derived from the Italian word "risicare", meaning to dare, risk is more of a choice than a fate (Bernstein, 1996: 2). Risk relates to the actions people dare to take, which largely depend on the freedom to make such decisions. Koh and Fong (2011, p. 22) identify up to four types of risks: ethical, social, physical, and, lastly, financial—this last one being the focus of the present study. Tolerance for financial and non-financial risks "refers to the extent to which individuals are psychologically receptive to various uncertain decisions that affect their social, ethical, physical, or financial well-being" (Koh & Fong, 2011: 23). Risk tolerance can be described as "the sum of all fear/greed trade-offs available" (Finametrica, 2015: 1). According to Finametrica (2015), this includes trade-offs between maximizing opportunities and ensuring financial well-being, trade-offs between the regret of losses incurred by taking too much risk, and the missed abnormal gains from taking too little. Therefore, risk tolerance is best defined as "the extent to which a person chooses to risk experiencing a less favorable outcome in pursuit of a more favorable one" (Hallahan et al., 2004: 58).

This research article covers the theoretical elements by providing a conceptual review of Financial Risk Tolerance (FRT), its components, determinants, how it can be measured, and its relationship with various socioeconomic variables of investors from Sonora. It begins with a discussion on risk tolerance and some distinguishing elements such as Income Risk (IR), Investment Risk (IVR), and Speculative Risk (SR), to which individuals are exposed and toward which tolerance can be measured. This helps build a foundation for understanding what risk tolerance is and recognizing that it can apply to various types, whether financial or non-financial.

Business operations and everyday environments are surrounded by uncertainty, and the pursuit of high profits inherently involves risk. According to Urteaga and Izagirre (2013: 148), "risk is the random consequence of a situation, but from the perspective of a threat or potential harm."

Nguyen, Gallery, and Newton (2017) indicate that today, a high number of unsophisticated investors need to make sound decisions. These authors point out that since most investments are associated with some level of risk, it is important that they align with investors' risk profiles. Because such profiles are often complex, time-consuming to assess, and require analytical and quantitative tools, a growing number of investors are turning to financial advisors for their services.

In this regard, a commonly used concept in risk research is "risk tolerance." Grable (2000: 625) defines it as "the maximum amount of uncertainty someone is willing to accept when making a financial decision." This definition has been widely used in personal and consumer finance (Grable, 2008).

By definition, the phenomenon of risk tolerance implies a certain level of acceptance or rejection of risk by a person who invests in financial markets, a business, or a project. When qualifying an individual as risk-averse in the context of investment decisions, it is crucial to assess their preferences (Meyer, 2007).

Stangler (2010) notes that risk-tolerant individuals tend to concentrate depending on the industry and the region. Likewise, he points out that some regions are advancing rapidly, while others lag behind, as risk-takers invest their capital in various projects. Glaeser, Kerr, and Ponzeto (2010) argue that cities with high levels of entrepreneurs and investors experience greater employment growth than those that rely more heavily on existing businesses. High-growth companies technology startups create more jobs than established ones as the ability of investors to assume the level of risk they choose and the stage of life they are in.

The level of risk an investor can afford to take depends, among other factors, on their overall financial situation, individual responsibilities, age, education, and personality (Kannadhasan, Aramvalarthan, & Goyal, 2016).

Access to financing for technology startups is essential for the economic development of cities. In this regard, the risk profile of investors plays a key role and is directly related to the culture of risk tolerance among investors that is, how entrepreneurial the citizens are. This is why analyzing the level of risk aversion among investors in Guaymas and Hermosillo, and its impact on investment restrictions for technology startups, is crucial for understanding the degree of economic development in the cities of Guaymas and Hermosillo.

To date, no studies have analyzed the risk aversion of investors in Guaymas and Hermosillo. Therefore,

the results of this study will be relevant and will help us understand why there are financing restrictions for technological innovation projects, and consequently, identify some of the factors that influence the economic development of these two cities.

Based on the above, this study is guided by the following questions:

- Do investors from Sonora (specifically from the cities of Hermosillo and Guaymas) have the risk tolerance necessary to invest in a technology startup?
- What level of risk tolerance do these investors exhibit?
- Which socioeconomic factors are related to the financial risk tolerance of investors in Guaymas and Hermosillo, Sonora, Mexico?

Conceptual Framework

The term risk tolerance is defined and used in various ways. Whether risk tolerance is a stable characteristic of a given investor or also takes into account external circumstances (e.g., economic crises or decision-making dominance) depends on how it is defined and measured. This summary focuses on a definition of risk tolerance that is prevalent among professionals: namely, an investor's willingness to take on perceived risk (Davies, 2017), or the trade-off an investor is willing to make between perceived risk and expected return from different investment options (Grable, 2017).

This definition stems from a psychological interpretation of the risk-return framework of classical portfolio theory (Markowitz, 1952). It treats risk tolerance as an attitude toward risk and separates this pure attitudinal variable from risk and return perceptions psychological variables that are distinct from the expected value and variance of the distribution of possible outcomes (Weber & Milliman, 1997).

Financial risk tolerance is a concept commonly used among financial advisors. When used in general terms, financial risk tolerance is sometimes treated as an umbrella for several risk-related concepts (Weber & Klement, 2018). It is important to note, however, that financial risk tolerance has a very specific meaning. Cordell (2001) stated that financial risk tolerance is the maximum degree of uncertainty someone is willing to accept when making a financial decision that involves the possibility of a loss. This statement aligns with the definition by the International Organization for Standardization (2006), which holds that financial risk tolerance is the extent to which an individual is willing to experience a less favorable outcome in the pursuit of one with more favorable attributes.

Financial risk tolerance is distinct from concepts such as risk preference, risk perception, risk capacity, risk need, or risk composure. Each of these concepts plays an essential role in developing a person's risk profile; however, these terms are not interchangeable.

Conceptualization of Financial Risk Tolerance

As previously defined, risk refers to a situation that may involve exposure to something undesirable (Bernstein, 1996: 2). This may include exposure to physical danger, mental danger, or financial danger (Koh & Fong, 2011). As such, risk is the possibility that the actions taken may lead to undesirable outcomes, primarily as a consequence of uncertainty (Gough, 1988).

Whether financial or non-financial, risk can be divided into pure risk and speculative risk (SR). According to Pieson (2012: 1), "Pure risk refers to the likelihood of loss whenever an event occurs" for example, the risk that a flood causes damage to a home.

However, speculative risk refers to the possibility of losing, gaining, or breaking even. An example of speculative risk is gambling, where one can win or lose money or neither. Due to this uncertainty, it is expected that individuals retain a certain capacity to tolerate such undesirable outcomes; this is also known as risk tolerance (Gough, 1988). Therefore, "risk tolerance can be summarized as an individual's ability to withstand irregularities and uncertainties in both their daily social life and their finances" (Pieson, 2012: 1).

This concept is a measure of how willing people are to expose themselves to physical injury (physical risk), to being on the wrong side of the law (ethical risk), or to losing their money (financial risk) in the pursuit of their goals and objectives (Pieson, 2012).

According to Pieson (2012), the concept of risk tolerance is widely documented in the context of financial risk, which enables the evaluation of individuals to determine the extent to which they feel comfortable risking their money through a series of financial decisions including investing and gambling.

Risk tolerance is not a static process and, as such, will always change over time. This is because the risks people face and the strategies they use to protect themselves evolve as personal, mental, and financial circumstances change.

Grable and Joo (2004) point out that, due to our human nature, it is instinctive to seek solutions when facing uncertainties in order to preserve our goals and objectives this alludes to risk tolerance strategies (Grable & Joo, 2004: 73). According to Pieson (2012), there are five different methods and strategies that are generally adopted when dealing with risk. These range from risk avoidance to risk transfer, and they also classify different types of risk-takers, which are described below.

Such individuals are simply those who will avoid high-risk activities that, if they occurred, would be disastrous to their personal or financial plans (Pieson, 2012). Examples of such activities include speeding, engaging in dangerous sports, and smoking.

In the second classification, some people may prefer to retain risk as long as those risks do not pose substantial financial or non-financial threats these individuals are referred to as risk retainers (Pieson, 2012). Risk retainers personally assume the risk through self-insurance. Examples include individuals who may feel they do not need protection against risk, either because they have no debt obligations or because they believe they have sufficient cash flow and assets to handle any potential risk (Grable & Joo, 2004, p.5).

Third, most people believe in risk reduction, a strategy applied to prevent and control both losses and damage (Pieson, 2012). According to Pieson (2012), risk reducers tend to ensure that they have sufficient preventive measures in place for potential risks and, if those fail, they have control measures such as insurance to mitigate the consequences. Some examples include fire and theft alarms, airbags, and financial risk hedging strategies. Insurance policies that provide protection in case of a predetermined event are commonly used by such individuals (Kahneman & Tversky, 1979).

The fourth strategy for dealing with uncertainty is risk sharing. According to Pieson (2012: 1), risk sharers typically determine a manageable amount of risk they are willing to assume before transferring the remainder to one or more organizations. For example, someone might choose a high-deductible health plan that requires them to cover the first 10 percent of a major medical bill, while the remaining 90 percent would be covered by the insurer.

Finally, some individuals may prefer to fully transfer risks to a third party, thereby relieving themselves of any responsibility. Risk avoiders (or risk ceders) typically transfer all risk to a third party so that, in the case of an event occurring, their assets and possessions will not be affected at all. However, this strategy can be more expensive than the others due to the high cost of protection premiums (Grable & Joo, 2004: 77). Some examples of risk transfer include purchasing insurance and comprehensive life coverage policies.

Types of financial risks

In personal finance, individuals are expected to manage their financial resources with respect to saving, budgeting, and spending these resources, while also considering the various financial risks to which they may be exposed. As previously mentioned, several risks must be considered when dealing with personal finance and measuring risk tolerance. These include Income Risk (IR), Speculative Risk (SR), and Investment Risk (IR). This section reviews the definitions of these different personal financial risks that together form a broader concept. It refers to their basic definitions, how they are measured, and how the participants' level of risk tolerance can be obtained.

Income risk

In personal finance, individuals are expected to manage their financial resources with respect to saving, budgeting, and spending these resources, while also considering the various financial risks to which they may be exposed. As previously mentioned, several risks must be considered when dealing with personal finance and measuring risk tolerance. These include Income Risk (IR), Speculative Risk (SR), and Investment Risk (IR). This section reviews the definitions of these different personal financial risks that together form a broader concept. It refers to their basic definitions, how they are measured, and how the participants' level of risk tolerance can be obtained.

Income Risk

By definition, Guiso et al. (1996: 158) referred to Income Risk (IR) as "the possibility that financial flows from a salary or financial investment product may decrease or cease due to job loss, changes in rates, or employment changes." This may result in individuals being unable to finance their budgets, debts, or meet their saving goals (Marx, 2010). Ideally, this is the primary type of risk in Financial Risk Tolerance (FRT), as it has the potential to influence other risks.

Income can be accurately measured through regularly received wages and salaries; therefore, income risk tolerance is measured by determining to what extent individuals feel comfortable engaging in activities or making decisions that may threaten these income sources (Guiso et al., 1996). Such decisions may include quitting a job or moving to a different job, borrowing money from friends, or lending money to friends.

With economic advancement, investment streams have also become a source of regular income flows and can also be used to quantify income risk tolerance. These are affected by changes in interest rates and general economic conditions (Guiso et al., 1996). Essentially, those who are reluctant to make decisions and engage in activities that may threaten their income are generally less risk tolerant compared to those who are less skeptical of changes in income.

Another dimension of Income Risk (IR) can be observed through the effect of expected income on levels of Financial Risk Tolerance (FRT). Expected income simply refers to unearned income that people anticipate receiving or earning in the near future (O'Neil, 1995). Grable (1997) noted that expected income can generally have the same impact on FRT levels as actual income. This is because individuals who anticipate earning a certain amount of income in the near future may take riskier decisions, knowing they will be able to offset losses with the income they expect to receive.

Speculative Risk

As stated by Marx (2010: 4), "the concept of speculation implies the tendency of individuals to commit their money in anticipation of obtaining extraordinary gains based on assumptions they make about the possible loss and return of a specific transaction." A well-known concept highly exposed to speculative risk (SR) is gambling, which involves "betting on an uncertain outcome and risking for the enjoyment of risk itself, accepting any return, including a low return or a loss" (Guiso et al., 1996: 158). Grable and Lytton (1999) pointed out that the elements used to quantify speculative risk generally assume that individuals with a higher tendency to speculate have relatively higher risk tolerance levels compared to others.

Speculative risk is also a category that is voluntarily assumed and may generate a gain, a loss, or a neutral outcome (Reilly & Brown, 2012). All speculative risks are taken as a result of a conscious choice; therefore, many financial investment activities provide examples where speculative risk has been undertaken (Reilly & Brown, 2012). This is because financial investment ventures ultimately result in an unknown amount of success or failure (Reilly & Brown, 2012).

Speculative risk can be contrasted with pure risk, which is a category of risk in which loss is the only possible outcome, while Income Risk (IR) has three possible outcomes (Reilly & Brown, 2012). For example, when individuals buy stocks, they speculate that the initial principal investment will grow, decrease, or remain the same (Guiso et al., 1996: 158).

Investment risk

Reilly and Brown (2012: 444) defined an investment as "the current commitment of money made over a specific period of time with the objective of obtaining future monetary returns that may compensate the individual investor for inflation expectations during the investment period, compensate for the time period over which the funds are committed, and the uncertainty of future payments." Consequently, investment risk (IR) is the possibility that there will be uncertainty in investment returns and that these returns may be reduced such that they do not compensate the investor for inflation expectations, the time period during which the funds are committed, and the uncertainty of future payments (Reilly & Brown, 2012).

It is known that knowledge and temperament are important determinants of an individual's ability to successfully deal with investment risk (Grable & Lytton, 1999a). Therefore, an individual is considered to have greater risk tolerance than others when seeking to invest funds in stocks, hard assets, real estate, or any other risky asset compared to less volatile investments such as bonds (Grable & Lytton, 1999a).

When quantifying investment risk, Grable and Lytton (1999) used questions requiring participants to indicate their comfort level regarding how much risk they can assume. This included questions where participants indicated how they would allocate their funds among high-risk, medium-risk, and low-risk assets. Additionally, participants' investment experience was determined in terms of the likelihood that they would invest in high-risk assets such as stocks and mutual funds (Grable & Lytton, 1999a). Other questions asked how individual participants would react and alter their investments given different market conditions (Grable & Lytton, 1999a).

Once the concept of risk tolerance is differentiated,

the present work is based on the following objectives:

- To characterize investors from two cities in Sonora, Mexico: Guaymas and Hermosillo.
- To describe the risk tolerance of the investors.
- To associate socioeconomic variables with risk tolerance.
- To analyze whether investors from Sonora are willing to invest in a technology startup, which represents a high-risk investment.

Methodology design

Participants

Using a snowball sampling technique, 147 entrepreneurs from the State of Sonora participated in the study. Of these, 78.9% (n=116) reside in the city of Hermosillo, and the remainder in Guaymas. Participants were selected based on the classification by the Research Institute of Credit Suisse Bank in their "Global Wealth Databook 2017" study (November 2017) and according to surveys and questionnaires conducted by major global banks, where a person is considered "wealthy" with assets ranging from 4 to 7 million dollars. Based on this, entrepreneur-investors with capital of at least 4 million US dollars were selected.

Instruments

The instrument used in this research project is a questionnaire designed to evaluate an investor's risk tolerance and to gain a deep understanding of their investment objectives, allowing us to identify the types of investments to which the investor is susceptible. Investment objectives are based on various factors such as time horizon, financial goals, and risk tolerance.

The questionnaire developed by Nguyen et al. (2017) was adopted to assess risk tolerance. Additionally, items from the investor profile questionnaire created by LPL Financial were incorporated to evaluate the investment time horizon and objectives.

Time Horizon. The investment time horizon to achieve the desired financial goals. It contains 3 items such as: What is your primary financial goal?

Risk Tolerance

This section contains 7 items such as: "You have just received a large sum of money. How would you invest it? (1) I would invest in something that currently offers moderate income and is very conservative; (2) I would invest in something that currently offers high income with a moderate amount of risk; (3) I would invest in something that offers a high return; (4) no substantial capital appreciation even if it carries a high amount of risk." Scores from 1 to 7 indicate very low risk tolerance, 8 to 14 low tolerance, 15 to 18 moderate tolerance, 19 to 22 high tolerance, and 23 to 27 very high tolerance.

Investment Objective

The investor's objective is directly related to the type of investment; if the objective changes, the investments must be re-evaluated. This dimension consists of 5 items such as: "From today to 5 years, how much do you expect your investment portfolio to be worth? (1) I am more concerned about current income; (2) The same or slightly higher than the current value; (3) Higher than the current value; (4) Substantially higher than the current value."

The instrument uses various response options per item, mainly presented on a scale from 1 to 4. At the end, sums are calculated to generate levels of risk tolerance, time horizon, and investment objectives. Regarding the reliability of the instrument, it was subjected to Cronbach's Alpha (α) test, with scores above 0.75 obtained in the test dimensions.

Procedure

Investors from two cities in the state with assets of at least 4 million dollars were selected. Through informed consent, the entrepreneurs agreed to participate in the study. The questionnaires were administered between June 15 and October 30, 2018. The time to complete the instrument was approximately 8 minutes. Once data was collected, a database was created in SPSS version 2.0. Frequency analyses were used, along with parametric tests such as Student's t-test and Pearson's r; additionally, multivariate k-means clustering was used to create groups based on the risk tolerance scores.

The companies owned by the investors in the sample are primarily engaged in goods and services in both cities, followed by commerce and primary activities such as agriculture and fishing. Regarding the type

of acquisition, the vast majority are founders of their companies. In terms of their establishment, companies in Guaymas are older, averaging 42 years, while those in Hermosillo have around 33 years on average (see Table 1).

Table 1. Description of companies and/or activities of investors from two cities in Sonora

Company information	Hermosillo	Guaymas
Type of businnes		
Goods and services	46% (n= 54)	25.8% (n=8)
Commerce	30.2% (n=35)	32.3% (n=10)
Agriculture	16.45% (n=19)	16.1% (n=5)
Construction	6.9% (8)	
Fishing		25.8% (n=8)
Type of acquisition		
Founder	85.3% (n=99)	74.2% (n=23)
Inherited	14.7% (n=17)	19.4% (n=6)
Purchased		6.5% (n=2)
Year of acquisition	1986.56 (DS. 15.54)	1977.29 (DS. 23.77)
Total	**116**	**31**

Source: Own elaboration based on data from Wilson et al. (2015), and individual pages of the institutions.

The economic activity or business sector of the investors' companies shows that the fishing sector contributes the most to the fortunes of the entrepreneurs, followed by construction and agriculture respectively (see Table 2).

Table 2. Approximate value of the fortunes of investors by type of activity

Investor Activities	Approximate Value of Fortunes	Number of Investors
Commerce	209,856,666	45
Goods and services	376,877,258	62
Agriculture	731,972,916	24
Construction	1,002,300,000	8
Fishing	1,027,893,750	8

Source: Own elaboration

Regarding specific variables of the investors, 100% of them are men in both cities, with an average age between 64 and 67 years. Fifty-eight percent have a higher education level, and 36.1% have completed high school. Regarding the approximate net worth of the investors' fortunes, those of Guaymas entrepreneurs are higher (see Table 3).

Table 3. Description of investors from two cities in Sonora

Variables	Hermosillo		Guaymas	
	Mean	S.D	Mean	S.D
Age	64.04	13.89	66.45	12.54
Approximate value of fortune	387.8 million	748 millions	699.5 millions	567.2 millions

Source: Own elaboration

In relation to financial risk tolerance, investors from both Sonoran cities score in the low tolerance range. They present a short- to medium-term investment horizon. Their investment objectives do not focus on growth; scores indicate a focus on capital preservation and current income (see Table 4).

Table 4. Risk tolerance, time horizon, and investment objectives of investors

Variables	Hermosillo		Guaymas	
	Mean	S.D	Mean	S.D
Time horizon	3.96	1.00	3.48	.96
Risk tolerance	14.18	3.56	13.48	1.62
Investment objectives	7.25	2.56	6.22	.99

Source: Own elaboration

Table 5 shows that risk tolerance correlated with the educational level of the investors (r = 0.180, p = 0.047), indicating that the higher the education level of the entrepreneurs, the greater their risk tolerance. Age also showed an association with tolerance (r = 0.186), a point that will be described later. Similarly, the type of business is associated with the measure of risk (r = 0.256, p = 0.000). It is worth mentioning that although it is not the objective of this study, education level was one of the variables most strongly associated with relevant indicators such as fortune and type of Table 5 shows that risk tolerance correlated with the educational level of the investors (r = 0.180, p = 0.047), indicating that the higher the education level of the entrepreneurs, the greater their risk tolerance. Age also showed an association with tolerance (r = 0.186), a point that will be described later. Similarly, the type of business is associated with the measure of risk (r = 0.256, p = 0.000). It is worth mentioning that although it is not the objective of this study, education level was one of the variables most strongly associated with relevant indicators such as fortune and type of business.

Table 5. Parametric correlations between financial risk tolerance and socioeconomic variables of the investors

	Variables					
	1	2	3	4	5	6
Risk tolerance (1)	1	.180*	-.084	.186*	.037	.256**
Education level (2)		1	.225**	.364**	-.040	.425**
Fortune (3)			1	.009	-.012	-.111
Age (4)				1	.266**	-.409**
Acquisition level (5)					1	-.020
Business sector (6)						1

Note: p*=.05; p**=.000
Source: Own elaboration.

Using the k-means test, a cluster analysis was conducted based on financial risk tolerance scores. After 9 iterations, two clusters were created: the first labeled as investors with low risk tolerance and the second as investors with moderate risk tolerance. It is important to mention that due to the apparent homogeneity of the sample, no distinction was made based on city of residence; only tolerance scores were used to perform the multivariate test.

Table 6 shows that educational level marks significant differences regarding risk tolerance (t = 2.43; p = .017). Although the difference between education levels is small, results indicate that investors with higher education levels have greater tolerance. It was also found that younger investors have higher risk tolerance.

Table 6. Parametric Comparisons by Cluster and Socioeconomic Variables

Variables	Low tolerance		Moderate tolerance		
	Mean	S.D	Mean	S.D	
Risk tolerance	12.65	1.97	18.16	2.81	13.07**
Education level	3.37	.68	3.67	.60	2.43*
Fortune	461 millions		428 millions		.151
Age	68.45	13.44	63.22	13.55	2.04*
Total	n=110		n=37		

Source: Own elaboration.

Conclusions and discussions

The study was based on various objectives aimed at associating and comparing socioeconomic variables with the financial risk tolerance expressed by investors from Guaymas and Hermosillo, Sonora, Mexico, as well as analyzing their susceptibility to invest in a technology startup company.

First of all, it can be said that the characteristics of the investors show that most of them are approaching late adulthood. The investment time horizon is a variable closely related to risk tolerance; since most investors are older, there is a possibility that they seek short-term investment returns and have a low risk tolerance (Klement, 2018), which was exactly the result found in the present research.

The primary activities generating the wealth of the investors were in the primary sector, including fishing, farming, and livestock, which currently produce wealth in the state as specified by the Secretariat of Agriculture, Livestock, Rural Development, Fisheries, and Food (2015).

A relationship was found between socioeconomic variables and the risk tolerance displayed. These results are supported by findings from Mahmood et al. (2011), who proposed a model identifying certain socioeconomic, demographic, and attitudinal factors that can influence the propensity to seek or avoid risk and the perception of it. These factors included gender, marital status, prior experiences, education level, differences in regulatory policies, information asymmetry, and sensation seeking.

This agrees with Nguyen et al. (2017) regarding the importance not only of exploring the concept of risk tolerance but also reinforcing it with risk perception. Compared to risk tolerance, risk perception can easily change over time since it reflects how people perceive an investment product (Roszkowski and Davey, 2010). Financial advisors can intervene in this decision-making process by influencing their clients' perceptions and helping clients make sound decisions.

A relevant aspect is that investors with fortunes greater than 4 million dollars in the state are entirely men. In this regard, Briseño, Briseño, and López (2016) note that in developing countries, women are educated in a conservative socio-cultural environment that brings with it a lack of confidence in themselves and the society in which they have lived. This reality translates into family resistance to financing a woman's business, reluctance from banks to assume risks in projects created by women, and a general unwillingness to accept women as responsible decision-makers or to present themselves as guarantors for obtaining loans (Briseño et al., 2016).

It is concluded that the study's findings are particularly relevant for financial advisors-planners, professional organizations (in financial services), and industry regulators. Risk tolerance must be considered during the advisory process so that financial advisors can provide appropriate service to their clients. And when seeking financing for a project, the profile and risk tolerance of Sonoran investors should be taken into account.

Older investors are concerned about maintaining their current income; given the local, national, and global scenarios, they express worry and uncertainty. The more optimistic investors tend to be younger, thinking in terms of short- and medium-term projects, but not long-term ones.

Finally, most Sonoran investors want income from their portfolios in the short to medium term, regardless of whether they plan to retire. Based on the majority of responses, investors have a high aversion to risk. An investor with very low risk tolerance seeks growth of their wealth in the long term rather than income in the short to medium term.

Investors from Guaymas and Hermosillo look for returns in the short to medium term and do not consider there to be sufficient certainty to pursue substantial capital growth in the long term with high risk.

Investors seek "safe" investments, mostly accepting only country risk. Although there are "stable" companies, but due to the feeling of uncertainty and the expectation of a possible global crisis in the next 12–24 months, there is fear of investing in any company, no matter how large or promising it may be.

The most developed cities or regions in the world generally have an investment culture among their inhabitants. There is high risk aversion among people in less developed countries or regions. Technology startups are of vital importance for the economic development of a city, region, or country. The global trend is that companies increasingly need to invest more resources in technology; those that do not will be subject to being pushed out of the market by other companies or startups. It is said that by 2030 only 30% of the world's 100 largest companies will remain.

An essential element for the development of technology startups is their financing. Without financing, there are no innovative ventures, and consequently, no job creation or wealth generation that is, no economic development. For this reason, this research project contributes to determining the level of risk aversion of investors from Guaymas and Hermosillo, the impact on financing restrictions for technology startups, and the economic development of the cities of Guaymas and Hermosillo.

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