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77
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PERIÓDICA
Índice de Revistas Latinoamericanas en Ciencias

83

Content

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.

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.

Gonzalez Vejar *et al.* Financial risk tolerance and the Socioeconomic Variables of investors from Sonora for the financing of technology Startup Companies

5

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,

Gonzalez Vejar *et al.* Financial risk tolerance and the Socioeconomic Variables of investors from Sonora for the financing of technology Startup Companies

7

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.

Gonzalez Vejar *et al.* Financial risk tolerance and the Socioeconomic Variables of investors from Sonora for the financing of technology Startup Companies

9

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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Source: Own elaboration.

RESEARCH

Variables that influence the consumption of innovative healthy beverages in Hermosillo, Sonora, Mexico

Variables que influyen en el consumo de bebidas saludables innovadoras en Hermosillo, Sonora, México

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Abstract

Mexican culture stands out for a large number and variety of non-alcoholic beverages, the consumers look forward to get those with the necessary characteristics for their own satisfaction. Currently, a little-know beverage alternative has been implemented; some are commercial, offering a variety of flavor combinations for consumption. For the consumer, the intention is to try a novel product that is out of the market. However, there are influential variables in consumption, which are analyzed in this investigation. The objective of this article is to propose a descriptive model on the acceptance of innovative healthy beverages, as well as the effect of the consumer´s neophobia towards this type of products measured by the intrinsic and extrinsic quality variables and the intention of purchase in the city of Hermosillo, Sonora.

Keywords: Beverages, Acceptance, Neophobia, Purchase intent, Consumption.

JEL Classification: Q13

Resumen

La cultura mexicana se destaca por una gran cantidad y variedad de bebidas no alcohólicas, los consumidores procuran adquirir las que cuentan con características necesarias para su satisfacción. En la actualidad, ha sido implementada una alternativa de bebidas poco conocida; algunas son comerciales, que ofrece una variedad de combinaciones de sabores para su consumo. Para el consumidor su intención es probar un producto novedoso que se encuentre fuera del mercado. Sin embargo, existen variables influyentes en el consumo, las cuales se analizan en esta investigación. El presente artículo, tiene como objetivo plantear un modelo conceptual a nivel descriptivo sobre la aceptación de bebidas saludables innovadoras, así como el efecto de la neofobia que manifiesta el consumidor hacia este tipo de productos medido por las variables de calidad intrínsecas y extrínsecas y la intención de compra en la ciudad de Hermosillo, Sonora.

Palabras Clave: Bebidas innovadoras, neofilia, neofobia, intención de compra, consumo.

Códigos JEL: Q13

Introduction

Research background

Globally, patterns of fluid intake have also undergone changes, implying a shift in individuals' hydration profiles by incorporating a wide variety of beverages and infusions with stimulating, refreshing, and sweetening effects, offering new flavors, aromas, colors, and appealing presentations. Based on this new trend, various entities have in recent years issued recommendations on what constitutes healthy hydration (Aronow, M.I., Lavanda, I., Leal, M., Olagnero, G., 2014).

Recently, businesses offering healthy food and beverages have been established, leading to an

increase in the consumption of fruits and vegetables. Some of these restaurants serve preparations that are not only healthy but also pleasant and flavorful. The growth of this sector is only beginning to be quantified (CNPO, 2018).

Achieving a healthy diet begins with individual behavior that affects energy balance, though this is not purely individual, as people are shaped by the social and cultural environment in which they are immersed, as well as by economic options (Doval, 1970). It is commonly accepted that food can appear more or less appealing based on its appearance, even before tasting it (Díaz, E., Casa, L.G. de la; Ruiz, G., Baeyens, F., 2004).

Visual impact is determined by a product's appearance—in this case, natural and innovative food and beverages. People can classify a product as natural or synthetic merely by analyzing its appearance, as well as recognize the natural color of fruits and vegetables in a drink. The sensation that food or drink produces upon contact with the palate must be pleasant, leaving a positive impression of the product.

It is known that variables such as the intrinsic and extrinsic characteristics of foods, and individuals' beliefs about them, play a significant role in the acceptance, preference, selection, and intention to purchase food products (Iop, S.C.F., Teixeira, E., Deliza, R., 2006). Other factors, such as food neophobia/neophilia, are still in early stages of study.

For instance, a study conducted by Henriques A.S., King, S.C., and Meiselman, H.L. (2008), concerning products with novel flavor combinations, found that food neophobia did not affect the directional information provided by consumers through diagnostic attributes. This suggests that both neophobic and neophilic individuals perceive the sensory characteristics of products similarly, but exhibit different degrees of liking or affinity for the products.

Thus, addressing this gap in knowledge, an ad hoc investigation was designed and conducted to develop a theoretical-conceptual model capable of explaining the role of food neophobia/neophilia in consumers' perceptions, as well as their intention to purchase innovative healthy food products. This article presents and proposes the corresponding model.

Theoretical Approaches

Cultural processes of eating

Hermosillo—the capital of the state of Sonora, located in northwestern Mexico—is a city characterized by its culinary traditions derived from long-standing customs. Nevertheless, modifications have been made to both dishes and beverages. These changes are increasingly noticeable in the market. The gastronomic offerings surrounding these foods tend to emphasize abundance; mixing and variety are indicators that define contemporary consumption practices. These foods reflect current culinary hybridizations due to the many alterations in ingredients and preparation methods, with results that are seldom found in other regions (Sandoval-Godoy, S., Domínguez-Ibañez, S., Cabrera-Murrieta, A., 2009).

Changes in eating habits

This is beginning to change consumers' nutritional habits toward more balanced diets, especially among those who choose to engage in physical exercise (Doval, H.C., 2013). Businesses offering healthy food have emerged, contributing to an increased consumption of fruits and vegetables. These restaurants provide not only healthy food, but also delicious flavors. Although this sector is only beginning to be quantified, in the last decade the number of organic producers in Mexico increased by 400%, according to the Consejo Nacional de Productores Orgánicos (CNPO). An increasingly large portion of the population consumes food produced entirely beyond their sight and immediate awareness. As a result, there is greater diversity in the contexts in which food is consumed (e.g., places, occasions, social settings), and consequently, a wider range of expectations regarding the qualitative characteristics of food products.

Intrinsic and extrinsic characteristics of food and consumer beliefs

Product quality is distinguished between intrinsic (or inherent) and extrinsic (or relational) characteristics. According to Wüster (1998), an intrinsic characteristic is one that can be observed through simple examination of the object and does not require further knowledge about its use or origin. An extrinsic characteristic is one that describes the object's relationship with other objects. Cabré (1992) defines intrinsic and extrinsic characteristics as follows:

intrinsic characteristics are those linked to the description of an object as a member of a class—for example, shape, color, or size. Extrinsic characteristics are those that are external to such classification, such as function, origin, location, or inventor.

It is widely accepted that food may appear more or less appetizing based on its appearance, even before tasting it. To date, some studies have examined expectations regarding acceptability (hedonic quality), the intensity of basic flavors or specific flavors, or the degree of artificiality attributed to samples depending on the color intensity (Díaz, E., Casa, L.G. de la; Ruiz, G., Baeyens, F., 2004).

Visual impact is determined by a product's appearance, in this case of innovative healthy beverages. In the food industry, color is a key parameter used to classify products (CRA) (Delmoro, J., Muñoz, D., Nadal, V., Clementz, A., Pranzetti, V., 2010). People can identify a product as natural or synthetic simply by analyzing its appearance and recognizing the natural color of fruits and vegetables in a beverage. Among the factors influencing consumer preferences and decision-making is, of course, taste (Romeo, J., Serrano, M., n.d.). The sensation that a food or beverage produces when it comes into contact with the tongue and palate should be pleasant, leaving a favorable impression. Product categories are represented through codes (e.g., colors, logos, shapes, sizes) that signal to consumers the qualities, attributes, and uses of the product. In this sense, it appears that colors and design help facilitate the purchase decision at the point of sale (Arboleda, 2007). Packaging plays a crucial role in the launch of a new product, as it is the first element presented to the public and the one most likely to attract attention (Coello García, M., Díaz-Berciano, C., Gómez-Pestaña, N., 2000).

Consumers rely on price as an indicator of quality and assign different levels of quality to identical products that vary only in price. Perceptions of value are also influenced by factors such as age and income level (Schiffman, L., Kanuk, L., 2005). Customer value depends on price sensitivity, that is, the degree to which price variations influence purchasing behavior. Price can be defined as the amount of money needed to acquire a given quantity of a good or service (Belio, J., Sainz, A., 2007).

Commercialization of healthy beverages

Natural beverages began to be marketed in the 20th century. Throughout human evolution, dietary habits have undergone numerous transformations. Since ancient times, a nutrient-rich diet has been regarded as essential to maintaining health and vitality. Due to the importance of fruit in nutrition, it was once considered food of the gods, attributed with magical and divine properties. Numerous historical accounts reference offerings of fruit to the gods and temples filled with fruit. Even today, offerings of fruit are still made to deities in certain cultures, such as in India. Over time, various methods have been developed to preserve the properties of fruit, such as fermentation, and today, through the use of modern technology (D., n.d., El zumo a trav).

Patterns of liquid consumption have changed, affecting individuals' hydration profiles as the global market has introduced a wide range of beverages and infusions with stimulating, refreshing, and sweetening effects—bringing with them new flavors, aromas, colors, and attractive presentations. Based on this new trend, various entities have in recent years issued recommendations regarding healthy hydration (Aronow, M.I., Lavanda, I., Leal, M., Olagnero, G., 2014).

Properties of natural beverages

The Secretaría de Salud de México convened a group of national and international researchers with experience and prestige in nutrition studies to develop recommendations on beverage consumption for a healthy life in the Mexican population, based on the best available scientific evidence (Villalobos, 2008).

Another reason for the development of such beverage recommendations is the potential to help consumers make informed choices and for the government to promote a variety of healthy drinks, with the goal of replacing the currently unhealthy beverage consumption pattern (Rivera, J., Muñoz-Hernández, O., Rosas-Peralta, M., Aguilar-Salinas, C., Popkin, B.M., Willett, W.C., 2008).

According to Rivera et al. (2008), nutritional guidelines in Mexico have so far focused on food, despite the fact that energy intake from beverages represents 21% of total energy consumption among Mexican adolescents and adults—a major public

health concern in Mexico.

During hot seasons such as summer, high temperatures increase the need for hydration. It is important to remember that thirst is not always a reliable indicator of hydration needs. Natural juices are a good option as they aid digestion, provide simple sugars for healthy energy, strengthen the immune system, and support hydration.

One advantage of these beverages is that they allow for the intake of fruits and vegetables in a single serving, providing the body with its daily recommended portion. Drinking these healthy beverages helps maintain proper hydration levels. Adequate fluid intake supports better digestion, toxin elimination, and overall bodily function. These beverages offer a wide variety of combinations, incorporating multiple food items.

Food innovations

Food and beverage products are constantly evolving and becoming more prominent in the market. Fischler, C. (1995) explains that dishes are becoming more diverse, and it is increasingly rare to find two restaurants offering the same specialty under the same name. Creativity is reflected in naming conventions (often leading to new clichés). Ingredients are multiplying, and innovative combinations abound.

By definition, food innovations are characterized by more or less significant differences from known products. The process is far from complete, as food technology continues to develop new products, and the latest applications of biotechnology promise numerous novelties for the near future (Contreras, J., 2005).

New products may raise certain doubts or issues and tend to be less tolerable the greater the difference or distance from already familiar products. The lack of knowledge regarding how foods are produced and the raw materials used adds to this confusion, leading consumers to develop a distrustful attitude toward the food supply. Although eating habits can evolve over time, change often encounters consumer dissatisfaction, particularly when facing industrial foods that are perceived as tasteless, lacking flavor, or even dangerous (Hernández, 2005).

The global expectations surrounding functional foods are not only due to their impact on nutrition and consumption habits, but also because they involve critical areas such as health, the economy, scientific research, legislation, commerce, and market development. A functional food or food component may be a macronutrient with a specific physiological effect or an essential micronutrient, but it can also be a component that, while not highly nutritious or essential, modulates some bodily function when consumed (Roberfroid, 2000).

Neophobia and Neophilia

These are generally characterized as personality traits that lie along a continuum of a person's tendency to accept or avoid new foods (Shepherd, R. & Raats, M., 1996). Food neophobia is the fear of consuming or trying new products or including them in one's diet, and those who experience it tend to reject such foods. It is not a permanent aversion to new foods; acceptance can be promoted through repeated exposure or modeling the consumption of previously rejected foods (Pliner & Hobden, 1992). Food neophobia acts as a barrier to consumption intention. Relatively little attention has been paid to the neophobic consumer and the potential impact this may have on the guidance provided to product developers during the new product development process.

Hypotheses

Based on the theoretical background previously presented, it is pertinent to show the relationship involving extrinsic and intrinsic attributes, as well as belief factors among consumers of healthy beverages. Therefore, the following hypotheses are established:

Derived from the above literature review, the following working hypotheses were proposed (Figure 1):

• H1: Intrinsic quality variables such as: color and flavor directly, positively, and significantly influence the purchase intention of healthy beverages among consumers in Hermosillo, Sonora.

• H2: Extrinsic quality variables such as: packaging and price of healthy beverages directly, positively, and significantly influence the purchase intention of healthy beverages among consumers in Hermosillo, Sonora.

• H3: Belief attributes such as health and trust,

directly, positively, and significantly influence the purchase intention of healthy beverages among consumers in Hermosillo, Sonora.

• H4: Neophobia/neophilia moderates the relationships between intrinsic and extrinsic quality variables, belief attributes, and the consumption intention of innovative beverages among consumers in Hermosillo, Sonora.

Research approaches

The quantitative approach is sequential and confirmatory. It begins with an idea, which becomes increasingly specific; once defined, research objectives and questions are derived, literature is reviewed, and a theoretical framework or perspective is constructed. Based on the research questions, hypotheses are formulated, and variables are defined. A plan is developed to test them (methodological design); variables are measured within a specific context; the obtained measurements are analyzed (often using statistical methods), and a set of conclusions is drawn regarding the hypotheses (Hernández Sampieri, R., Fernández Collado, C., Baptista Lucio, M., 2014).

The qualitative approach is also guided by significant areas or research topics. However, instead of having clearly defined research questions and hypotheses before data collection and analysis (as is typical in most quantitative studies), qualitative studies may develop questions and hypotheses before, during, or after data collection and analysis. These activities often serve, initially, to discover the most relevant research questions and, later, to refine and answer them. The investigative process moves dynamically in both directions—between facts and their interpretation—making it a "circular" process, with sequences varying depending on the specific study (Hernández Sampieri, R., Fernández Collado, C., Baptista Lucio, M., 2014).

The qualitative approach mainly seeks the "dispersion or expansion" of data and information, whereas the quantitative approach intentionally seeks to "narrow" information. In qualitative research, reflection acts as a bridge linking the researcher and the participants (Mertens, 2005).

Both approaches allow for the use of multiple data collection techniques. For example, in quantitative research: closed questionnaires, statistical data records, standardized tests, physiological measurement systems, among others. In qualitative studies: in-depth interviews, projective techniques, open-ended questionnaires, focus groups, biographies, document reviews, and observation, among others (Hernández Sampieri, R., Fernández Collado, C., Baptista Lucio, M., 2014).

The combination of qualitative and quantitative methodologies—multi-method research—is supported, among other arguments, by their complementarity, defined as "the mutual contribution of what each lacks" (Polit, D., Hungler, B., 2003).

Figure 1. Conceptual model
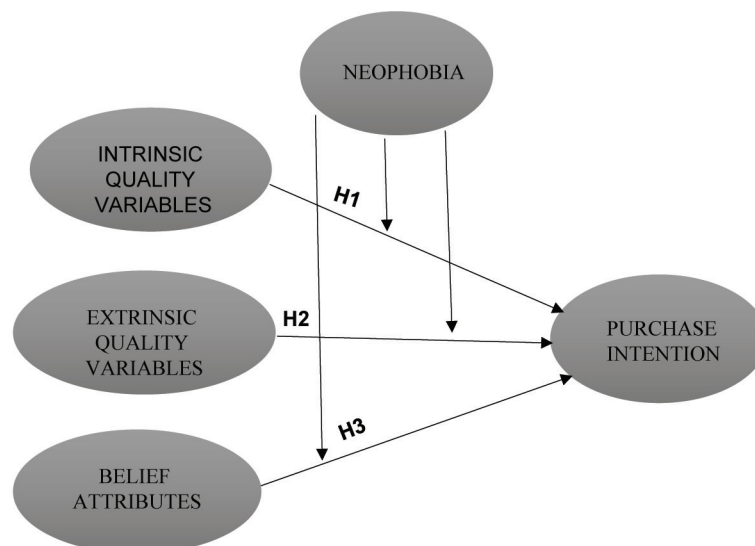
Source: Own elaboration based on literature review (2018).

To carry out this research, both approaches were employed. On one hand, the qualitative approach, which refers to the non-numerical exploration of data; and on the other hand, the quantitative approach, which refers to the study based on quantities—namely, a numerical process involving statistical foundations.

Research design

Prior to conducting the research, the problem statement was specified, the approaches were defined, and the hypotheses were formulated. An experiment is conducted to analyze whether one or more independent variables affect one or more dependent variables and why (Hernández Sampieri, R., Fernández Collado, C., Baptista Lucio, M., 2014). The experimental design was selected and developed to analyze purchase intention as the independent variable and the relationship of neophobia with the influence of intrinsic, extrinsic, and belief-based attributes as dependent variables.

Qualitative methodology

According to Taylor, S. and Bogdan, R. (2000), the objective of qualitative research is to provide a methodology that enables an understanding of the complex world of lived experience from the perspective of those who live it. This implies that the research process involves interacting with participants and the data to seek answers to questions centered on social experience.

In this study, it was important to identify, through observation using the mystery shopper technique, individuals who meet the descriptive profile criteria, particularly those with a habit of purchasing healthy beverages or cold infusions in their daily lives, as well as age range, education level, and socioeconomic status. Additionally, variables related to openness to change—namely neophilia and its opposite, neophobia—were considered.

Results of the qualitative methodology

A descriptive research study based on observation was developed to determine the consumer profile and the target market segment. Once the information was gathered, an appropriate questionnaire was designed for application to potential consumers.

The descriptive research process was conducted through an indirect or unstructured observation technique. The observation involved recording consumption habits and behavioral patterns of individuals; this information was obtained by analyzing consumers in various settings and establishments offering similar commercial products. As a result, common traits and characteristics of consumers were identified and used as the basis for the questionnaire design.

According to Malhotra, N. K. (2008), in probability sampling, sampling units are selected at random. It is possible to predefine every potential sample of a given size that may be drawn from the population, as well as the probability of selecting each sample. It is not necessary for all potential samples to have the same probability of being selected, although it must be possible to specify the probability of selecting any given sample of a certain size.

In cluster sampling, the target population is first divided into mutually exclusive and collectively exhaustive subpopulations or clusters. A random sample of clusters is then selected using a probability sampling technique, such as simple random sampling. For each selected cluster, either all elements are included in the sample or a probabilistic sample of elements is taken. If all elements within the selected cluster are included, the procedure is called single-stage cluster sampling. If a probabilistic sample is drawn from each selected cluster, the procedure is referred to as two-stage cluster sampling (Malhotra, N. K., 2008).

The sampling technique applied was cluster probability sampling, given that there was no list of the individuals to be analyzed. However, the sector in which they live and their socioeconomic level within the city of Hermosillo, Sonora, was known.

To determine the target sector, the socioeconomic levels C and C+ (middle and upper-middle) were selected. The PIEDHMO platform was used to define the population universe. This is a digital economic information platform that provides data on total population, industrial zones, housing by sector, company locations by industry, and other advantages specific to the city of Hermosillo, Sonora.

On the PIEDHMO platform, a map of the city is displayed for research purposes. Hermosillo, being the capital city, offers extensive information that describes neighborhoods by socioeconomic level— high, middle, and low. The program's available tools are used to select zones within the city that

fall under levels C and C+, where the fieldwork will be conducted.

When constructing an attitude scale, it is often advisable to first test it with a pilot sample in order to detect deficiencies and correct items that have not performed well (Morales, 2011). A pilot test or cognitive pretest usually involves administering the draft questionnaire to 30-50 individuals, who ideally resemble those in the actual study sample (Arribas M., 2004).

The pilot test was conducted over a two-week period in Hermosillo, from February 27 to March 12, 2018. A team consisting of seven interviewers and one field supervisor administered 36 surveys to gather information and allow for future modifications to the questionnaire design. The pilot test results highlighted intrinsic characteristics, with most respondents placing primary importance on flavor, followed by color. Regarding extrinsic characteristics, price was found to be important but varied based on income level and age. Additionally, participants indicated that they pay attention to product packaging at first glance. Another observation from the test was that while most people do not trust new foods, they are nonetheless willing to try them.

Quantitative methodology

For the questionnaire design and determination of the question content, the consumer profile and intrinsic, extrinsic, and belief-related attributes were taken into account. The questionnaire consists of a total of 20 questions using a 7-point Likert scale (where 1 means "Strongly Disagree" and 7 means "Strongly Agree"). To ensure accurate results and eliminate errors, 35 questionnaires were used in the pilot test. The respondents matched the selected profile and were over 15 years of age, all residing in Hermosillo, Sonora.

n= sample size

σ= confidence level

N= population size

p= probability in favor

q= probability against

e= sampling error

$$n = \frac{\sigma^2 \, N \, p \, q}{e^2 \, (N-1) + \sigma^2 \, p \, q}$$

Fieldwork

Data collection

The data collection was carried out by groups of four members who were previously trained and familiarized with the topic to clearly guide respondents in evaluating the questionnaire items and to prepare them for challenges in the field, such as participant unavailability or unwillingness to respond.

Content validity and face validity

In terms of content validity, an exhaustive review of specialized literature in agri-food and service marketing was conducted. Face validity was also verified, ensuring that the measurement scales genuinely reflect the intended concepts. As such, the initially proposed measurement scales were refined through expert judgment of the statistical instrument (García, E., Cabrero, J., 2011).

Individual reliability of the causal model of quality attributes that influence consumer behavior in the consumption of healthy and innovative beverages

To assess the individual reliability of indicators within a reflective construct, the criterion established by Hair et al. (1999) was applied, where the factor loading (λ) should be equal to or greater than 0.550. Factor loadings indicate that the shared variance between the construct and its respective indicators is greater than the error variance.

Limitations and future research directions

The primary limitation is that the research only reached the questionnaire design stage, thus specific conclusions cannot yet be drawn—only final considerations. Future efforts will continue with the study to generate results via the application of the designed survey. Once the fieldwork is completed, statistical analysis will be conducted to test the working hypotheses.

Structural Equation Modeling (SEM) will be used with the Partial Least Squares (PLS) method, employing the SmartPLS software, version 3.2.7 (Hair et al., 2017).

Business considerations and implications

Based on the information obtained from the pilot test and observational research, potential

Table 2. Measurement model

Causal model of quality attributes that influence consumer behavior in the consumption of healthy and innovative beverages.

Construct indicators	Factor loadings (λ)	Communality (λ)
Intrinsic attributes		
VI-1	0.673	0.452
VI-2	0.480	0.230
VI-3	0.746	0.559
VI-4	0.689	0.474
VI-5	0.211	0.044
VI-6	0.559	0.312
Intrinsic attributes		
VE-1	0.763	0.582
VE-2	0.776	0.602
VE-3	0.517	0.267
VE-4	0.546	0.298
VE-5	0.681	0.463
Belief attributes		
AC-1	0.685	0.427
AC-2	0.699	0.488
AC-3	0.338	0.114
AC-4	0.748	0.559
AC-5	0.760	0.588
Purchase intention		
ICI-1	0.624	0.389
ICI-2	0.629	0.395
ICI-3	0.724	0.524
ICI-4	0.670	0.448

*** t-value > 2,576 (p < 0,01), ** t-value > 1,960 (p < 0,05), * t-value > 1,645 (p < 0,10), n.s. = not significant. N/A = No applicable

Source: Own elaboration based on the designed statistical instrument (2018).

consumers are determined to fall within the age range of 20 to 40 years and belong to the middle and upper-middle socioeconomic classes. The results show that intrinsic variables are most relevant to consumers, as taste and color are essential factors for those considering the consumption of innovative healthy beverages.

Given the research results, it is advisable for healthy beverage companies to pay attention to physical aspects (such as packaging and labeling), since consumers place significant value on these factors when making purchase decisions.

This research has important business implications; its development can help innovators create new, distinct, and health-beneficial products. Entrepreneurs will be able to introduce products to the market and commercialize them within the healthy beverage segment, taking into account consumer habits and the variables that influence consumption intention.

Regarding government institutions, it is crucial to create awareness campaigns so that consumers have new beverage alternatives that benefit their health. This can be achieved through conferences, talks, and high-impact advertising media.

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