Entrepreneurial Characteristics of Entrepreneurs Associated with Quality Management of Smes in the Huaycán Industrial State, Lima

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Abstract

Throughout history, success in entrepreneurship has not been determined by the country, the political context, or crises but by the willingness of people to dare to undertake with a different mentality. The ability to face daily challenges lies in possessing personal entrepreneurial skills. Although the current pace of life and uncertainty can affect the management capacity of entrepreneurs, those who have a clear vision and apply their skills can achieve success, thus contributing to the country’s development. The study analyzes the entrepreneurial characteristics of entrepreneurs and their relationship with quality management in Small and Medium Enterprises (SMEs) of the Huaycán Industrial State, Lima, using a reliable bibliographic review. The type of study was descriptive correlational with a sample of 91 business people that revealed a strong positive relationship (r = 8.071, r = 13.778, r = 13.998, and R² = 0.489). These findings provide a solid basis for developing strategies and policies to strengthen entrepreneurial management and quality in SMEs, thus contributing to the sustainable growth and competitiveness of the business sector in the region.

Keywords: Entrepreneurship, entrepreneurial characteristics, quality management, vision, country development

1. Introduction

The importance of SMEs in all countries’ economic, industrial, and social contexts is globally recognized for their effective participation in job creation with low investment costs. This is because this sector usually uses less developed technologies, which results in the low and labor-intensive cost of capital. (Querejazu, 2020) in economies of lesser or greater industrialization, small companies play an important role as suppliers to large firms that respond more appropriately to the changes brought about by globalization and market fragmentation. (Salazar et al., 2023) globalization is a turning point in the economic life of international trade and its relationship between people and nature to sustain future trade.

In today’s dynamic business scenario, SMEs play a fundamental role in economic growth and
employment (Zamora-Boza, 2018). In particular, the industrial state of Huaycán, Lima, is emerging as an epicenter of business activity, with a conglomerate of SMEs that transcend existing borders. In this context, quality management is an important pillar that ensures the stability and competitiveness of these organizations. (Salas-Rodriguez, 2023) one consistent and committed quality management is that which, throughout its implementation, is the planning and execution of the main activity of an organization.

This study analyzes entrepreneurs' business characteristics closely related to quality management in SMEs in the Huaycán industrial state, Lima. Through detailed analysis, we seek to understand how business leaders in today's dynamic environment integrate entrepreneurial practices into their quality management strategies to promote growth and operational excellence. In particular, we will examine different aspects of entrepreneurial characteristics prevalent among industrial state entrepreneurs and determine how they affect the implementation and maintenance of quality management systems. From innovation to calculated risks, we will dive into the qualities that distinguish entrepreneurs who successfully manage SMEs in specific business contexts.

The main objective of this study is to provide a deep and contextual vision of the relationship between entrepreneurial characteristics and quality management in SMEs in Huaycán. Doing so will provide a solid foundation for developing more effective and sustainable business strategies in this unique environment. The importance of this study lies in its potential to reveal effective business practices that lead to continuous improvement in SMEs in the industrial state. Furthermore, the findings are expected to contribute to existing knowledge in quality management and entrepreneurship and provide valuable insights to academics, practitioners, and business decision-makers. This yet unexplored research space offers an intriguing opportunity to fill a significant gap in understanding how entrepreneurial characteristics influence the management quality of SMEs in Huaycán, Lima. In a detailed analysis of this topic, we hope to discover new perspectives contributing to consolidating and optimizing business activity in this area.

2. Literature Review

2.1 Entrepreneurship

The identification of the entrepreneur in the logic of economic theory begins with classics such as Richard Cantillon (1680 – 1743), who, in his work Essay sur la nature du commerce en general (1755), considers the entrepreneur in his economic classification as an agent of entrepreneurship, capitalist, landowners and salaried (Van Praag, 1999). Furthermore, it is highlighted that the role of the entrepreneur is associated with the uncertainty of purchasing production factors at competitive prices and selling them as a finished product. The entrepreneur takes a risk because he does not know the size of the demand and is not sure of the loyalty of the buyers (Querejazu, 2020). Later, Jean-Bautista Say (1767 – 1832) appears, who proposes that production and distribution are functions of applying knowledge in creating a product or service for human consumption and the income from the products sold (Rothbard, 2012). For Marshall (1842 – 1924), the entrepreneur coordinates the company's capital and labor and the market's supply and demand. Assume all production risks; leads and manages his/her business; are cost minimizers; productivity is achieved through marginal growth caused by innovation and the reason for progress (Van Praag, 1999). For Shumpeter of the 20th century, entrepreneurship means the creation of new companies and, above all, the introduction of innovations that, through creative destruction, change the existing economic structure and the business cycle. Its approach highlights the central role of the entrepreneur as an agent of change and driver of economic progress (Carisson et al., 2013).

The term entrepreneurship comes from the French entrepreneur, who symbolizes a pioneer who has taken risks to seek alternatives for economic growth for both himself and his family circle (M. Pérez et al., 2023). Etymologically, entrepreneurship can be defined as a person who carries out work at his own risk without being convinced of the benefit he will get from this company (Bejarano
et al., 2023). Entrepreneurs are people who have been trained and understand the entrepreneurial and innovative spirit and coexist with the University Center for Technology Transfer and society (Duarte, 2007). Entrepreneurship is a process by which an individual or group of individuals makes organized efforts to seek business opportunities and ideas to create value and growth, satisfying wants and needs through innovation and exclusivity regardless of the resources that the entrepreneur possesses at that moment.

There is consensus on the importance of promoting entrepreneurship to stimulate economic development and job creation. Business education is vital to increasing the number of new and potential entrepreneurs (Mártinez-Márte, 2022). The entrepreneurial capacity of a society is related to its culture of entrepreneurship and innovation. It is unclear what factors determine the creation of new businesses; however, when using instruments that measure entrepreneurial attitudes and intentions among university students, we will find that individual attitudes and perceived behavioral control are the most relevant factors that influence the creation of new competent and innovative companies.

2.2 **Entrepreneurial characteristics**

Entrepreneurs have characteristics and skills that allow them to start, develop, and manage a project or business. It is important to note that this may vary depending on the situation and type of business. Below are some of the main characteristics of successful entrepreneurs.

1. **Vision.** Entrepreneurs usually have a clear vision of their long-term goals. They can visualize the company’s success and work to achieve that goal (Romero et al., 2023). Innovation as a new or improved product or process creatively solves business problems with greater added value.

2. **Innovation.** Entrepreneurs are creative and innovative. You are willing to try new ideas, methods, and approaches to solve problems and improve products and services (Iturbide, 2018). The opportunities the market creates make entrepreneurs creative, proactive, and innovative.

3. **Decision making.** Entrepreneurs must make important decisions for the success of their company. The ability to make informed decisions and take calculated risks is essential (Marquez-Cervantes & Gaeta-Gonzáles, 2018). Decision-making is a gradual task based on self-knowledge, knowledge, regulation of one’s emotions, and empathy for the emotions of others. In other matters, in such a way that solutions to problems are possible through risk assessment.

4. **Adaptability** Given the changing nature of the business environment, successful entrepreneurs can adapt to new situations, learn from experience, and adjust their strategies as necessary (Pérez et al., 2020). Entrepreneurs face numerous obstacles to converting their business ideas into successful companies that quickly adapt to market behavior.

5. **Risk-taking.** Entrepreneurship means taking calculated risks. Successful entrepreneurs are not afraid of challenges; they look for opportunities and are willing to take risks (Navarro et al., 2020). The entrepreneurs assume risks associated with making decisions and implementing business ideas.

6. **Leadership skills.** Entrepreneurs need to lead and motivate their teams. Leadership skills are important, including communicating effectively, inspiring others, and delegating tasks (Werang et al., 2023). Leadership is not only the process of facilitating collective and individualistic efforts to achieve goals but also the process of influencing the thoughts and actions of others, what to do, and how to influence agreement on business objectives.

7. **Persistence.** Persistence is the key to overcoming challenges and staying focused on long-term goals. Successful entrepreneurs do not give up easily and persevere even in difficult situations (Iturbide et al., 2021). Entrepreneurs begin with the illusion of success, but unfortunately, not all achieve their startup success. However, those who are unsuccessful do
not usually give up and try to start a new business with a different strategy than the first.

8. **Knowledge of the market.** Promising entrepreneurs understand their target market, company trends, and customer needs. Being informed about your business environment allows you to make the right decisions.

2.3 **Quality management**

According to the ISO 9000 standard, a quality management system (QM) can be defined as a system whose task is to define the policies the organization follows and the objectives it sets to achieve quality. On this base (Méndez et al., 2006) maintain that QM is a way of structuring and organizing activities aimed at guiding and ensuring the correct functioning of an organization so that it is more profitable, competitive, and capable of adapting to new and changing market situations. Therefore, the QM elements’ task positively impacts the organization’s functioning (Del Castillo et al., 2018). The benefits of the ISO 9001 quality management system can generate savings and increase competitiveness.

Edwards Deming considered the father of quality management, cited by Westgard JO and Migliarino GA (Westgard & Migliarino, 2017), described a system as a set of organizational functions or activities that work together toward the organization’s objectives. Each part of the system is interdependent and requires management to maintain balance. He suggested that an orchestra is a good example of a system and that conductors are responsible for optimizing quality and performance (León-Ramentol et al., 2018). QM is a set of policies, objectives, processes, documents, and resources that lead to quality assurance for the products and the entire organization, in this case, its users, to improve customer satisfaction (Derendorf et al., 2023). QM is designed to monitor, regulate, and improve the quality of the organization’s attention to its internal and external clients. Other features the ISO provides are the requirement for the organization to focus, achieve self-determined quality objectives, provide services with adequate planning, and subsequently measure and control this service delivery. Besides (Bader, 2016), the increase in perceived quality through ISO should generate new followers and an increase in market shares.

Several models are applied to different product and service companies; however, in this work, we will consider universally applied ones, such as the EFQM in MSEs. According to (Chacón & Rugel, 2018), the EFQM model (European Foundation For Quality Management) summarizes that customer and employee satisfaction is achieved through leadership that drives the organization’s policy and strategy through adequate use of resources and perfect management of the organization’s most important processes to achieve excellent results.

Among the values promoted by the EFQM Model are (EFQM, 2018):
- Add value for customers (meet needs, expectations, and opportunities),
- Create a sustainable future (that has a positive impact on the immediate environment),
- Develop organizational potential (effective management inside and outside the organization),
- Creativity and innovation (increase value through continuous improvement and systematic innovation),
- Leadership with vision, inspiration, and integrity (with leaders who shape the future and make it happen),
- Agile management (ability to identify opportunities and threats and respond effectively to them),
- Achieving success through corporate talent (great organizations value people, delegate responsibilities, and work to achieve individual and organizational goals),
- Sustainable results over time and meets needs.

In this way, the EFQM model focuses on improving organizational performance through management excellence. It comprises nine criteria grouped by facilitating agents (leadership, policy and strategy, people, alliances, and resources) and results (customers, employees, company,
processes, key results). Successful implementation requires integrating these criteria at all levels of the organization and fostering an organizational culture (Pozo-Enciso et al., 2023). For companies facing internal and external challenges, organizational culture plays a key role in facilitating strategic planning by senior management, ensuring competitiveness and adaptability to change) of excellence and adaptability to address challenges, resulting in better performance and competitive quality.

3. Methodology

In the Huaycán Industrial State, Lima, SMEs have great value. We must understand how entrepreneurs' business traits affect these companies' quality management. However, the absence of research in this area inhibits the implementation of effective strategies to improve the quality and competitiveness of these organizations.

Due to the specificity of the study, it begins with a review of the literature to design a theoretical framework and state-of-the-art techniques based on the research variables. It was decided to investigate and understand this phenomenon through the nature of the study: descriptive and correlational research. The sample comprised entrepreneurs and MYPE leaders from the Huaycán Industrial State, Lima. Stratified random sampling was used to guarantee equitable representation of the different industries within the State. The number of participants: 91 people representing all owners are involved in the management of the production of textiles, crafts, metalworking, metal carpentry, film production, production of portable toilets, among others. It guarantees the validity of the results. Employees from corporate offices were excluded.

4. Data Collection

Quantitative methods: A structured survey is conducted to collect quantitative data on entrepreneurial characteristics and quality management practices. These surveys are conducted directly to ensure diverse participation from business owners. The researchers have directly supported the doubts about filling out the instrument. Furthermore, information collected from articles registered in scientific databases such as Scielo and Scopus and published in the upper quartiles (Q1, Q2, Q3, and Q4) provides scientific information for research.

4.1 Instruments

A specially designed questionnaire was used to evaluate the entrepreneurial characteristics and quality management practices of the EFQM model and the GTZ-CEFE Technical Cooperation. The first variable considers 55 items. The items use a Likert-type format with five response points. 1 means never, and 5 means always. Crombach's alpha is 0.89. The second variable considers 29 items. The items use a Likert-type format with five response points. 1 means nothing, and 5 means a lot. Crombach's alpha is 0.90.

Statistically, an estimator was used, weighted least squares mean and variance adjusted (WLSMV), to identify the predictor model using structural equation modeling (SEM). To validate the SEM, the chi-square test, the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation index (RMSEA), and the standardized residual root mean square (SRMR), in addition to the coefficient of determination ($R^2$).

This comprehensive methodology allowed for a comprehensive study of entrepreneurial characteristics and their link with quality management in SMEs in the Huaycán Industrial State, Lima, thus providing valuable insights to improve the competitiveness and sustainability of these companies.
5. Results

Table 1 shows that $X^2$ is 13.089 as a measure of model fit with 3 degrees of freedom, with probability associated with the chi-square statistic. A low p-value ($< 0.05$) indicates that the model does not fit the data. In this case, the p-value = 0.000, which is very low and shows that the model fits significantly better than the unconstrained model. The CFI of 0.860, a value close to 1 indicates that the proposed model has a good fit compared to the null model. A TLI supports CFI adjustments. Likewise, RMSEA measures how well the model fits the approximation error in the population. Low values ($< 0.08$) indicate a good fit. Furthermore, an SRMR of 0.013 measures the average difference between the observed and estimated correlations in the model, indicating a good fit.

In summary, the low values of RMSEA and SRMR and the relatively high values of CFI and TLI indicate that the structural equation model fits the data well. Furthermore, the extremely low value of p = 0.000 indicates that the model is statistically significant.

Table 1: Structural equation model fit index

<table>
<thead>
<tr>
<th>Influence model</th>
<th>$X^2$</th>
<th>gl</th>
<th>p</th>
<th>Sig</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13,089</td>
<td>3</td>
<td>0.000</td>
<td>0.004</td>
<td>0.860</td>
<td>0.816</td>
<td>0.016</td>
<td>0.013</td>
</tr>
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</table>

Table 2 shows that achievement capacity as a personal entrepreneurial characteristic (PECs) has a strong relationship of 8.071 with quality management in 3 degrees of freedom. The C-value chi-square test statistic was used to evaluate the independence between the two variables. A value of 0.045 $< 0.05$ indicates that the relationship between the variables is significant. The significance value, which represents the level of significance associated with the C value, is 0.045. This indicates that the relationship between PECs and quality management is less than 0.05 and, therefore, significant at the 4.5% level. The contingency coefficient 0.41 indicates a moderate relationship between achievement capacity (PECs) and quality management. Secondly, it has been shown that there is a strong positive relationship between planning capacity and 13,778 quality management. A p-value of 0.003 indicates that the relationship between the variables is statistically significant at the 0.3% significance level. The contingency coefficient of 0.50 confirms the relationship between these variables and, unlike zero, strengthens the evidence of the relationship between planning capacity and quality management. Finally, it is shown that there is a relationship between the capacity for competition and quality management of 13,998. A very small p-value of 0.000 indicates that the relationship between the variables is statistically significant, with a very low level of significance, practically zero. A contingency coefficient of 0.57 confirms the degree of relationship between the variables studied. The significance value of the contingency coefficient of 0.000 strengthens the evidence of the relationship between the capacity for competence and change management.

Table 2: Relationship between the characteristic dimensions of the entrepreneur and quality management

<table>
<thead>
<tr>
<th></th>
<th>Variable</th>
<th>$X^2$</th>
<th>Gl</th>
<th>C</th>
<th>Sig</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement capacity</td>
<td>PECs Quality management</td>
<td>8,071</td>
<td>3</td>
<td>----</td>
<td>0.41</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td>Contingency coefficient</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>0.50</td>
<td>0.000</td>
</tr>
<tr>
<td>Planning capacity</td>
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<td>13,778</td>
<td>3</td>
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<td>0.50</td>
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<tr>
<td></td>
<td>Contingency coefficient</td>
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<td>----</td>
<td>0.57</td>
<td>0.000</td>
</tr>
<tr>
<td>Competence capacity</td>
<td>PECs Quality management</td>
<td>13,998</td>
<td>3</td>
<td>----</td>
<td>0.50</td>
<td>0.000</td>
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<td></td>
<td>Contingency coefficient</td>
<td>----</td>
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<td>----</td>
<td>0.57</td>
<td>0.000</td>
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</table>

Table 3 shows the value of the dependent variable when all the independent variables are zero. In this case, the intercept is 10.33. The regression coefficient (B) indicates how much the dependent variable
(quality management) changes for each unit of change in the independent variable (entrepreneurial characteristics). In this case, the value of B is 0.55. β of 0.75 acts as a standardized version of the regression coefficient. It indicates the change in the quality management variable regarding the standard deviation for each change in the entrepreneurial characteristics variable. The T statistic 17.89 indicates that the associated regression coefficient is significantly different from zero. Furthermore, the associated p-value is 0.000, reinforcing that the coefficient significantly differs from zero. A p < 0.005 probability associated with the T statistic indicates that the coefficient significantly differs from zero, which indicates a significant relationship between the entrepreneurial characteristic variables and quality management. Finally, an R² indicates the proportion of variability in the quality management variable that is explained by the entrepreneurial characteristics variable. In this case, the value of R² is 0.489, which means that approximately 48.9% of the variability in quality management is explained by entrepreneurial characteristics.

In summary, the relationship between entrepreneurial characteristics and quality management is statistically significant, and the model explains about 48.9% of the variability in quality management. The β coefficient of 0.75 indicates a strong positive relationship between the variables.

Table 3: Regression Analysis and Determination Coefficient of Determination

<table>
<thead>
<tr>
<th></th>
<th>Intercept</th>
<th>b</th>
<th>β</th>
<th>T</th>
<th>P</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial characteristics and quality management</td>
<td>10.33</td>
<td>0.55</td>
<td>0.75</td>
<td>17.89</td>
<td>0.000</td>
<td>0.489</td>
</tr>
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From the results obtained, it is clear that in the Huaycán Industrial Park of Lima, the entrepreneurial characteristics of entrepreneurs are inextricably linked to the quality management of SMEs. In the context of industry diversification and increasing competition, entrepreneurs must proactively implement quality management practices to differentiate themselves and stand out in the market. The constantly evolving industrial dynamics present challenges and opportunities for those seeking knowledge. Furthermore, market conditions, influenced by economic factors and changing demands, require entrepreneurs to constantly adapt and be flexible with respect to quality. On the other hand, environmental regulations provide the legal framework that guides quality management practices, but they can also create obstacles for those who do not meet established standards. In this context, entrepreneurs must demonstrate not only business skills, but also a strong commitment to quality and continuous improvement to remain competitive and achieve sustainable growth in the Huaycán Industrial Park and beyond.

6. Conclusion

The analysis of the entrepreneurial characteristics of entrepreneurs related to the quality management of small and medium-sized enterprises (SMEs) in the Huaycán Industrial State, Lima, presents a comprehensive and significant panorama. The results show a strong relationship between specific entrepreneurial characteristics and the effectiveness of quality management in this particular business situation.

Firstly, a relevant factor that stands out is the ability to achieve, which has a positive and significant relationship with quality management. This means that entrepreneurs with strong performance tend to positively impact the implementation and maintenance of quality standards in SMEs. It positively impacts Planning ability and is an important component of quality management (González, 2023). Planning is a tool for quality business management. The strong positive relationship between planning ability and management quality suggests that entrepreneurs focusing on effective planning are likelier to achieve high-quality operating standards (Reyes-González et al., 2022). Effective planning influences the effectiveness of quality management. Competency has also
been shown to be an influential aspect of quality management. According to the results, competent entrepreneurs have a significant positive relationship with the quality of management of SMEs in the Huaycán Industrial State. This suggests that the ability to compete effectively in the market leads to better quality management. The determination coefficient of 0.489 gives greater importance to the results, indicating that almost 50% of the variation in quality management can be explained by the entrepreneurial characteristics analyzed. This figure highlights these characteristics’ importance and significant impact on Huaycán’s business environment.

These conclusions are of great importance regarding the business development prospects of the Huaycán industrial state. Develop and strengthen specific skills such as achievement, planning, and competition, among others. Entrepreneurs and business leaders need to improve quality management in their SMEs. Additionally, the results provide a beneficial foundation for implementing training and development strategies that address key entrepreneurial skills in Huaycán, Lima, leading to more significant growth and sustainability of local businesses.

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