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Research Article

The Role Of Innovation In Enhancing The Competitiveness Of Economic Institutions: A Field Study Of The Souf Flour Company In El-Oued

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ABSTRACT

This study aims to highlight the reality of innovation in economic institutions and its impact on enhancing their competitiveness, through a field study at the Souf Flour Company in the state of El Oued. In order to achieve this goal, the descriptive approach was relied upon in the theoretical chapter, where we theoretically addressed innovation and competitiveness, and the analytical approach was also relied upon in the field study, where a questionnaire was distributed to 48 employees in the institutions under study and the SPSS program was relied upon to analyze the results. It was concluded that the employees of the institution under study's evaluation of innovation and competitiveness in their institution is high, and we also concluded that there is a statistically significant impact of innovation in enhancing the competitiveness of the Souf Flour Company in the state of El Oued at the significance level (α≤ 005). In general, we concluded that innovation in general has a great impact on enhancing competitiveness in economic institutions; The study concluded with a set of recommendations, the most important of which are: creating a balance in innovation between different marketing fields and not focusing only on the product despite its importance, developing the skills and capabilities of employees in institutions, especially in the field of artificial intelligence, to enable them to provide more effective innovative ideas, allocating good amounts of money for innovation research and development.

Keywords: Innovation, marketing innovation, technological innovation, administrative innovation, competitiveness.

JEL classification : O31, D41.

1. Introduction:

In the era of the Fourth Industrial Revolution and digital transformation, and in light of the rapid changes that the world is witnessing today, the competitiveness of economic institutions has become a major axis to ensure their survival and growth in a global market characterized by complexity and rapid change. With the increasing intensity of competition, the development of technology, and the many challenges facing economic institutions, innovation constitutes one of the important approaches to confronting these challenges through the role it plays in renewal and development in various fields and enhancing the competitiveness of institutions. Through innovation, institutions can not only improve their internal operations, but also provide innovative products and services that meet the changing needs of the market. It has become imperative for economic institutions to work on creating and developing the concept of innovation in all fields to lead the transformation process in a way that guarantees them superiority and distinction, avoiding the risk of competitors, and the ability to adapt to contemporary developments. In light of the above, this article came as an attempt to clarify the role of innovation in its various main types in enhancing the competitiveness of economic institutions in an environment characterized by complexity and turmoil, based on the following problem: What is the role of innovation in enhancing the competitiveness of the Souf Flour Company in the state of El Oued?

Study hypotheses :
Sub-hypothesis 1 : The evaluation of the employees of Souf Flour Company for innovation in their organization is high
Sub-hypothesis 2 : The evaluation of the employees of Souf Flour Company for competitiveness in their organization is high
Sub-hypothesis 3 : There is a statistically significant relationship between technological innovation and competitiveness in Souf Flour Company at the significance level (α≤ 005).
Sub-hypothesis 4 : There is a statistically significant relationship between marketing innovation and competitiveness in Souf Flour Company at the significance level (α≤ 005).
Sub-hypothesis 5 : There is a statistically significant relationship between administrative innovation and competitiveness in Souf Flour Company at the significance level (α≤ 005).
Main hypothesis : There is a statistically significant relationship between innovation and competitiveness in Souf Flour Company at the significance level (α≤ 005).

2. Methodology:

This study relied on analysis using the SPSS program and based on a set of statistical tools and methods, which are:
2.1. Population, sample and data collection procedures : The study population consists of the workers at Souf Flour Company in El-oued State. The study sample size was determined randomly and estimated at 54 participants.
2.2. Statistical Analysis Tools :
To perform the statistical analysis of the questionnaire data, appropriate statistical tools were used. The results were obtained directly after the questionnaire data entry using SPSS software. Two types of statistical methods were used :
2.2.1. Descriptive Statistical Methods : This included :
2.2.1.1. Calculation of frequencies and percentages : Through the individuals' responses, various graphical forms (relative circles, frequency polygons, etc.) can be obtained.
2.2.1.2. Arithmetic mean : The sum of the values studied divided by their number, to determine the degree of concentration or agreement of the responses.
2.2.1.3. Standard deviation : The square root of the square of the deviations of individual values from their arithmetic mean. It is measured to determine the degree of dispersion of responses among the sample individuals.
2.2.2. Inferential Statistical Methods : Including :
2.2.2.1. Calculation of Pearson's correlation coefficient : To determine the statistical significance of measuring the internal consistency reliability of the questionnaire items.
2.2.2.2. Cronbach's alpha : To measure the degree of data stability.
2.2.2.3. Analysis of variance (ANOVA) : To determine the differences in the opinions of the study sample.
2.2.2.4. Simple regression : To determine the relationship between the independent variable (innovation) and the dependent variable (competitive capacity) and the extent of its impact.

3. Theoretical framework of innovation:

3.1. The Definitions of Innovation:
There is no single, universally accepted definition of innovation; definitions vary depending on the author and their perspective. This study will attempt to encompass the relevant definitions as follows:
3.1.1. General Definitions of Innovation:
- **Etymological Origin:** The term "innovation" is of Latin origin, meaning renovation or change. Generally, innovation represents a three-step process consisting of an idea, invention, and diffusion (Fadiah et al., 2016). Therefore, in a business context, innovation can be conceptualized as an occurrence (idea) for a product or service (invention) that has not existed before and results in high market acceptance (diffusion) (Dörr and Müller-Prothmann 2014).
- **Innovation as the Creation of Something New:** The word "innovation" comes from the Latin "innovare," meaning "to make new." Simply put, innovation is doing something different. In the business world, this often means undertaking a risky, costly, and time-consuming process (Costello & Prohaska, 2013). Innovation is a new idea, product, device, or novelty. It's a forward-thinking mindset, focused on the future. For businesses, a well-managed innovation process can serve as a vital strategy and management technique (Kuczmarksi, 2003). At its core, innovation is the process of generating and combining ideas, leveraging past experiences and current achievements to solve future problems. This is frequently associated with technological advancements and plays a crucial role in the global economy (Baskaran & Mehta, 2016). Innovation is crucial for business success, providing a sustainable path to value creation and competitive advantage. It's linked to job creation, profitability, and improved living standards. While often associated with new products, materials, processes, services, and organizational structures (Baregheh, Rowley & Sambrook, 2009).

- **Innovation as Idea Generation and Implementation:** Innovation consists of generating a new idea and implementing it into a new product, process, or service, leading to the dynamic growth of the national economy, increased employment, and the creation of pure profit for the innovative business enterprise. Innovation is never a one-time phenomenon but a long and cumulative process of numerous organizational decision-making processes, ranging from the generation of a new idea to its implementation phase. A new idea refers to the perception of a new customer need or a new way to produce. It is generated in the cumulative process of information-gathering, coupled with an ever-challenging entrepreneurial vision. Through the implementation process, the new idea is developed and commercialized into a new marketable product or a new process with attendant cost reduction and increased productivity.
- **Innovation as a Result of Scientific Work (according to Molchanov):** According to Molchanov's interpretation, innovation is the result of scientific work aimed at improving social activities and intended for implementation in social production (Kuznietsova, T. V., Sipailo, L. H., 2017).
- **Innovation as a Minimum Requirement:** The minimum requirement for an innovation is that the product, process, marketing method, or organizational method must be new (or significantly improved) to the firm.
- **Innovation Activities:** Innovation activities encompass all scientific, technological, organizational, financial, and commercial steps that actually or intend to lead to the implementation of innovations. Innovation activities also include R&D not directly related to the development of a specific innovation. An innovative firm is one that has implemented an innovation during the period under review (Tiwari & all, 2008).

3.1.2. Standardized Definition (Oslo Manual): In the fields of economics and management, the most widely accepted standardized definition of innovation comes from the Oslo Manual, published by the OECD (2018). This manual aims to establish guiding principles for researchers working on innovation. The Oslo Manual defines innovation as: "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization, or external relations."

It is evident from this overview that the definition of innovation is flexible and multifaceted, reflecting the diversity of contexts and fields in which it is applied.

3.2. Types of innovation :

3.2.1. Product Innovation:

3.2.1.1. The Definitions of Product Innovation:

Product innovation is a multifaceted process encompassing new product development, design improvements, and advanced manufacturing methods. It strategically differentiates products within existing markets through unique features and capabilities. This process is shaped by both internal factors (a company's knowledge, skills, resources, and technology) and external pressures (consumer demands and stakeholder expectations).

The language surrounding product innovation has evolved. While "design" once simply referred to drafting, its meaning has expanded greatly. Similarly, "product development" now includes processes and services, not just physical goods. Even "innovation" itself has broadened in scope, despite its original implication of substantial and transformative change (Cherroun, 2014).

Product innovation means introducing the new products/services or brining significant improvement in the existing products/services (Polder et al, 2010). For product innovation, the product must either be a new product or significantly improved with respect to its features, intended use, software, user-friendly or components and material. The first digital camera and microprocessors are the examples of the product innovation. Change in design that brings significant change in the intended use or characteristics of the product is also considered as product innovation (OECD, 2005). The product innovation has many dimensions. First, from the perspective of the customer, product is new to the customers. Second, from the perspective of the firm, the product is new to the firm. Third, product modification means brining product variation in the existing products of the firm (Atuahene-Gima 1996). Firms bring product innovation to bring efficiency in the business (Polder et al. 2010). In highly competitive environment of today, firms have to develop new products according to customer's needs (Olson et al. 1995). The aim of product innovation is to attract new customers. Firms introduce new products or modify the existing products according to needs of the customers (Adner & Levinthal, 2001). Shorter product life cycle of the products forces the firms to bring innovation in the products (Duranton & Puga, 2001). In the competitive environment firms bring product innovation to compete in the market. The product innovation face the low competition at the time of introduction and that is why it earns high profit (Roberts, 1999). (Ettlie & Reza, 1992) stated that firms bring product innovation to compete with other firms in the markets. Firms bring product innovation to satisfy their customers. Product innovation is reflected by the functional performance (Olson et al. 1995). Product innovation is one of the key factors that contribute to success of an organization. New product development and product innovation is an important strategy for increasing the market share and performance of the business. The studies showed that new product development has positive impact on the performance of the firm (Ettlie & Reza 1992).

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The language surrounding product innovation has evolved. While "design" once simply referred to drafting, its meaning has expanded greatly. Similarly, "product development" now includes processes and services, not just physical goods. Even "innovation" itself has broadened in scope, despite its original implication of substantial and transformative change.

3.2.1.2. Product innovation advantages: Product innovation, a driving force behind economic growth and productivity for millennia, is crucial for modern companies' competitive edge and profitability. Its benefits are multifaceted, impacting both individual firms and entire industries. For companies, innovation boosts sales and profits through new offerings, increases market share, expands knowledge bases, and streamlines production (reducing costs and time, thus improving returns and efficiency). It enhances product quality and competitiveness, fulfilling customer needs with unique features and fostering loyalty. Furthermore, it solves production challenges and unlocks opportunities for new resource utilization. The ripple effect is significant: a company's innovative output becomes another's input, as exemplified by the semiconductor industry's influence on PC development. Ultimately, successful innovation fuels market expansion, enterprise growth, and customer value, leading to higher productivity, lower costs, increased profits, and job creation for firms, while consumers benefit from greater choice, improved services, lower prices, and enhanced productivity. Widespread innovation builds national knowledge, fostering long-term economic prosperity and improved living standards (Cherroun, 2014).

3.2.2. Process Innovation: Process innovation means improving the production and logistic methods significantly or bringing significant improvements in the supporting activities such as purchasing, accounting, maintenance and computing (Polder et al., 2010). OECD (2005) defined the process innovation as implementation of the production or delivery method that is new or significantly improved. Process innovation includes bringing significant improvement in the equipment, technology and software of the production or delivery method. Firms bring novelties in the production and delivery method to bring efficiency in the business. The new method must be at least new to the organization and organization had never implemented it before. The firm can develop new process either by itself or with the help of another firm (Polder et al., 2010). Firms bring process innovation to produce innovative products and amendments are also brought in their processes to produce the new products (Adner & Levinthal, 2001). To decrease the production cost, firms go for bringing process innovation. The process innovation is reflected by the cost of the product (Olson et al. 1995). Firms adopt new process to compete with other firms; they have to bring the process innovation to satisfy their customers. The process innovation, especially in the manufacturing organizations, can have significant impact on the productivity of the firms. The historical case studies showed that bringing automation in the production methods has increased the efficiency and productivity of the organizations (Ettlie & Reza, 1992).
In general terms, process innovation is the implementation of a production or delivery method of a new method that has been significantly improved, involving technological, equipment or software changes (OECD, 2005).

In process innovation, we can distinguish:

- **Innovations of technology flow:** targeting flow operations and their chaining. Some examples of meaningful access can be: automation of assembly in the automotive industry, replacement of the milling process, binding of the numerically controlled machine to the designer, etc.
- **Innovations in the manufacturing process:** which completely change the way of manufacturing. Examples: float glass manufacturing process, Tetrapak packaging, word processing processors.
- **Increased innovation that improves results without the need for new knowledge:** For example: Moore's law in computer science, reducing the specific consumption of coke in the furnace (Dorin, 2018).

3.2.3. Marketing Innovation:

3.2.3.1. The Definitions of Marketing Innovation: Marketing innovation is defined as implementing new marketing method that involve significant changes in the packaging, design, placement and product promotion and pricing strategy. The objective of marketing innovation is to increase the sales and market share and opening new markets. The distinctive feature for the marketing innovation from the other types of innovation is the implementation of new marketing method that the firm has never been implemented before. The product design, that only changes the appearance of the product and does not change the features and functionality of the product, is also marketing innovation (OECD, 2005). Marketing innovation is non technological innovation. Firms bring innovation in their marketing methods to bring efficiency in their business (Polder et al., 2010). Marketing innovation is developing new techniques, methods for marketing. Developing new techniques, methods and tools for marketing have significant role in success of the organizations. The example of marketing innovation is ‘changed ways for collecting customer’s information’. Firms now use computer software to collect customer information. The new formats of trading, like online store is also example of marketing innovation (Chen, 2006).

3.2.3.2. The importance and importance of marketing innovation:

The relevance and importance of marketing innovation are constantly growing in a rapidly changing business environment. New technologies, shifting consumer habits, competitive pressure, and other factors necessitate constant adaptation and the integration of innovations into business marketing strategies. The significance of marketing innovation is multifaceted (Kuznietsova & Sipailo, 2017; Luferenko, 2016; Martyn et al., 2022; Yevseitseva, 2017):

- **Technological Progress:** Rapid technological advancements create new opportunities for customer interaction, enhancing advertising campaigns and enabling the creation of innovative products and services.
- **Changing Consumer Habits:** Evolving consumer desires and expectations challenge traditional marketing approaches. Companies must find new ways to attract attention and fully satisfy customer needs.
- **Globalization of Markets:** Globalization necessitates new marketing strategies to adapt to diverse cultures and markets.
- **Competitive Pressure**: Increasingly fierce competition demands innovative marketing strategies to maintain or gain a competitive edge.
- **Growing Importance of Customer Relations:** Modern business emphasizes customer interaction and relationship building. New technologies facilitate personalized communication and stronger customer relationships.
- **Social and Environmental Trends:** Consumers are becoming more conscious and demand greater corporate responsibility. Marketing innovations can help companies highlight their social and environmental commitment.
- **Technological Development:** Technological advancements continuously create new marketing opportunities. Artificial intelligence, data analytics, social media, mobile platforms, and other innovations allow for more effective customer interaction and engagement.
- **Competitive Advantages:** Marketing innovations can provide a competitive advantage. New and creative strategies help companies stand out and attract consumer attention.
- **Increased Efficiency:** Marketing innovations optimize processes and improve the effectiveness of marketing campaigns through automation, personalization, and targeted marketing, enhancing promotional strategies.
- **Engaging the Younger Generation:** Young people, as a key market segment, readily adopt new technologies and innovations. Marketing strategies targeting this demographic foster brand loyalty.

3.2.4 Organizational Innovation: Organizational innovation is defined as introduction of new practices of doing business, workplace organizing methods, decision making system and new ways of managing external relations (Polder et al., 2010). OECD (2005) defined the organizational innovation as implementing new ways of organizing business practices, external relations and work place. Organizational innovation is new ways of organizing routine activities. For organizational innovation firms change the method of organizing that firm has not implemented before. Organizational innovation can increase the performance of the organization by decreasing the transaction cost and administrative cost. Firms bring organizational innovation to bring efficiency in the business. The new organizational method must be at least new to the organization and new method can be developed by the firm itself or with the help of third party (Polder et al., 2010). Organizations bring changes in their organizational setup. They change the ways of organizing things to compete with their competitors and satisfy the customers (Ettlie & Reza 1992).

3.3. Innovation Success Factors :

Success factors in innovation Over the past decades, scholars have summarized some important success factors for innovation, including:

- **Integration of departmental responsibilities:** The various departments converge functionally in an effective manner so that all the departments are involved as an integrated body in the innovation program from the outset to make highly manufacturable designs.
- **Strong market orientation:** Potential users are allowed to participate or get involved in as many R&D programs as possible to play a pioneering role.
- **Good external communication:** The innovator keeps in effective touch with external scientific and technological sources and remains receptive to new thoughts from without.
- **Ingenious plans and more program control procedures:** Resources are deployed so as to select new program procedures. Program assessments are made in order to manage and control programs effectively.
- **Key persons:** Such persons include influential program advocates and technological gate keepers. There must be energetic managers. Talented managers and researchers must be retained (Chen, Yin, 2019).

4. Theoretical framework of competitiveness:

4.1. Definition of competitiveness : definitions of competitiveness vary according to the writers' thinking and orientations. The following are the most prominent definitions that are consistent with this scientific study : Porter says that competitiveness refers to a company's ability to maintain or gain market share by providing products or services that meet or exceed customer expectations in terms of quality, price, and innovation. It focuses on the processes that lead to outperforming competitors in a dynamic and changing business environment, by taking advantage of resources, capabilities, and strategies. (Porter, 1985). Prahalad and Hamel define it as a company's ability to maintain a strong brand reputation in a competitive market by creating value for stakeholders by providing superior products or services as well as achieving cost efficiency. (Prahalad and Hamel, 1990) Barney believes that corporate competitiveness is the company's ability to design, produce, and

market products or services that are superior to those of its competitors, taking into account price and non-price factors, in both local and international markets. (Barney, 1991).
Competitiveness of companies is the ability of a company to outperform its competitors through innovation, quality and cost efficiency, which leads to providing superior value to customers through. (Krugman, P, 1994).
Competitiveness of companies is the ability of a company to maintain its position in the market by continuously improving its products, processes and customer relationships to meet evolving market demands. (Nonaka and Takeuchi, 1995).
Teece et al defined it as the ability of a company to maintain its profitability and position in the market through innovation, operational efficiency and strategic differentiation in response to competitive pressures. (Teece et al., 1997).
Kim and Mauborgne say it is the ability of a company to differentiate itself from competitors and strive to provide unique value propositions, achieve operational excellence and enhance innovation. (Kim, W. C., & Mauborgne, R, 2005).
It is also known as the ability of a company to continuously innovate and adapt to changing market conditions to maintain a strong position in the market through effective strategic planning and implementation. (Mintzberg et al., 2009, Grant, 2016).
Also, its ability to achieve superior performance by effectively managing its resources and strategic position to meet customer needs and outperform competitors in the market. (Hill, C. W. L., & Jones, G. R., 2012).
Kotler and Keller defined it from the perspective of the company's ability to maintain its position in the market through continuous innovation, improving operational efficiency, and adapting to changing market conditions. (Kotler, P., & Keller, K. L, 2016).
It also refers to the company's ability to ensure profitability and long-term growth by creating and delivering value to customers in a way that is superior to its competitors. (Wheelen, T. L., & Hunger, J. D, 2017).
As for Johnson and others, they said that it is the company's ability to achieve and maintain a competitive advantage by aligning its resources, capabilities, and strategies with market opportunities and customer needs. (Johnson, G et al, 2017).
Finally, Hitt defined it as the company's ability to leverage its unique resources, capabilities, and strategies to achieve a sustainable competitive advantage in the market. (Hitt, M. A, & al, 2020).

4.2. The importance of competitiveness for companies :

Competitiveness is the basic foundation on which companies rely to achieve sustainable growth, expand their market share, and significantly increase their profitability, meaning achieving the goals for which they were established. The following is a review of the importance of competitiveness for companies, emphasizing that its importance is not limited to what we mentioned only, but we have touched on what is appropriate for our research paper :

- Competitiveness enhances the culture of innovation in companies, and enables them to develop new products, services, and business models. As is known, innovation is very important to stay ahead in industries characterized by rapid technological development. For example, companies such as Tesla and Amazon have benefited from innovation to disrupt traditional markets and sweep new markets in a very large way. (Bogers, & al, 2017).
- Competitive companies can also acquire larger market shares, which requires providing superior value propositions in terms of better quality, lower prices, or improved customer experiences. For example, Netflix has dominated the streaming industry by constantly improving its content and user experience. (Grewal, D, & al, 2017)
- Competitive companies (those with high competitiveness) are better prepared to enter and succeed in global markets by adapting their strategies to local cultures and regulations while maintaining their core brand identity. McDonald's, for example, was able to expand globally by designing its menu according to different local tastes and responding to different customer preferences. (Verbeke, A., & Kano, L, 2016)
- It should also be noted that competitiveness drives companies to adopt lean manufacturing practices, automation, and data analytics to improve operations and reduce costs in order to respond to rapid technological development. For example, Zara achieved operational excellence through its fast fashion supply chain model. (Womack, J. P., & Jones, D. T, 2018)
- Strong competitiveness enhances a company's brand reputation, customer loyalty and trust. (Aaker, D. A., & Joachimsthaler, E, 2018)
- It also enhances employee engagement as competitive companies invest in their workforce, creating a culture of engagement, innovation and collaboration. This is reflected in the company's growth because engaged employees are more productive and contribute to the company's success more than other employees. (Saks, A. M, 2019)
- We should not forget that competitiveness is essential for sustainability, as it enables companies to adapt to environmental, social and economic challenges. (Eccles & all, G, 2019)

- It is also important to contribute to economic growth by creating jobs, increasing revenues and enhancing innovation, and also contributes to attracting foreign investment and enhancing the country's global competitiveness. (Porter, M. E., & Kramer, M. R, 2019) and attracting venture capital and private equity investments due to their potential to achieve high returns as investors are attracted to companies with stakes Large market share and multiple competitive advantages. (Gompers, P., & Lerner, J, 2020). Finally, competitiveness enables companies to react quickly to market disruptions, such as technological shifts, economic crises, and various other crises such as natural disasters and the spread of epidemics. For example, during the COVID-19 pandemic, Zoom quickly adapted to meet the increased demand for remote communication tools. (Kraus, S, & al, 2020).

4.3. Determinants of competitiveness that were relied upon in the study :

4.3.1. Competitive Advantage:

Competitive advantage is an important indicator that determines and increases the competitiveness of economic institutions. Competitive advantage refers to unique features or capabilities that help a company outperform its competitors. These characteristics or competencies may include cost leadership; differentiation, innovation, or excellent customer service (Porter, M.E., 1985). Competitive advantage also refers to unique strengths or abilities that help a company outperform its competitors. This can be achieved through innovation. better quality Cost efficiency or customer service (Barney, J.P., 1991) Competitive advantage can be achieved through strategic positioning. whereby the company identifies and capitalizes on unique market opportunities that competitors cannot easily duplicate. This includes leveraging core competencies and creating value for customers (Porter, M.E., 1996).

4.3.2. Marketing Strategy and Market Share:

Using customer loyalty programs helps companies. Keep existing customers Increase repeat purchases and increase market share (Reichheld, F. F., & Sasser, W. E., 1990). Effective marketing strategies such as product differentiation. Pricing strategy Promotional campaigns and distribution channels Helping companies Increase market share and increase competitiveness (Kotler, P., & Keller, K. L., 2016) Digital marketing strategies such as search engine optimization (SEO), social media marketing and data-driven campaigns It is important to expand market share in today's competitive landscape. These strategies help companies Reach a wider audience and attract customers more effectively (Chaffey, D., & Ellis-Chadwick F., 2019). Additionally, providing unique products or services that answer Meeting the needs of specific customers helps companies differentiate themselves from competitors and gain larger market share (Kotler, P., & Armstrong, G., 2021). The adoption of digital technology and transformation of business processes Business can help companies Access new markets Improve performance and increase market share (Matt, C., Hess, T., & Pinlian, A., 2015). All of this points to the important and important role of marketing strategy in increasing market share, which increases the competitiveness of the organization.

4.3.3. Public Relations:

Public relations play a vital role in maintaining the competitiveness of economic institutions by building trust with stakeholders and managing their reputation. These elements are important and necessary to attract customers and expand the scope of the company's brand (Grunig, J. E., & Hunt, T., 1984). Crisis management is considered the most important aspect of public relations, as companies that deal with crises effectively through transparent communication and timely responses can maintain their reputation and the trust of their customers and dealers (suppliers or distributors...) which are essential for long-term competitiveness (Coombs, W. T., 2007). Effective crisis communication strategies also protect the company's reputation, ensuring confidence in its competitiveness in the long term (Coombs, W. T., 2015). Proactively managing a company's reputation through public relations ensures positive recognition from customers, which can enhance competitiveness and market position (Fombrun, C. J., & van Riel, C. B. M., 2004).

4.3.4. Organizational and Legal Environment:

The legal and regulatory environment is the cornerstone of a company's capabilities. In order to innovate, compete and grow in the global market, for example, intellectual property rights (IPR) protection encourages companies to Invest in research and development (R&D) to ensure they take full advantage of their innovations. without fear of imitation (Maskus, K. E., 2000). Additionally, a stable and predictable legal framework reduces uncertainty, which helps companies Able to make long-term investments and be able to make strategic decisions that increase competitiveness (North, D. C, 1990)

environmental regulations Although often viewed as a barrier, it can drive innovation and competitiveness. Companies that adopt sustainable practices and technologies can differentiate themselves in the market. Attract environmentally conscious customers and reduce long-term operating costs (Porter, M. E., & van der Linde, C., 1995).

Labor laws and regulations play an important role in shaping competition. Employee protection A flexible labor market that balances business needs can improve productivity and adaptability. which is necessary to maintain competitive advantage (Botero, J. C., Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Schleifer, A., 2004). In addition, trade policy and international agreements that reduce taxes and lower non-tariff barriers could open new markets for companies. This allows them to expand their operations and compete on a global level (World Trade Organization, 2018).

Additionally, digital transformation depends on the introduction and use of new technologies. and a more supportive regulatory framework. Data protection in the digital economy promotes cyber security and fair competition. (European Commission, 2010).

5. The applied aspect of the study :

5.1. Study Tool : To achieve the study's objectives, a questionnaire was used. The questionnaire was distributed to a sample of employees at Souf Flour Company in El-oued State. 54 questionnaires were distributed, and 48 usable questionnaires were retrieved, representing 88.89% of the total distributed questionnaires. The questionnaire included two main parts :

Part One : Contains the personal data of the study sample through 5 items : gender, age, educational qualification, job, and years of work experience.

Part Two : Includes 41 items divided into two main axes reflecting the variables addressed in the study as follows :

Axis One : Relates to the independent variable, innovation, and includes three dimensions (indicators) measured in a total of 21 items :

- **The first dimension :** Technological innovation.
- **The second dimension :** Marketing innovation.
- **The third dimension :** Administrative innovation.

Axis Two : Relates to the dependent variable (competitive capacity) and includes four dimensions (indicators) measured in a total of 20 items :

- **The first dimension :** Competitive advantage.
- **The second dimension :** The company's marketing strategies and market share.
- **The third dimension :** Public relations.
- **The fourth dimension :** The regulatory and legal environment.

A Likert scale was used to identify the viewpoint of the community members on the study topic, which can be illustrated in the following table :

Table (01) - Five-point Likert scale :

Answers	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Degree	**1**	**2**	**3**	**4**	**5**

Source : Prepared by researchers based on the Likert scale.

The length of the Likert scale cells for the five-point scale (lower and upper limits) was determined. The range was calculated and then divided by the largest value on the scale to obtain the cell length **(4/5 = 0.8).** This value was then added to the beginning of the scale (which is one) to determine the upper limit of this cell. The length of the cells can be illustrated in the following table :

Table (02) - Length of cells of the five-point Likert scale :

Category	Weighted Average	Degree of agreement	Significance
First Category	1 to less than 1.80	Strongly disagree	Very Low
Second Category	1.80 to less than 2.60	Disagree	Low
Third Category	2.60 to less than 3.40	Neutral	Medium
Fourth Category	3.40 to less than 4.20	Agree	High
Fifth category	4.20 to 5	Strongly agree	Very High

Source : Prepared by researchers based on **SPSS.V25** outputs.

5.2. Reliability of the Study Instrument : This refers to the extent to which the same or similar results are obtained if the research is repeated under similar conditions using the same instrument. In this research, the reliability of the research instrument was measured using Cronbach's alpha coefficient, which determines the acceptance level of the measurement instrument at 0.60 or more. The results were as follows :

Table (03) - Cronbach's alpha test to measure the reliability of the questionnaire

Questionnaire axes	Paragraph number in the questionnaire	Number of paragraphs	Stability coefficient	Reliability coefficient
First axis Innovation	Paragraphs (1-21)	21	0.735	0.857
Second axis Competitiveness	Paragraphs (22-41)	20	0.680	0.824
Total questionnaire	Paragraphs (1-41)	41	0.836	0.914

Source : Prepared by researchers based on **SPSS.V25** outputs.

To ensure the stability and consistency of the study instrument, Cronbach's alpha test was used. The overall alpha coefficient for the questionnaire was (0.836), a positive and high value indicating the consistency of the questionnaire items. A coefficient closer to one indicates higher reliability. To determine the validity of the study instrument, we calculated the square root of the reliability, which was (0.914). Therefore, the study instrument generally exhibits high reliability, enabling it to achieve the study objectives and ensuring consistent results.

5.3. Presentation and Analysis of Study Results : These axes will be analyzed using the SPSS statistical program. The arithmetic mean will be used to determine the degree of agreement on each axis, and the standard deviation will be used to determine the dispersion of responses from the study sample. A five-point Likert scale was used to measure response intensity.

5.3.1. Innovation Axis : The first axis of the study instrument addressed innovation within the organization under study. The following table shows the arithmetic means and standard deviations for the items of the axis's dimensions for the study sample :

Table (04) - Arithmetic means and standard deviations for the items of the innovation axis :

N	Phrases	Indicator (Dimension)	Arithmetic mean	Standard deviation	Significance level	Degree of agreement
01	The company uses modern technology in its production processes and has integrated technological systems in various production departments.	Technological innovation	3.63	0.815	High	Agree
02	The organization offers products that have never been offered before (new to the organization) and products that are different from what is available in the market (new to the market).		3.64	0.811	High	Agree
03	The organization relies on artificial intelligence to identify and organize the physical resources needed for the purpose of designing new production processes and improving existing ones.		3.79	0.798	High	Agree
04	The company develops its products based on market studies and customer desires, relying on data analysis and process automation.		3.31	1.075	Medium	Neutral
05	The institution has a research and development department and provides it with a significant budget.		3.79	0.683	High	Agree
06	The organization encourages employees to innovate to improve production performance.		3.83	0.798	High	Agree
07	The organization has obtained patents or is seeking to obtain them.		3.81	0.816	High	Agree
Technological innovation			3.68	0.577	High	Agree

08	The company is working on modifying and developing some existing products and cancelling traditional products to keep pace with rapid developments.	**Marketing Innovation**	**3.56**	**1.029**	**High**	**Agree**
09	The organization is working on creating new pricing methods for its services based on customer expectations and capabilities.		**3.48**	**1.031**	**High**	**Agree**
10	The company relies on customer data analysis and purchasing behavior analysis to introduce a modern product range based on smart pricing offers.		**3.38**	**0.981**	**Medium**	**Neutral**
11	The company relies on social media content marketing and digital marketing to promote its products.		**3.04**	**1.01**	**Medium**	**Neutral**
12	The organization uses artificial intelligence applications to plan its advertising campaigns.		**2.77**	**1.057**	**Medium**	**Neutral**
13	The organization uses advanced distribution technologies and skills in completing transactions regardless of the customer's location.		**3.48**	**1.13**	**High**	**Agree**
14	The institution provides the latest electronic payment methods to all its clients.		**3.40**	**1.047**	**High**	**Agree**
Marketing Innovation			**3.40**	**0.659**	**High**	**Agree**
15	The organization relies on innovation to engineer and improve administrative processes.	**Administrative innovation**	**3.56**	**0.987**	**High**	**Agree**
16	The organization's leadership encourages administrative innovation through participation in decision-making.		**3.65**	**0.993**	**High**	**Agree**
17	The organization uses advanced information systems to make decisions.		**3.50**	**1.052**	**High**	**Agree**
18	The institution's management works to encourage cooperation and facilitate communication between its various departments, relying on the latest methods and technologies.		**3.60**	**0.869**	**High**	**Agree**

19	The organization relies on modern technology and artificial intelligence applications to organize administrative processes at the level of all structures.		**3.48**	**0.945**	**High**	**Agree**
20	The Foundation establishes external partnerships to benefit from expertise in the field of administrative innovation.		**3.42**	**1.108**	**High**	**Agree**
21	The Foundation organizes modern training programs to develop the skills of leaders and administrators.		**3.65**	**0.987**	**High**	**Agree**
Administrative innovation			**3.55**	**0.632**	**High**	**Agree**
The innovation axis			**3.51**	**0.367**	**High**	**Agree**

Source : Prepared by researchers based on **SPSS.V25** outputs.

From the results, we observe the following :

- **Technological Innovation :** The table shows that the statement "The institution encourages employees to innovate to improve production performance" ranks first with an arithmetic mean of (3.83), indicating a high level and an "Agree" response according to the five-point Likert scale. The standard deviation was (0.81), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the technological innovation dimension was (3.68), indicating a high level and an "Agree" response according to the five-point Likert scale. The standard deviation was (0.577), indicating consistency and a lack of dispersion in the sample's responses. Therefore, it can be concluded that most of the sample agrees that the institution under study relies on technological innovation to improve its services.

- **Marketing Innovation :** The table shows that the statement "The institution works to modify and develop some existing products and eliminate traditional products to keep pace with rapid developments" ranks first with an arithmetic mean of (3.56), indicating a high level and an "Agree" response according to the five-point Likert scale. The standard deviation was (1.029), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the marketing innovation dimension was (3.40), indicating a high level and an "Agree" response according to the five-point Likert scale. The standard deviation was (0.659), indicating consistency and a lack of dispersion in the sample's responses. Therefore, it can be concluded that most of the sample agrees that the institution under study implements marketing innovation.

- **Administrative Innovation :** The table shows that the statement "The institution organizes modern training programs to develop the skills of leaders and managers" ranks first with an arithmetic mean of (3.65), indicating a high level and an "Agree" response according to the five-point Likert scale. The standard deviation was (0.978), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the administrative innovation dimension was (3.55), indicating a high level and an "Agree" response according to the five-point Likert scale. The standard deviation was (0.632), indicating consistency and a lack of dispersion in the sample's responses. Therefore, it can be concluded that most of the sample agrees that the institution under study relies on administrative innovation.

- In general, the sample members agree on the existence of innovation in their institution, with an arithmetic mean of (3.51) and a standard deviation of (0.367). This result indicates that the level of this variable is above average and falls within the "Agree" range.

Although the study sample of Souf Flour Company employees in El-oued State agreed on the existence of innovation within the institution, we observed a weakness in the institution's activities in this area. This is primarily due to the employees' limited knowledge of modern artificial intelligence techniques, which are currently the main source of innovation, and the ambiguity of many of its terms. This necessitates intensive awareness campaigns and training courses in this area from the institutions.

5.5. 2. Competitiveness Axis : The second axis of the study instrument addressed the competitive advantage of the institutions under study. The following table shows the arithmetic means and standard deviations of the dimensions of the axis for the study sample :

Table. (05) - Arithmetic Means and Standard Deviations of the Expressions of the Competitiveness Axis :

N	Phrases	Indicator (Dimension)	Arithmetic mean	Standard deviation	Significance level	Degree of agreement
22	The organization adopts a strategy of reducing costs while maintaining the quality of the service provided, based on the principle of optimal utilization of resources.	Competitive advantage	3.35	1.12	Medium	Neutral
23	The company works to provide distinguished services and products with unique characteristics, making it a leader in the market.		3.63	0.937	High	Agree
24	The institution has a highly qualified staff.		3.79	0.771	High	Agree
25	The organization works to identify the current and future needs and desires of customers and then adapt and respond to them.		3.44	1.05	High	Agree
26	The company's products and offers have advantages that are difficult to imitate by competing companies.		3.67	0.834	High	Agree
Competitive advantage			3.58	0.617	High	Agree
27	The organization has effective marketing strategies to reach the target audience and confront competitors.	The organization's marketing strategies and market share	3.83	0.883	High	Agree
28	The organization works to align its marketing strategies with its strategic objectives and vision.		3.65	1.04	High	Agree
29	The organization has the ability to accurately estimate its market share.		3.52	1.052	High	Agree
30	The organization works to address market challenges (customer preferences, price fluctuations, etc.).		3.48	1.03	High	Agree
31	The company seeks to increase the quality and distinction of its products according to customers' desires to gain a larger market share.		3.40	0.984	High	Agree
The organization's marketing strategies and market share			3.57	0.615	High	Agree
32	The organization uses the latest technologies to communicate with customers, suppliers and business partners.	Public relations	3.00	1.01	Medium	Neutral

33	The organization has agreements with the largest suppliers in its field, which gives it preferences with them.		**2.81**	**1.04**	**Medium**	**Neutral**
34	The Corporation enters into business partnerships to enhance the quality of its operations and its competitiveness.		**3.48**	**1.13**	**High**	**Agree**
35	The Foundation organizes training courses to develop the skills of public relations employees.		**3.40**	**1.05**	**High**	**Agree**
36	The organization works to involve customers, business partners and suppliers in public relations strategies.		**2.77**	**1.06**	**Medium**	**Neutral**
Public relations			**3.41**	**0.699**	**High**	**Agree**
37	The legislation and legal system for protecting institutions in Algeria encourages the institution to expand its business and investments.	**Regulatory and legal environment**	**3.65**	**0.956**	**High**	**Agree**
38	The organization has an action plan to address regulatory challenges (bureaucracy, high taxes, import and export restrictions, difficult licensing requirements).		**3.58**	**1.16**	**High**	**Agree**
39	The organization does not face any legal problems that hinder renewal and innovation.		**3.25**	**1.12**	**Medium**	**Neutral**
40	The organization has a specific strategy to adapt to various regulatory and legal changes.		**3.27**	**1.106**	**Medium**	**Neutral**
41	The Corporation works to exploit all available opportunities in the regulatory and legal environment (transparency, tax reductions and government facilities) to enhance its competitiveness.		**3.20**	**1.08**	**Medium**	**Neutral**
Regulatory and legal environment			**3.40**	**0.521**	**High**	**Agree**
The second axis : Competitiveness			**3.58**	**0.620**	**High**	**Agree**

Source : Prepared by researchers based on **SPSS.V25** outputs.

Based on the results, we observe the following :

- **Competitive Advantage :** The table shows that the statement "The institution has a highly qualified workforce" ranks first with an arithmetic mean of (3.79), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.771), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the competitive advantage dimension as a whole is (3.58), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.617), indicating consistency and a lack of dispersion in the sample's responses to the dimension's statements. Therefore, it can be concluded that most of the sample agrees that the institution under study is striving to gain an advantage that enhances its competitiveness.

- **Marketing Strategies and Market Share :** The table shows that the statement "The institution has effective marketing strategies to reach the target audience and compete with rivals" ranks first with an arithmetic mean of (3.83), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.883), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the dimension of the institution's marketing strategies and market share is (3.57), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.615), indicating consistency and a lack of dispersion in the sample's responses to the dimension's statements. Therefore, it can be concluded that most of the sample agrees that the institution under study is striving to adopt market strategies that increase its market share and enhance its competitiveness.

- **Public Relations :** The table shows that the statement "The institution establishes business partnerships to enhance the quality of its operations and competitiveness" ranks first with an arithmetic mean of (3.48), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (1.130), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the public relations dimension is (3.21), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.699), indicating consistency and a lack of dispersion in the sample's responses to the dimension's statements. Therefore, it can be concluded that most of the sample agrees that the institution under study is striving to improve its public relations to enhance its competitiveness.

- **Regulatory and Legal Environment :** The table shows that the statement "Legislation and the legal system for protecting institutions in Algeria encourage the institution to expand its business and investments" ranks first with an arithmetic mean of (3.65), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.956), indicating consistency and a lack of dispersion in the sample's responses.

Overall, the arithmetic mean for the legal and regulatory environment dimension is (3.29), indicating a high level and "agree" according to the five-point Likert scale. The standard deviation is (0.521), indicating consistency and a lack of dispersion in the sample's responses to the dimension's statements. Therefore, it can be concluded that most of the sample agrees that the institution under study is seeking to exploit the legal and regulatory environment to enhance its competitiveness.

- In general, the sample members agree, from their perspective, on the statements of the institution's competitiveness axis to which they belong. The arithmetic mean is (3.57) and the standard deviation is (0.617). This result indicates that the level of this variable is high and falls within the "agree" range.

5.6. Hypothesis Testing and Discussion of Study Results :

5.4.1. Testing Sub-Hypotheses :

5.4.1.1. Testing the First Sub-Hypothesis : The hypothesis states that the evaluation of innovation in their institution by the employees of the institution under study is high.

➢ **Null Hypothesis (H0) :** The evaluation of innovation in the institution under study by its employees is low.

➢ **Alternative Hypothesis (H1) :** The evaluation of innovation in the institution under study by its employees is high.

This hypothesis can be answered by presenting the following table, which shows the arithmetic means and standard deviations for each dimension of innovation :

Table (06) – Analysis of the sample members' responses regarding the dimensions of the innovation axis :

Dimension	Arithmetic mean	Standard deviation	Significance level	Degree of agreement
Technological Innovation	3.68	0.577	High	Agree
Marketing Innovation	3.40	0.659	High	Agree
Administrative Innovation	3.55	0.632	High	Agree
Full Innovation Axis	3.51	0.367	High	Agree

Source : Prepared by researchers based on **SPSS.V25** outputs.

- Based on the table above, we observe that the degree of agreement of the study sample members regarding innovation was high overall, meaning that employees agree with the statements of the innovation axis in the institutions under study. This is confirmed by the following calculations :

Technological innovation ranked first with an arithmetic mean of (3.68) and a standard deviation of (0.577), followed by administrative innovation in second place with an arithmetic mean of (3.55) and a standard deviation of (0.632), and marketing innovation in third place with an arithmetic mean of (3.40) and a standard deviation of (0.659). This is based on the evaluation of the employees of the institution under study.

- All arithmetic means of the dimensions of the innovation axis had a high significance level and an "agree" rating according to the five-point Likert scale, with an overall arithmetic mean of (3.51) and a standard

deviation of (0.367). Therefore, we reject the null hypothesis and accept the alternative hypothesis, which states that the evaluation of innovation by the employees of the institution under study is high.

5.4.1.2. Testing the Second Sub-Hypothesis : The hypothesis states that the evaluation of competitiveness in their institution by the employees of the institution under study is high.

➢ **Null Hypothesis (Ho) :** The evaluation of competitiveness in the institution under study by its employees is low.

➢ **Alternative Hypothesis (H1) :** The evaluation of competitiveness in the institution under study by its employees is high.

This hypothesis can be answered by presenting the following table, which shows the arithmetic means and standard deviations for each dimension of competitiveness :

Table (07) – Analysis of the sample members' responses regarding the dimensions of the competitiveness axis :

Dimension	Arithmetic mean	Standard deviation	Significance level	Degree of agreement
Competitive Advantage	3.57	0.617	High	Agree
Marketing Strategies and Market Share	3.58	0.615	High	Agree
Public Relations	3.41	0.699	High	Agree
Regulatory and Legal Environment	3.40	0.521	High	Agree
Competitiveness Axis	3.58	0.620	High	Agree

Source : Prepared by researchers based on **SPSS.V25** outputs.

- Based on the table above, we observe that the degree of agreement of the study sample members regarding competitiveness was high overall, meaning that employees agree with the statements about competitiveness in the institution under study. This is confirmed by the following calculations :

The dimension of the institution's marketing strategies and its market share ranked first with an arithmetic mean of (3.58) and a standard deviation of (0.615), followed by the competitive advantage dimension in second place with an arithmetic mean of (3.57) and a standard deviation of (0.617), the public relations dimension in third place with an arithmetic mean of (3.41) and a standard deviation of (0.699), and the regulatory and legal environment dimension in fourth place with an arithmetic mean of (3.40) and a standard deviation of (0.521). This is based on the evaluation of the employees of the institution under study.

- All arithmetic means of the dimensions of the competitiveness axis had a high significance level and an "agree" rating according to the five-point Likert scale, with an overall arithmetic mean of (3.58) and a standard deviation of (0.620). Therefore, we reject the null hypothesis and accept the alternative hypothesis, which states that the evaluation of competitiveness in their institution by the employees of the institution under study is high.

5.4.1.3. Testing the Third Sub-Hypothesis :

The hypothesis states that there is a statistically significant relationship between technological innovation and competitiveness at the Souf Flour Mill.

➢ **Null Hypothesis (Ho) :** There is no statistically significant effect between technological innovation and competitiveness at the Souf Flour Mill at the significance level **(α≤ 0.05)**.

➢ **Alternative Hypothesis (H1) :** There is a statistically significant effect between technological innovation and competitiveness at the Souf Flour Mill at the significance level **(α≤ 0.05).**

To verify this hypothesis, we analyzed the relationship between the technological innovation variable and the competitiveness variable at the Souf Flour Mill using simple linear regression (Simple Regression) and the SPSS V 25 program. The results are shown in the table below :

Table (08) – Results of simple regression analysis of the effect of technological innovation o

Récapitulatif des modèles[b]

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation	Modifier les Statistiques				
					Variation de R-deux	Variation de F	ddl1	ddl2	Sig. Variation de F
1	,588[a]	,346	,332	,30254	,346	24,357	1	46	,000

a. Prédicteurs: (Constante), Technological innovation

b. Variable dépendante: Competitiveness

n competitiveness :

Source : Prepared by researchers based on **SPSS.V25** outputs.

Looking at the table above, we note that the correlation coefficient **R** between the independent and dependent variables reached (0.588), which is (58.8%). The coefficient of determination **R²** is equal to (0.346), or (34.6%), at a significance level of less than 5%. This means that the technological innovation variable explains (34.6%) of the competitiveness of the institution under study. The remaining percentage is due to other variables that explain competitiveness. This indicates a positive statistically significant relationship between technological innovation and competitiveness. It is expected that this model provides a good fit between the competitiveness variable as a dependent variable and the technological innovation variable as an independent variable.

Table (09) – Analysis of Variance :
ANOVA[a]

Modèle		Somme des carrés	ddl	Carré moyen	F	Sig.
1	Régression	2,229	1	2,229	24,357	,000[b]
	de Student	4,210	46	,092		
	Total	6,440	47			

a. Variable dépendante: Competitiveness
b. Prédicteurs: (Constante), Technological innovation
Source : Prepared by researchers based on **SPSS.V25** outputs.

The table above shows that the calculated F-value is 24.357, which is greater than the tabulated value at degrees of freedom (48, 1). This means that the simple linear regression model is significant. Since the significance level (sig) = 0.000, which is less than 0.05 (α ≤ 0.05), the adopted statistical significance level, we conclude that there is a statistically significant positive effect of technological innovation on competitiveness in the institution under study.

Table (10) – Test of Coefficients Affecting the Model :
Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	2,016	,285		7,065	,000
	Technological innovation	,378	,077	,588	4,935	,000

a. Variable dépendante: Competitiveness
Source : Prepared by researchers based on **SPSS.V25** outputs.

From the table above, we find that the slope of the competitiveness variable is positive, reflecting the direct relationship between its increase and technological innovation. This is theoretically acceptable because the more technological innovation is used in the institution, the more its competitiveness is enhanced.
Therefore, based on the above, we reject the null hypothesis, which states that there is no statistically significant effect between marketing innovation and competitiveness at the Souf Flour Mill at the significance level **(α ≤ 0.05)**, and accept the alternative hypothesis, which states that there is a statistically significant effect between technological innovation and competitiveness at the institution under study at the significance level **(α ≤ 0.05).**

5.4.1.4. Testing the Fourth Sub-Hypothesis : The hypothesis states that there is a statistically significant relationship between marketing innovation and competitiveness at the Souf Flour Mill.

- **Null Hypothesis (Ho) :** There is no statistically significant effect between marketing innovation and competitiveness at the Souf Flour Mill at the significance level **(α ≤ 0.05).**
- **Alternative Hypothesis (H1) :** There is a statistically significant effect between marketing innovation and competitiveness at the Souf Flour Mill at the significance level **(α ≤ 0.05).**

To verify this hypothesis, we analyzed the relationship between the marketing innovation variable and the competitiveness variable at the Souf Flour Mill using simple linear regression (Simple Regression) and the SPSS V 25 program. The results are shown in the table below :

Table (11) – Results of simple regression analysis of the effect of marketing innovation on competitiveness :

Récapitulatif des modèles[b]

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation	Modifier les Statistiques				
					Variation de R-deux	Variation de F	ddl1	ddl2	Sig. Variation de F
1	,758[a]	,575	,566	,24394	,575	62,221	1	46	,000

a. Prédicteurs: (Constante), Marketing innovation

b. Variable dépendante: Competitiveness

Source : Prepared by researchers based on **SPSS.V25** outputs

Looking at the table above, we note that the correlation coefficient **R** between the independent and dependent variables reached (0.758), which is (75.8%). The coefficient of determination **R²** is equal to (0.575), or (57.5%), at a significance level of less than 5%. This means that the marketing innovation variable explains (57.5%) of the competitiveness of the institution under study. The remaining percentage is due to other variables not included in the model. This indicates a positive statistically significant relationship between marketing innovation and competitiveness. It is expected that this model provides a good fit between the competitiveness variable as a dependent variable and the marketing innovation variable as an independent variable.

Table (12) – Analysis of Variance :

ANOVA[a]

Modèle		Somme des carrés	ddl	Carré moyen	F	Sig.
1	Régression	3,703	1	3,703	62,221	,000[b]
	de Student	2,737	46	,060		
	Total	6,440	47			

a. Variable dépendante: Competitiveness

b. Prédicteurs: (Constante), Marketing innovation

Source : Prepared by researchers based on **SPSS.V25** outputs

The table above shows that the calculated F-value is 62.221, which is greater than the tabulated value at degrees of freedom (48, 1). This means that the simple linear regression model is significant. Since the significance level (sig) = 0.000, which is less than 0.05 ($\alpha \leq 0.05$), the adopted statistical significance level, we conclude that there is a statistically significant positive effect of marketing innovation on competitiveness.

Table (13) – Test of Coefficients Affecting the Model :

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	2,002	,182		11,021	,000
	Marketing innovation	,426	,054	,758	7,888	,000

a. Variable dépendante: Competitiveness

Source : Prepared by researchers based on **SPSS.V25** outputs

From the table above, we find that the slope of the competitiveness variable is positive, reflecting the direct relationship between its achievement and marketing innovation. This is theoretically acceptable because the more marketing innovation is used in the institution, the more its competitiveness is enhanced.

Therefore, based on the above, we reject the null hypothesis, which states that there is no statistically significant effect between marketing innovation and competitiveness at the Souf Flour Mill at the significance level ($\alpha \leq 0.05$), and accept the alternative hypothesis, which states that there is a statistically significant effect between marketing innovation and competitiveness at the institution under study at the significance level ($\alpha \leq 0.05$).

5.4.1.5. Testing the Fifth Sub-Hypothesis : The hypothesis states that there is a statistically significant relationship between administrative innovation and competitiveness at the Souf Flour Mill.

- **Null Hypothesis (Ho) :** There is no statistically significant effect between administrative innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**
- **Alternative Hypothesis (H1) :** There is a statistically significant effect between administrative innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**

To verify this hypothesis, we analyzed the relationship between the administrative innovation variable and the competitiveness variable at the Souf Flour Mill using simple linear regression (Simple Regression) and the SPSS V 25 program. The results are shown in the table below :

Table (14) – Results of simple regression analysis of the effect of administrative innovation on competitiveness :

Récapitulatif des modèles[b]

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation	Modifier les Statistiques				
					Variation de R-deux	Variation de F	ddl1	ddl2	Sig. Variation de F
1	,142[a]	,020	-,001	,37036	,020	,950	1	46	,335

a. Prédicteurs: (Constante), Administrative innovation

b. Variable dépendante: Competitiveness

Source : Prepared by researchers based on **SPSS.V25** outputs

Looking at the table above, we note that the correlation coefficient **R** between the independent and dependent variables reached (0.142), which is (14.2%). The coefficient of determination R^2 is equal to (0.02), or (2%), at a significance level of less than 5%. This means that the administrative innovation variable explains only 2% of the competitiveness of the institution under study. The remaining percentage is due to other variables not included in the model. This indicates that there is no statistically significant relationship between administrative innovation and competitiveness.

Table (15) – Analysis of Variance :

ANOVA[a]

Modèle		Somme des carrés	ddl	Carré moyen	F	Sig.
1	Régression	,130	1	,130	,950	,335[b]
	de Student	6,310	46	,137		
	Total	6,440	47			

a. Variable dépendante: Competitiveness

b. Prédicteurs: (Constante), Administrative innovation

Source : Prepared by researchers based on **SPSS.V25** outputs

The table above shows that the calculated F-value is 0.950, which is less than the tabulated value at degrees of freedom (48, 1). This means that the simple linear regression model is not significant. Since the significance level (sig) = 0.335, which is greater than 0.05 ($\alpha \leq 0.05$), the adopted statistical significance level, we conclude that there is no statistically significant positive effect of administrative innovation on competitiveness.

Table (16) – Test of Coefficients Affecting the Model :

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	3,111	,308		10,097	,000
	Administrative innovation	,083	,085	,142	,975	,335

a. Variable dépendante: Competitiveness

Source : Prepared by researchers based on **SPSS.V25** outputs

From the table above, we find that the slope of the competitiveness variable is positive, reflecting the direct relationship between its achievement and administrative innovation. However, the statistical analysis (F-test and significance level) showed that this relationship is not statistically significant. Therefore, based on the above, we accept the null hypothesis, which states that there is no statistically significant effect between administrative innovation and competitiveness at the Souf Flour Mill at the significance level ($\alpha \leq 0.05$), and reject the alternative hypothesis.

5.4.2. Testing the Main Hypothesis : The main hypothesis of the study states that there is a statistically significant relationship between innovation and competitiveness at the Souf Flour Mill.

- **Null Hypothesis (Ho) :** There is no statistically significant effect between innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**
- **Alternative Hypothesis (H1) :** There is a statistically significant effect between innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**

To verify this hypothesis, we analyzed the relationship between the innovation variable and the competitiveness variable at the Souf Flour Mill using simple linear regression (Simple Regression) and the SPSS V 25 program. The results are shown in the table below :

Table (17) – Results of simple regression analysis of the effect of marketing innovation on competitive advantage :

Récapitulatif des modèles[b]

Modèle	R	R-deux	R-deux ajusté	Erreur standard de l'estimation	Modifier les Statistiques				
					Variation de R-deux	Variation de F	ddl1	ddl2	Sig. Variation de F
1	,844[a]	,712	,706	,20075	,712	113,805	1	46	,000

a. Prédicteurs: (Constante), Innovation

b. Variable dépendante: Competitiveness

Source : Prepared by researchers based on **SPSS.V25** outputs

Looking at the table above, we observe that the correlation coefficient **R** between the independent and dependent variables reached (0.844), which is (84.4%). The coefficient of determination **R^2** is equal to (0.712), or (71.2%), at a significance level of less than 5%. This means that the innovation variable explains 71.2% of the competitiveness of the institution under study. The remaining percentage is due to other variables that explain competitiveness. This indicates a positive statistically significant relationship between innovation and competitiveness. It is expected that this model provides a good fit between the competitiveness variable as a dependent variable and the innovation variable as an independent variable.

Table (18) – Analysis of Variance :

ANOVA[a]

Modèle		Somme des carrés	ddl	Carré moyen	F	Sig.
1	Régression	4,586	1	4,586	113,805	,000[b]
	de Student	1,854	46	,040		
	Total	6,440	47			

a. Variable dépendante: Competitiveness

b. Prédicteurs: (Constante), Innovation

Source : Prepared by researchers based on **SPSS.V25** outputs

The table above shows that the calculated F-value is 113.805, which is greater than the tabulated value at degrees of freedom (48, 1). This means that the simple linear regression model is significant. Since the significance level (sig) = 0.000, which is less than 0.05 ($\alpha \leq 0.05$), the adopted statistical significance level, we conclude that there is a statistically significant positive effect of innovation on competitiveness.

Table (19) – Test of Coefficients Affecting the Model :

Coefficients[a]

Modèle		Coefficients non standardisés		Coefficients standardisés	t	Sig.
		B	Erreur standard	Bêta		
1	(Constante)	,418	,282		1,483	,145
	Innovation	,851	,080	,844	10,668	,000

a. Variable dépendante: Competitiveness

Source : Prepared by researchers based on **SPSS.V25** outputs

From the table above, we find that the slope of the competitiveness variable is positive, reflecting the direct relationship between its achievement and innovation. This is theoretically acceptable because the more innovation is used in the institution, the more its competitiveness is enhanced.

Therefore, based on the above, we reject the null hypothesis, which states that there is no statistically significant effect between innovation and competitiveness at the institution under study at the significance level **($\alpha \leq 0.05$)**, and accept the alternative hypothesis, which states that there is a statistically significant effect between innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$)**.

6. Conclusion :

This study addressed several aspects within the framework of innovation and competitiveness. It examined innovation and its types, as well as the concept of competitiveness, its importance, characteristics, and various dimensions, providing a theoretical foundation for the study. The main research question was : What is the effect of innovation on enhancing competitiveness at the Souf Flour Mill ?

The applied aspect of the study consisted of a case study of the Souf Flour Mill in the Wilaya of El Oued, Algeria. A questionnaire was distributed to the employees of the institution under study, and a set of statistical methods were used to analyze and process the questionnaire data. **SPSS** software was used to analyze the data and determine the effect of innovation on enhancing competitiveness in the institution under study.

Study Results :

This study answered the main research question concerning the effect of innovation on enhancing competitiveness at the Souf Flour Mill in El Oued. The main findings can be summarized as follows :

- The statistical results confirmed the first sub-hypothesis, which states that the evaluation of employees of the Souf Flour Mill of innovation in their institution is high.
- The statistical results confirmed the second sub-hypothesis, which states that the evaluation of employees of the Souf Flour Mill of the competitiveness of their institution is high.
- The statistical results confirmed the third sub-hypothesis, which states that there is a statistically significant effect between technological innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**
- The statistical results confirmed the fourth sub-hypothesis, which states that there is a statistically significant effect between marketing innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**
- The statistical results refuted the fifth sub-hypothesis, which states that there is a statistically significant effect between administrative innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**
- The statistical results confirmed the main hypothesis, which states that there is a statistically significant effect between innovation and competitiveness at the Souf Flour Mill at the significance level **($\alpha \leq 0.05$).**

7. Study Recommendations :

Based on the foregoing, the following recommendations are offered to help institutions implement innovation and enhance competitiveness :

- Foster a culture of innovation and excellence among employees.
- Conduct individual and group brainstorming sessions to obtain innovative proposals and create a suitable work environment. Develop the skills and capabilities of employees to enable them to present more effective innovative ideas.
- Establish a system of incentives and rewards for individuals who contribute to the innovation process to create an innovative atmosphere and motivate employees.
- Achieve a balance in innovation across the various processes of the institution and not focus solely on the product, despite its importance.
- Allocate significant funds for innovation research and development.

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