

*The Impact of Investment in Information and Communication Technology on the
Competitive Performance of Economic Enterprises:
A Case Study of Omar Ben Omar Mills in Guelma Province*

أثر الاستثمار في تكنولوجيا المعلومات والاتصال على الأداء التنافسي للمؤسسات الاقتصادية:
دراسة حالة مطاحن عمر بن عمر بولاية قالة

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ملخص:

تهدف هذه الدراسة إلى تحليل دور تكنولوجيا المعلومات والاتصال في تعزيز الميزة التنافسية بمطاحن عمر بن عمر. يساهم الاستثمار في هذه التكنولوجيا في تحسين الإنتاج، تطوير استراتيجيات التسويق، وتعزيز الابتكار لتحقيق استدامة تنافسية. اعتمدت الدراسة على منهج دراسة الحالة باستخدام المقابلات لجمع البيانات. أظهرت النتائج أن المؤسسة تمتلك كوادر بشرية متخصصة في تكنولوجيا المعلومات وتوفر تدريباً مستمراً لها، إضافة إلى بنية تحتية متطورة تشمل قواعد البيانات والبرمجيات والشبكات. تساعد هذه التقنيات في تحسين جودة المنتجات والترويج لها عبر وسائل التواصل الاجتماعي، فضلاً عن تحليل القوى التنافسية للسيطرة على الأسواق. كما تستثمر المؤسسة في تطوير منتجات جديدة مع التركيز على الإبداع في التصميم. تساهم تكنولوجيا المعلومات في تحسين كفاءة العمليات الإنتاجية والتسويقية، مما يعزز الأداء الداخلي والخارجي.

الكلمات المفتاحية:

تكنولوجيا المعلومات والاتصال الاقتصادية، الميزة التنافسية، المؤسسة الاقتصادية.

Abstract:

This study aims to analyze the role of information and communication technology (ICT) in enhancing the competitive advantage of Omar Ben Omar Mills. Investing in this technology contributes to improving production, developing marketing strategies, and fostering innovation to achieve sustainable competitiveness. The study employed a case study approach utilizing interviews As the primary data collection method. The findings revealed that the company has specialized ICT personnel who receive continuous training and provide advanced infrastructure, including databases, software, and networks. These technologies help improve product quality and promote them through social media while also analyzing competitive forces to dominate markets. Additionally, the company invests in developing new products, With a focus on creative design. ICT also enhances the efficiency of production and marketing operations, thereby improving overall internal and external performance.

Keywords:

Competitive advantage, Economic enterprise, Information and communication technology.

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1. INTRODUCTION

The significant advancements in technology are among the most notable developments of the modern era, particularly in the field of information processing and transmission, commonly referred to as information and communication technology (ICT). Through its various applications, ICT has become an essential component of modern organizations, contributing to the development and exchange of information while facilitating its rapid transmission both within and outside the organization. As a result, institutions are able to manage their activities more efficiently and respond more quickly to the changing demands of the market.

In today's highly competitive economic environment, maintaining a strong position in the market has become increasingly challenging. This situation is mainly due to the expansion of markets, the emergence of multinational corporations, the spread of globalization, the removal of customs barriers, and the growing trend toward economic liberalization. These transformations have forced organizations to adopt technological strategies that enable them to keep pace with environmental changes and maintain their competitiveness.

In this context, many organizations have recognized the importance of integrating information and communication technology into their activities in order to face market challenges and risks. ICT provides organizations with several opportunities to improve their operational processes, enhance creativity and innovation, increase product quality, and reduce production costs. Consequently, these technologies have become a strategic tool that enables enterprises to strengthen their competitive advantage and improve their market performance.

For Algerian economic enterprises, the adoption of ICT has become particularly important in light of the intense competition that characterizes modern markets. In order to survive and remain competitive, organizations must continuously develop their capabilities by adopting modern communication and information technologies that support innovation, efficiency, and market expansion.

Several studies have examined the role of information and communication technologies in enhancing the competitive advantage of organizations. For instance, a study conducted by Abdaoui examined the contribution of ICT to achieving competitive advantage within the Algerian mobile telecommunications company Mobilis. The study revealed that ICT contributes significantly to improving service quality, enhancing innovation, and increasing organizational efficiency, which enables organizations to access new markets and strengthen their competitive position (Abdawi, 2016).

Similarly, a study conducted by Belalia and Maamouri analyzed the role of ICT in achieving competitive advantages in business organizations within modern economic environments. The results indicated that ICT contributes to competitive advantage through cost reduction, product differentiation, and improving the efficiency of organizational processes. The study also highlighted the impact of ICT on competitive strategies and value chain activities within organizations (Belalia & Maamouri, 2012).

In the same context, Refrafi investigated the contribution of ICT to achieving competitive advantage in Algerian economic enterprises through a case study of the Great Southern Mills of Ouamache. The findings demonstrated that ICT enhances operational speed, improves performance reliability, reduces costs by minimizing errors, and facilitates the circulation of information between employees and managers (Rafrafi, 2014).

Despite the valuable contributions of these studies in highlighting the importance of ICT in strengthening competitive advantage, further investigation is still needed to better understand how these technologies contribute to enhancing competitiveness within Algerian industrial enterprises.

Despite the growing importance of information and communication technology in improving organizational performance and strengthening competitive advantage, many enterprises still face challenges in effectively exploiting these technologies to enhance their competitiveness. In the Algerian context, industrial organizations are increasingly exposed to intense competition due to market expansion, economic liberalization, and the presence of both national and international competitors.

Although previous studies have emphasized the importance of ICT in improving organizational efficiency and achieving competitive advantages, there is still a need to further explore how these technologies are used within Algerian industrial enterprises and how they contribute to strengthening their competitive position. In particular, understanding the role of ICT in improving product quality, enhancing innovation, and increasing operational efficiency remains an important issue for many organizations.

In this context, the present study seeks to examine the contribution of information and communication technology to strengthening the competitive advantage of Omar Ben Omar Mills.

Accordingly, this study seeks to answer the following main research question:

How does information and communication technology contribute to enhancing the competitive advantages of Omar Ben Omar Mills compared to competing enterprises?

This main question is further divided into the following sub-questions:

- What is the level of ICT usage at Omar Ben Omar Mills?
- Does the use of ICT contribute to improving the quality of the company's products?
- What role does ICT play in enabling Omar Ben Omar Mills to dominate the market?
- Does ICT usage support the company's ability to innovate and develop?
- What is the role of ICT in enhancing operational efficiency within the company?

This study is significant both academically and practically. From an academic perspective, it contributes to enriching the existing literature on the role of information and communication technology in strengthening competitive advantage, particularly within the context of Algerian industrial enterprises. It also helps clarify the relationship between ICT usage and the different dimensions of competitive advantage.

From a practical perspective, the study provides insights that may help managers and decision-makers better understand the importance of adopting and effectively utilizing ICT in order to improve product quality, enhance innovation, increase operational efficiency, and strengthen the competitive position of their organizations in the market.

2. The Methodological Framework of the Study
2.1 - Study Methodology

Research methodologies vary depending on the nature of the phenomenon being studied. Therefore, the researcher must choose the appropriate methodology to achieve the best and most objective results. Since our study focuses on Omar Ben Omar Mills, a company distinguished by several characteristics from its counterparts in the same industry, we have opted for the case study methodology.

2.2 - Study Sample

In this study, we adopted purposive sampling, where the researcher selects participants based on their relevance to the study's objectives and expertise without any constraints. This method provides a rich source of information. The targeted participants included: The communication Officer, The representative of the

Information Systems and IT Department, quality and Food Safety Manager, and The Marketing and Sales Promotion Manager.

2.3 - Data Collection Tools

In this study, data were collected using two types of interviews, conducted face-to-face at the company premises, in Arabic, during January and February 2025. These interviews aimed to gather in-depth qualitative information on the use of ICT at Omar Ben Omar Mills and its contribution to enhancing competitive advantage:

A. Semi-Structured Interview

This interview was conducted with the Communication Officer and an IT Engineer from the Information Systems and IT Department, with the aim of:

- Assessing the level of human resource recruitment and the importance of maintaining databases in ICT.
- Identifying the various ICT tools used by the company.
- Exploring the key software and network systems currently utilized by the mills.

B. Structured Interview

This type of interview was used in the advanced stages of the study and was directed at the Communication and Marketing Officer and the Quality and Food Safety Manager. Its objective was to examine:

- The ability of ICT to enhance product quality in the mills;
- The role of ICT in market control compared to competitors;
- How ICT is utilized to foster creativity and development within the mills;
- Achieving operational efficiency through the use of ICT.

Table 01: Summary Table of Interviews.

Data Collection Tool	Participant	Number of Individuals	Estimated Duration per Interview	Number of Questions
Semi-Structured Interview	Communication Officer	1	45–60 minutes	14
	IT Department Representative	1	45–60 minutes	14
Structured Interview	Quality and Food Safety Manager	1	40–50 minutes	13
	Marketing and Sales Officer	1	40–50 minutes	13
Total		4		

3. Analysis and Interpretation of Unstructured Interview Results on the Level of ICT Utilization at Omar Ben Omar Mills

First: Conclusions Regarding the Institution's Possession of ICT Competencies

- The institution is keen on attracting skilled professionals in the field of information and communication technology.
- It has established specific criteria and conditions for recruiting these competencies.
- The mills employ professionals based on their managerial and production needs.
- Omar Ben Omar Mills invests in its workforce and enhances their skills by offering training programs both within and outside the company.

3.1 - Analysis and Interpretation of Conclusions

Omar Ben Omar Mills is committed to attracting skilled professionals in the field of ICT, which reflects the institution's awareness of the importance of having competent human resources for operating and managing information systems. This importance significantly outweighs merely possessing physical infrastructure. The company's approach also demonstrates a forward-looking vision regarding global economic requirements amid rapid technological advancements, increasing information and technology competition, and the transition to a digital economy.

To strengthen its workforce with qualified specialists, the company has established agreements with universities such as Badji Mokhtar University – Annaba and Mentouri University – Constantine to directly recruit graduates. The company has also set specific criteria for hiring these professionals, with proficiency in modern technologies being a primary requirement. Approximately 60% of the recruited workforce comes from the fields of computer science and information systems, indicating the company's adoption of strategic intelligence, which involves integrating digital expertise to optimize information management and gain a competitive advantage.

Furthermore, the recruitment of fresh graduates aligns with the company's cost leadership strategy (Forum, 2009, p.2). These graduates are employed with low to medium salaries due to their limited experience, and the company provides them with opportunities to gain expertise. This highlights the institution's dedication to building a skilled workforce in digital technology that aligns with its managerial and production needs.

To enhance employees' capabilities, the company organizes specialized training programs under the supervision of local and international experts, ensuring professional competence and mastery of ICT tools and equipment. Additionally, Omar Ben Omar Mills implements a motivational and incentive-based policy, promoting employees who participate in the highest number of training and development programs. This approach reflects the company's commitment to nurturing and refining talents through world-class training programs, improving ICT-related skills through intensive training, certification programs, networking opportunities, and support for university graduates specializing in ICT.

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Second:

Conclusions Regarding the Institution’s Possession of Technological Equipment and Its Areas of Use

- ✓ The institution possesses various modern and advanced ICT tools.
- ✓ The mills utilize ICT tools across all managerial and production functions.
- ✓ The company develops and upgrades its equipment based on its needs rather than merely keeping up with technological trends.

3.3 - Analysis and Interpretation of Conclusions

The institution possesses advanced ICT tools, including more than 200 high-performance computers (I5 and I7 generations), scanners, printers, mice, telephone lines, switches, and fiber optic cables. These devices, connected through various software and networks, are distributed across both administrative and production departments, according to the Information Systems and IT Manager.

The company ensures that employees use this equipment effectively and invests in technology based on evolving operational needs rather than merely following trends, as stated by the Communication Officer.

In the context of this study, the main goal of ICT investment is to support the competitive advantage of Omar Ben Omar Mills, particularly through enhancing operational efficiency, product quality, market control, and innovation.

The findings of this study are consistent with previous research on ICT in Algerian enterprises, such as Abdawi (Mobiles) and Rafrafi (Oumach Mills), showing that investment in ICT infrastructure and tools contributes to enhanced competitive advantage, operational efficiency, and innovation.

Third: Conclusions Regarding the Type of Software and Networks Used by the Institution

1. Software:

The institution possesses a modern, advanced, and continuously updated software base for:

- Managerial and production functions
- Statistical and analytical functions
- Security systems

Software selection is based on recommendations from ICT and information systems experts.

Omar Ben Omar Mills adopts specialized software tailored to the company’s needs and preferences.

2. Networks:

Omar Ben Omar Mills uses the internet and is present on digital platforms through social media and its official website.

Ensures that every employee has an email address formatted as:

firstname.lastnameeamorbenamor@gmail.com.

Various networks are utilized for both internal and external communication.

The internet is extensively used in the company’s marketing strategy.

Social media networks are leveraged for product promotion.

Traditional communication networks such as **Intranet and Extranet** are absent.

3.4 - Analysis and Interpretation of Conclusions

Omar Ben Omar Mills places significant emphasis on adopting specialized software to support its managerial and production functions due to its importance in effectively operating ICT systems. One of the most notable software applications is Excel, which serves as a fundamental tool for preparing payrolls, budgets, and statistical tables. Given its integration with other software, the company has ensured the enhancement of its employees' proficiency in using Excel by organizing training courses in collaboration with the Ibn Rushd Institute. These courses included "Excel Beginner-Intermediate", which lasted four days and focused on introducing the program, installing it, operating it, and mastering its basic principles. It also served as a prerequisite for the advanced course "Excel Advancement", which aimed to equip trainees with expertise in using the latest versions (2019, 2021, 2023) and mastering calculations and graphical display methods.

Additionally, the company has adopted SAP software, one of the most advanced enterprise management systems globally, used by more than 170,000 companies, including SABIC and Aramco in Saudi Arabia and Procter & Gamble and Dow Chemical in the United States. This system is known for its ability to enhance operational efficiency and unify various company functions into a single application system, facilitating workflow and supporting integration with other software such as Excel. This reflects Omar Ben Omar Mills' commitment to developing its workforce's skills and investing in cutting-edge technologies to enhance its operational performance (Al-Halayqiya, 2017). The use of such programs demonstrates that the company keeps pace with technological advancements in a manner that aligns with its needs, achieves its objectives, and creates a distinct competitive advantage in the field of ICT.

Omar Ben Omar Mills relies on the latest ICT equipment and software while employing specialized professionals to operate them. However, fully leveraging these technologies requires effective communication networks. The company uses networks to connect its internal and external systems, facilitating information exchange between different departments, government entities, and customers. It primarily relies on email for secure internal data transmission, assigning each employee a corporate email address to ensure sender identification and protect confidential information.

Regarding external communication, the company utilizes social media, particularly Facebook, to engage with customers (B2C). Survey results indicate that over 70% of customers prefer using this platform to interact with the company. Additionally, the official website is used for business-to-business (B2B) transactions with suppliers and importers, reflecting the company's focus on digital communication networks. Although the company does not use Intranet or Extranet, its adoption of modern networks enables various communication methods, including video conferencing, while reducing marketing costs.

Furthermore, the social media platforms adopted by the company offer several advantages, such as instant interaction, allowing the company to gather customer feedback and respond quickly, which helps improve products and strengthen customer relationships. Social media also provides A wide reach and organic promotion, as customer interactions contribute to automatic brand promotion, particularly through the sharing feature. This digital marketing strategy is still relatively new in Algeria, giving Omar Ben Omar Mills a competitive edge and reinforcing its market dominance.

Fourth: Conclusions Regarding Omar Ben Omar Mills' Ownership of Its Own Databases

- ✓ Omar Ben Omar Mills possesses a shared database between its managerial and production departments.
- ✓ The design of the mills' databases is based on the capabilities of the available software.
- ✓ Database information is updated and refreshed periodically.
- ✓ Omar Ben Omar Mills' database is not connected to other branches of the comp.

3.5 - Analysis and Interpretation of Conclusions

The above conclusions confirm that networks have contributed to the development of database systems, allowing economic enterprises to store vast amounts of information, facilitate access from primary sources, reduce storage space, and enable internet connectivity. Omar Ben Omar Mills recognizes this importance and has established integrated databases that include information on employees, clients, distributors, suppliers, customers, and commercial and marketing departments, all within a unified system based on SAP software.

The SAP system offers various applications, such as SAP (HR), which organizes employee data into structured tables, including staff hierarchy, salaries, performance, bonuses, and promotions. This system provides accurate information for managers when needed.

These databases are further supported by Excel, where data is stored in well-organized tables, ensuring easy retrieval even in case of system failures or virus attacks. To ensure data security, the company employs an electronic fingerprint system that regulates access permissions in accordance with internal policies.

Amid intense market competition, Omar Ben Omar Mills has adopted a database management system, a modern administrative approach that reduces errors and allows precise future planning, in contrast to traditional, unstructured management methods. However, the mills' database is not connected to the central company's database, as Omar Ben Omar Group follows an independent management policy for each branch. This approach ensures information privacy and allows managers and employees to focus on achieving the specific objectives of each branch separately.

4. Analysis and Interpretation of the Structured Interview Results on the Contribution of ICT in Enhancing Competitive Advantage

First:
Conclusions on the Contribution of ICT in Enhancing Product Quality
✓ The company is committed to utilizing ICT to improve the quality of its products. ✓ Omar Ben Omar Mills leverages ICT networks to promote the concept of product quality through digital platforms. ✓ The company uses software to analyze the competitive forces of rival enterprises. The company aims to obtain new ISO certifications in the field of ICT applications and effective utilization.

4.1 - Analysis and Interpretation of Conclusions

The field study results, based on a questionnaire survey on the quality of Omar Ben Omar Mills' products, revealed that more than 65% of respondents purchase its products due to their high quality, reflecting its leading position in the Algerian market and its positive brand image among consumers (Bzqari, 2014, p. 255). This is further confirmed by the ISO certifications obtained by the company regarding product quality and food safety.

During an interview with the Quality Department representative, it was confirmed that the company relies on modern technology to improve product quality, particularly through the SAP software, specifically SAP Quality Management. This application monitors the production process from start to finish, instantly detecting any defects and automatically stopping the manufacturing process until the issue is resolved. It also helps compare actual product quality with the company's predefined manufacturing standards, reinforcing continuous quality control.

This aligns with the respondents' opinions, as 93.33% confirmed that the mill's products match what is promoted on social media, reflecting the company's effective use of ICT to strengthen its competitive advantages. This is especially crucial in a rapidly evolving market, where consumer preferences, expectations, and competitor practices constantly change. To keep up with these market dynamics, the company invests in advanced technological programs, enhances internal human resources development, and maintains external product quality—a key factor in consumer purchasing decisions both locally and internationally.

In line with its expansion strategy, Omar Ben Omar Mills exports its products to Europe, America, Canada, and several Arab countries, and aims to enter new markets in the Middle East and Asia, according to statements from the Marketing Manager. Therefore, the company aspires to obtain new ISO certifications in the field of digitalization, such as ISO/IEC 20000, which defines best practices for ICT management within and beyond the company, supporting its competitive position in global markets.

From the above, it is evident that Omar Ben Omar Mills strives to strengthen its competitive position by acquiring quality Certifications and ensuring compliance with high production standards. Youssef Hajim Al-Tai states that improving quality through ICT allows companies to sell products at higher prices without causing negative customer reactions, while also reducing marketing costs, increasing sales volume, and enhancing profitability and competitiveness (Al-Tai, 2009, p. 75).

Based on this, Omar Ben Omar Mills' reliance on modern technologies provides multiple advantages, most notably: improved productivity by reducing the percentage of defective products, enhanced quality standards, leading to higher profitability, and ensuring long-term sustainability and expansion in domestic and international markets.

Second:
Conclusions on the Contribution of ICT in Achieving Market Control
✓ The use of ICT has allowed Omar Ben Omar Mills to retain and expand its market share. ✓ The company's adoption of ICT has significantly reduced production costs, enabling the opening of new markets.

4.2 - Analysis and Interpretation of Conclusions

The Marketing Manager at Omar Ben Omar Mills confirmed during our interview that the company has experienced a rise in sales and a noticeable increase in profits since adopting information and communication technology (ICT) in 2015, both internally and externally. This was reflected in the replacement of the Scrabble software with the global SAP system (January 2015), which enabled the company to organize and monitor its production and managerial operations remotely through robust databases connected to the internet. Additionally, the company changed its marketing strategy by abandoning costly television advertisements in favor of social media, phone communication, the company’s website, and email to reach a larger segment of its target audience. The results of our survey confirmed that Omar Ben Omar Mills' customers prefer online communication, especially through social media, which has contributed to increased sales by facilitating direct interaction with customers and leveraging these platforms for market research and product promotion.

This strategic shift has had a positive impact on sales across all product lines, as survey results showed that respondents prefer Omar Ben Omar Mills' products to varying degrees, indicating the existence of a market share for each product.

The company's sales before seriously implementing ICT, according to official company documents, can be summarized in the following table:

Table 01: Shows the Company's Sales in Tons Between 2020 and 2024

Year	Semolina	Couscous	Short Pasta	Long Pasta
2020	279,762	76,675	74,364	47,759
2021	275,512	77,492	75,427	49,732
2022	275,873	83,663	77,426	55,306
2023	276,226	92,275	78,210	56,652
2024	276,338	97,286	79,211	65,227

Source:

Prepared by the researchers based on the company's documents.

It is evident from the previous table that there has been a proportional increase in the company’s sales between 2020 and 2024, which can be attributed to Omar Ben Omar Mills’ adoption of modern technology, both in maintaining product quality, as previously mentioned, and in marketing its products online due to its ease of use and low cost.

This aligns with the opinion of "Coulter", who states that online marketing relies on a simple system involving two key parties: the company and the markets. The company works to market its products or services to target markets to generate financial returns from sales.

This is achieved by providing the market with relevant product information and the benefits of its use, while simultaneously collecting accurate data on market characteristics, needs, preferences, and consumer satisfaction (Al-Hadi, 1989, p. 45), his perspective highlights the importance of employing modern communication technologies in marketing, as it allows for instant feedback measurement, going beyond mere product sales to include managing customer relationships, ensuring market share sustainability through an understanding of customer opinions and aspirations.

In this context, the Marketing Manager at Omar Ben Omar Mills confirmed that the company enhances its marketing mix by investing in the internet to enter new markets and expand its existing market share. The company’s use of modern technology has led to a continuous increase in sales, positively impacting annual profitability and enabling it to implement a product diversification strategy.

This is clearly demonstrated by the introduction of whole wheat couscous, which falls under the healthy food category and has been widely popular among consumers, according to the Marketing Manager.

Furthermore, the company has expanded its investments by acquiring 60% of the shares of the Corso complex, a €100 million investment spread over five years, aimed at revitalizing the complex as part of a plan that includes establishing three industrial bakeries, two mills, a pasta production unit, and a biscuit manufacturing unit (Mohamedi, 2016).

This investment reflects the financial success of the company, which, thanks to ICT adoption, has been able to enhance its managerial, production, and marketing operations, as well as import the latest machinery and equipment and ensure the training and development of human resources to maintain operational efficiency in this sector.

Third: Conclusions on the Contribution of ICT in Enhancing Innovation and Development
✓ The profits generated from using ICT have been invested in innovating and developing the company’s products. ✓ ICT is utilized to study consumer needs and preferences, enabling the innovation and development of products based on customer opinions and expectations. ✓ ICT is leveraged to develop the company’s visual identity.

4.3 - Analysis and Interpretation of Conclusions

The field study and the interview conducted with the Quality and Food Safety Manager indicate that ICT has significantly contributed to shaping an innovative strategy for Omar Ben Omar Mills' products. This strategy is now centered on customer preferences and expectations, thanks to the ease of reaching consumers through social media. Through this approach, the company designs and innovates new products that align with consumer needs, reflecting a strategic orientation towards innovation and development as a fundamental pillar in achieving leadership in product technology.

This approach aligns with the opinion of Steve Brown, who argues that companies leveraging ICT in product development use innovation as a competitive advantage, placing great emphasis on research and development, which enables them to compete effectively by introducing new products or enhancing existing ones (Al-Mousawi, 2009, p. 65).

In this context, Omar Ben Omar Mills conducted a survey using SPSS software to analyze the survey results on one of its products, couscous, aiming to understand the reasons for its success in the eastern and central regions of Algeria and its failure in the western and southern regions. Based on these findings, the company initiated product development strategies tailored to the specific demands of different markets.

The Quality Manager confirmed that the company is currently producing white couscous in response to the preference of consumers in western Algeria, who favor this lighter color over the traditional yellow couscous that has distinguished the company's products. Additionally, the company is modifying the couscous grain size to cater to the needs of consumers in southern Algeria.

Through these initiatives, it is evident that Omar Ben Omar Mills is focusing on product development to maintain its market share. The company's adoption of a product development strategy can be interpreted based on the Evans model (1997, p. 53), which can be applied to Omar Ben Omar Mills' strategy for developing couscous at the national level, as follows:

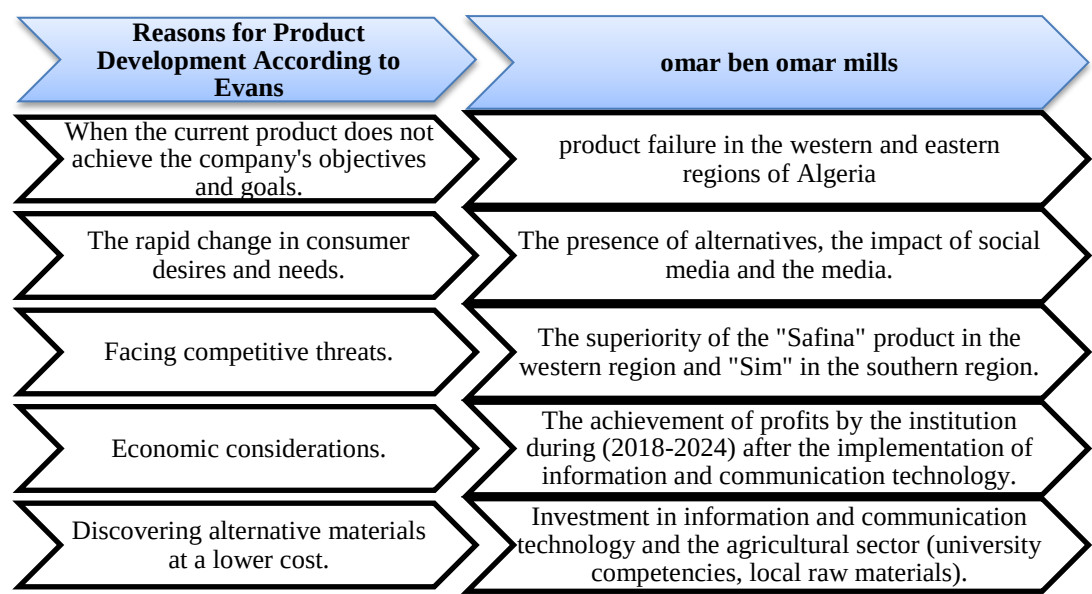


Fig.02. The Reasons for the Development of the Couscous Product at Omar Ben Omar Mills Based on Evans' Product Development Reasons (Prepared by the researchers based on the interview guide).

From the above figure, we conclude that several factors contribute to product development, which the company has taken into consideration.

Omar Ben Omar Mills has leveraged modern technologies at all stages of product development by using social media to gather information about customer needs and analyze competitors. Additionally, according to the Investment Manager, the company has reinvested the profits generated from using modern technologies into the agricultural sector to secure raw materials locally, such as wheat, which has reduced import costs. This cost-saving strategy has allowed the company to allocate more resources toward product development by adopting Ansoff’s Product Development Strategy, aligning with new market demands to ensure the achievement of future objectives.

The role of modern technologies in developing the company’s products can be summarized as follows:

- Helping to understand markets better by analyzing competitors' market shares and assessing customer needs and expectations.
- Reducing the product development cycle for new products.
- Enhancing the collection of essential information for product innovation.

- Increasing the efficiency and effectiveness of launching new products.
- Developing internal and external collaboration networks to facilitate research, development, and idea exchange.

Additionally, innovation is not limited to product development but also includes creating entirely new products and refining details such as logo design, color selection, and packaging methods to ensure visually appealing designs. This process is executed using design technology software such as CAD/CAM, which facilitates fast and precise implementation.

According to the Marketing Manager, the company focuses on the final product design as one of the key ISO quality certification criteria. The company contracts specialized firms for packaging design, while logos and initial color selections are created internally using Canva, a professional logo design software.

Fourth: Conclusions on the Role of ICT in Improving Operational Efficiency
✓ The use of digitalization has contributed to reducing managerial and production processes by eliminating unnecessary operations. ✓ The adoption of ICT has helped achieve discipline and job commitment among workers. ✓ The use of modern technology has facilitated communication processes and opened new communication channels within the mills. ✓ Relying on digitalization has helped reduce product promotion costs through the free use of social media networks. ✓ The exploitation of modern technological applications has assisted in predicting and managing crises and harmful rumors affecting the company.

4.4 - Analysis and Interpretation of Conclusions

The interview responses indicate that ICT plays a significant role in improving operational efficiency both inside and outside the company. The adoption of new technologies has contributed to reducing administrative and production processes. The SAP system has eliminated unnecessary operations, as information is now instantly accessible to all employees once entered into the system, eliminating the need for manual transmission.

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Additionally, report authentication has been streamlined through biometric verification, allowing documents to be printed from any location, eliminating the need to physically visit the manager's office. This also helps prevent stamp theft, which could be misused for fraudulent activities. Studies confirm that modern technologies save approximately 15% of managers' and employees' time.

Regarding job commitment, the HR SAP system enables accurate monitoring of operations by tracking content, dates, and timestamps, enhancing efficiency within the company. Internal processes have improved due to these technologies, positively impacting external activities, as confirmed by the Communication Manager.

Furthermore, storing information and documents in databases has simplified data retrieval and reduced processing time, promoting effective communication between managers and employees. The adoption of modern technologies has also opened additional communication channels with external audiences via websites, social media, and email.

The study revealed that the company has a strong digital presence across all online platforms, facilitating direct interaction with customers. Omar Ben Omar Mills is committed to ensuring operational efficiency across administrative, production, marketing, and communication functions by leveraging modern technologies. This enables the company to compete effectively with other enterprises and establish a competitive advantage based on innovation and development.

As a result, sales have significantly increased following the adoption of ICT, as noted by the Sales Manager.

5. CONCLUSION

Based on the findings of the field study, it is evident that Omar Ben Omar Mills is actively investing in ICT by equipping its production, organizational, and administrative units with cutting-edge technology and recruiting highly skilled human resources in this field. The company also prioritizes training programs for its staff. Omar Ben Omar Mills leverages its digital technologies to maintain market control, foster creativity and innovation, enhance product quality, and improve operational efficiency, ensuring a sustainable competitive advantage that allows it to withstand both anticipated and unforeseen threats in the local and international competitive environment. The study revealed several key findings, outlined as follows:

First; Omar Ben Omar Mills is committed to developing its ICT infrastructure, employing specialized personnel who undergo continuous training to keep up with rapid technological advancements. The company provides modern equipment, including computers, printers, and scanners, which are regularly updated according to operational and production needs. Additionally, it relies on advanced software and network systems that connect all branches, facilitating information flow, accelerating production processes, and supporting decision-making. The company also utilizes the internet and modern applications for communication, establishing electronic connections with suppliers, customers, and partners via email and social media platforms. Moreover, it maintains an accurate database containing information on employees, customers, suppliers, and competitors, aiding in decision-making.

Moreover, product quality remains the company's key competitive advantage, as it integrates technology at all stages of production by linking manufacturing processes to computers and specialized software. The company has also developed modern error-reporting mechanisms using software like G. STAR, integrated with SAP, which automatically halts production upon detecting any malfunction. Furthermore, the company utilizes social media platforms to promote product quality, with Facebook ranking first, followed by Instagram, YouTube, and Twitter.

In addition, Omar Ben Omar Mills holds a strong market share, reflecting customer loyalty, as the study found that most customers have used the company's products for over five years. The company actively works on strengthening its market position and exploring new markets by leveraging technology to analyze the competitive environment and study both local and international markets. It remains the only company in its sector exporting products abroad. Additionally, the company places significant emphasis on educating its executives on ICT applications to support its competitive strategies.-Modern technology has played a crucial role in fostering innovation and development within the company, as ICT is utilized in product development, the introduction of new product varieties, and the creation of modern and attractive packaging designs, which enhance product appeal in the market.

Besides, technology plays a pivotal role in improving operational efficiency, with Omar Ben Omar Mills relying on specialized programs such as SAP HR to analyze its internal environment and identify strengths and weaknesses, ultimately enhancing performance. The company also employs statistical tools to analyze market trends and competitors' sales points, enabling it to seize opportunities and develop effective strategies to tackle challenges. Additionally, technology has

contributed to eliminating unnecessary administrative processes, thereby enhancing operational efficiency. The company continues to invest in human resource development and implement advanced software to streamline business operations and enhance customer engagement through social media platforms.

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