

Innovating beyond frontiers: Opportunities and Challenges of Open Innovation for Moroccan Small and Medium Enterprises.

- **AUTHOR 1** : AZZAMOUC Asma,
- **AUTHOR 2** : ELAFQIH Brahim,
- **AUTHOR 3** : ZAHIR Mustapha,

- (1):** PhD Researcher, Interdisciplinary Research Laboratory on Environment, Management, Energy and Tourism, FSJES Marrakech, Cadi Ayyad University.
- (2):** PhD, Research Laboratory in Entrepreneurship, Finance and Management of Organizations, FSJES Agadir, Ibn Zohr University.
- (3):** Researcher- Professor, Interdisciplinary Research Laboratory on Environment, Management, Energy and Tourism, School of Technology Essaouira, Cadi Ayyad University.



Conflict of interest: The author declares no conflict of interest.

To cite this article : AZZAMOUC .A, ELAFQIH .B & ZAHIR .M (2025)

« Innovating beyond frontiers: Opportunities and Challenges of Open Innovation for Moroccan Small and Medium Enterprises»,

IJAME : Volume 02, N° 15 | Pp: 306 – 318.

Submission date: July 2025

Publication date: August 2025



DOI : 10.5281/zenodo.17053401

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Abstract

Small and medium-sized enterprises (SMEs) are characterized by their vulnerability, stemming from limited resources, insufficient financing, and a lack of expertise. These constraints drive them to seek and implement new solutions to ensure their survival in a challenging environment marked by economic uncertainty and intense competitive pressure.

Innovation has emerged as one such solution. Whether pursued internally (closed innovation) or through collaboration with external partners (open innovation), the ultimate goal is to enhance sustainability and avoid the fate of many SMEs that fail to survive—particularly in times of crisis.

This paper explores the opportunities that open innovation presents for Moroccan SMEs, as well as the challenges they face when adopting this approach. Our study adopts a qualitative methodology, based on a multiple case study approach selected for its exploratory value. We focus on two Moroccan SMEs located in the city of Marrakech. The findings provide deeper insights into how these enterprises engage in innovation through external collaboration. While generally open to adopting ideas from outside, they remain cautious about sharing their own internal innovations, due to concerns over confidentiality and the protection of their competitive advantage.

Keywords: Small and Medium Enterprises, vulnerability, open innovation.

Introduction

In Morocco's business ecosystem, SMEs (Small and Medium-sized Enterprises) are defined as companies with no more than 200 employees and annual sales of 75 million Moroccan dirhams (Ministry of Industry, Trade and the Green and Digital Economy, 2020). SMEs are the backbone of the Moroccan national economy, making up over 95% of all businesses and contributing significantly to employment and economic growth, their part in promoting innovation, regional development and contribution to national GDP has earned them a crucial role in the country's economic scene.

SMEs often have to deal with unique challenges, including limited resources, expertise and market outreach, which can constrain their ability to innovate effectively. The COVID-19 pandemic has further accentuated these challenges, forcing businesses in a variety of industries to adapt quickly to new circumstances. During this critical phase, many SMEs were forced to rethink their strategies, reorient their activities and explore new approaches to maintain their viability and survival.

Open innovation has become a revolutionary strategy for promoting innovation and stimulating business growth, especially for small and medium-sized enterprises (SMEs) as they navigate complex, rapidly changing markets.

While there is a growing amount of literature on the impact of open innovation on firms, there is a significant lack of empirical studies focusing specifically on how Moroccan SMEs tackle the challenges and embrace the potential of open innovation. This gap is particularly obvious when it comes to understanding how these small businesses are benefiting from external collaborations while managing issues such as intellectual property and competitiveness in the Moroccan business climate.

Against this backdrop, the present research pursues three main objectives: (1) to explore how Moroccan SMEs perceive and implement open innovation in practice, (2) to analyze the role of open innovation in enhancing resilience during periods of crisis, and (3) to identify the opportunities and constraints faced by SMEs when engaging with external partners.

To achieve these objectives, this study focuses on the experiences of two SMEs that showed resilience and adaptability during the pandemic. One company's shift from baby food production to manufacturing sanitary supplies, and the other's launch of a gourmet food distribution service, are illustrative case studies that highlight the benefits of open innovation in overcoming critical business obstacles.

Furthermore, this article investigates the pros and cons of open innovation from an SME

perspective, with a focus on the delicate equilibrium between collaborating with external partners (Outside-in) and protecting internal innovations (Inside-out). The results provide an understanding of how SMEs can manage the complexities of open innovation to strengthen their competitiveness, overcome resource limitations and become resilient.

1. Research Back ground

Authors such as Audretsh (1987,1990) and Pavitt et al. (1987) have pointed to a lack of arguments to support the Schumpeterian hypothesis that innovation is favored by company size. On the contrary, both research efforts and networking skills are very likely to be impacted by the managerial complexity of a large enterprise. On the other hand, small and medium-sized companies represent an environment propitious to the development of an “esprit de corps” mentality conducive to sustainable collaboration (d'Amboise,(2002) cited by Leghima, A.& Djema,H (2014)). It is clear from the work conducted in this regard that SMEs are generally more successful than large companies in terms of innovation, due to characteristics that are specific to them, such as flexibility and speed of reaction. This innovative potential enriches the contribution of SMEs to the economic and social sphere.

Given the several challenges faced by SMEs, such as the lack of expertise, shortage of skilled human resources and their availability, unfavorable business climate, lack of infrastructure, limited access to markets and information, as well as bureaucracy, the open innovation model is the most suitable approach to enable SMEs to develop.

Open innovation assumes that companies can and should use external and internal ideas along with internal and external routes to the market (Chesbrough, 2003) (Hamdani & Wirawan, 2012). It is indeed a highly advantageous business strategy that is becoming increasingly vital for small and medium-sized businesses. Companies that have chosen to pursue the coopetition strategy gain easy access to certain markets by collaborating with competitors in different fields and pooling complementary resources. This type of partnership is particularly useful for SMEs with limited resources. From another point of view, coopetition does come with certain risks that can prevent SMEs from opting for it as a business model (Akdoğan & Cingöz, 2012).

1.1. The migration from closed to open innovation

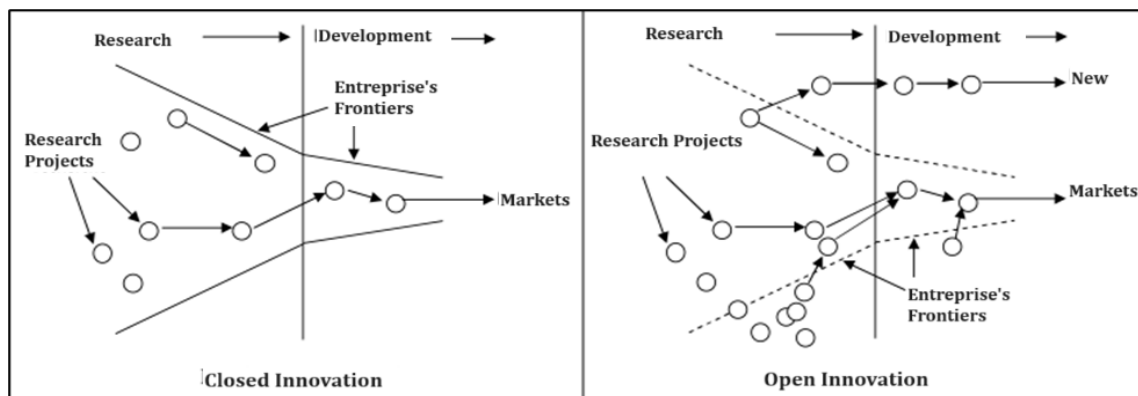
Innovation is in reality a fairly risky activity for small and medium-sized enterprises, since it requires a lot of resources, opening up innovation is probably a solution that will enable smaller companies to speed up their innovation process and exploit new business opportunities (Amor & Ghobtane, 2020)

This theoretical revival was discussed by Henry Chesbrough, in his book *Open Innovation: the*

New Imperative for Creating and Profiting from Technology (2003), the author is explicitly interested in innovating innovation, proposing to companies a new way of managing the innovation process, called open innovation (OI), which is intended to complement conventional research models, which have become rather outdated given the constant changes in the business world. The concept of open innovation is based on the fact that companies can no longer rely solely on their own resources to implement a sufficiently effective and efficient innovation policy, so it is time to embrace collaborative innovation, encourage partnerships and allow greater openness (Isckia & Lescop, 2011).

Fig.1 : « Closed Innovation » – « Open Innovation ».

Source: (Chesbrough, 2003)



In their study on the foundations of open innovation, Isckia, T. & Lescop, D (2011) have reviewed the main findings of Chesbrough, who points out that companies have gradually realised the disadvantages of the ‘closed’ innovation model and have become aware of the benefits of openness, especially when it comes to partnerships involving intellectual property rights (IPR). Chesbrough illustrates the dichotomy between open and closed innovation by explaining the following points:

- Other important sources of knowledge and skills exist outside the walls of the company; in a closed perception of innovation, companies are suspicious of knowledge from outside (‘not invented here’ syndrome), yet companies that are pioneers in their sector place great importance on external knowledge and skills, so it is imperative to change beliefs: to move from ‘we have the best’ to ‘we work with the best’.
- External R& D is rich in significant potential. To benefit from it, it is imperative to update the company's business model, so as to use the outputs produced externally as internal inputs in its value creation process.
- While the closed model of innovation involves ‘defensive’ management of intellectual

property rights to protect the innovation, the open model encourages the use and dissemination of the results of the innovation, through rather ‘offensive’ management of intellectual property rights.

1.2. Types of open innovation:

Based on studies of the typology of open innovation, we can distinguish three key strategies (Pillon et al., 2017):

- The outside-in model: also known as “inbound”, this model consists of conducting exploration activities to acquire new knowledge, technologies and know-how from outside, which will be combined with the company's own resources and skills, with the intention of renewing and enriching its knowledge base and energizing its innovation process.

Studies identified three categories of advantages that can be obtained by a company that receives knowledge flows from outside: time-to-market acceleration; improved expertise; and greater market success for its innovative products (Greco et al., 2019).

On the other hand, companies benefiting from external flows of knowledge may have to bear three types of costs: developing specific skills and competencies; transaction expenses; and the impact of the “not invented here” (NIH) syndrome (Greco et al., 2019).

- The inside-out model: also known as “outbound”, the purpose of this process is to enhance the value of unused assets developed by the company internally, by providing them to the outside community with the aim of generating income. This model is practiced through the selling of licenses, knowledge or even the spinning-off of innovation projects into the creation of a new innovative company.

A company that adopts IO to export its knowledge and technologies, is likely to generate significant benefits, including: expansion of its target market; enhanced know-how; and increased profitability of its innovative products and services (Greco et al., 2019).

However, outbound OI causes the firm to encounter costs in identifying suitable targets for its internal processes, as well as in preventing external entities from taking advantage of these processes. Three different costs can be outlined: the cost of developing the skills and competencies required to identify targets for internal-external flows, and to effectively expose the company's know-how; the cost of protecting the company's intellectual property; and the cost of losing competitive advantage through the dissemination of core expertise (Greco et al., 2019).

- The coupled-process model: by observing the two above-mentioned models, we can see that they are practiced simultaneously, because when a company operates according to the inside-

in model, it will trigger the outside-in process for the other company with whom it is collaborating (Chesbrough & Crowther, 2006).

1.3. The degree of openness:

The open innovation introduced by Chesbrough has been the subject of much controversy within the scientific community (Ayerbe & Azzam, 2015), with many debates questioning the degree of openness to be adopted, indeed IO does not necessarily induce absolute openness, the abundance of potential partners requires companies to define beforehand the open innovation strategy to be adopted, and this by answering questions such as: with whom to collaborate? on what theme? three types of approaches have been identified (Manceau et al., 2012):

- Open innovation oriented towards certain themes;
- Open innovation oriented towards certain partners;
- Completely open innovation.

In the same vein, other authors have attempted to measure the degree of openness of IO, based on metrics that differ from one approach to another, relied on internal-external knowledge parity to distinguish between (Barge-Gil, 2010):

- Open innovation: developed from knowledge that is external to the company, deemed more important than internal knowledge;
- Semi-open innovation: where external and internal resources are equally important in implementing innovation.

Adding appropriation to accessibility three degrees of openness can be identified (Huizingh, 2011):

- Private Open Innovation: the process in this case is undoubtedly open, and involves the use of external connections, but the outcomes of these partnerships remain closed, whether exclusive or not;
- Public Innovation: the technologies are developed in-house, but the sponsor does not exclude others from using them (in this case, royalties are low or non-existent);
- Open-Source Innovation: the innovation process is characterised by total and absolute openness, as are the results, which are made available to all, as in the case of free software.

2. Method:

The choice of methodology is dependent on the type of research question posed, the level of control the researcher has over the variables, and the temporality of the concept studied (Yin, 2011).

The objective of our study is to understand how open innovation is perceived by Moroccan

SMEs, a concept that is little documented. Consequently, the multiple case study method is the most appropriate for our research purpose, given its value for exploratory research.

According to Langley & Royer, (2006), qualitative case study research is suitable, considering the exploratory and comprehensive nature of our research.

The multiple-case study is based on the collection of a set of data and observations over one or a limited number of analysis cases, in order to come up with new insights likely to overturn theoretical beliefs about the studied phenomenon (Miles & Huberman, 1994).

Our research is focused on two Moroccan SMEs, identified respectively as Alpha (operating in the agri-food sector) and Beta (operating in the tourism sector). This limitation in the number of studied companies favors comparative data collection, in order to highlight contrasts. Our aim is to gain a deeper understanding of each of them, through a mirror effect, to highlight similarities and differences (Remon, 2012).

The reason behind the chosen companies, Alpha and Beta, was not only their willingness to share their perspectives with us, but also a set of specific criteria that made them suitable for the study. Both companies demonstrated a certain level of organizational maturity despite their small size, which allowed us to observe structured practices of innovation and resilience. Their capacity to adapt during the COVID-19 pandemic was another important factor, as they each engaged in notable strategic shifts that are directly relevant to our research objectives.

In addition, the two firms operate in sectors where innovation and resilience are particularly critical: Alpha in the agro-food industry and Beta in Tourism. This sectoral diversity was deliberately considered to enrich the analysis. Spatially, both companies are based in Marrakech, Morocco, which ensured contextual coherence and accessibility for data collection. The data on which a case study is based are multiple, including: internal documentation, archives, observation, study of physical elements and interviews (Yin, 2011), the present study was carried out in principle through semi-directive interviews with the managers of the two companies, the sales, production and quality manager of Alpha, the community manager and the marketing manager of Beta, these interviews were supplemented by a physical visit to the production units and access to a number of internal documents, facilitating an understanding of the operating and management methods of the two companies studied. In addition, this triangulation of data favours the richness of the information and the objectivity of the interpretation.

For this purpose, an interview guide was devised to direct the interviews conducted with the various interviewees. The interviews, which ranged from 30 minutes to an hour, were tape-

recorded, after which the interviewees' statements were transcribed, without altering the spoken language or compromising the richness of the testimonies collected.

The analysis followed a rigorous qualitative approach. First, the transcripts were subjected to open coding, allowing key concepts and recurring ideas to emerge directly from the data. These initial codes were then grouped into axial categories, which were progressively refined to form broader themes. While the predefined themes from the interview guide served as a starting point, additional themes were incorporated inductively when they emerged spontaneously from the narratives.

To strengthen validity, triangulation was carried out in two ways: (1) by comparing the perspectives of different interviewees within each company, and (2) by confronting the interview data with complementary sources such as company documents and direct observations. This iterative process ensured that the findings went beyond mere description, offering a deeper interpretation of how Moroccan SMEs perceive and implement open innovation.

3. Results and discussion:

The objective of our study is to understand how small and medium-sized enterprises in Morocco perceive open innovation, and to see what issues are at stake within a small entity such as an SME. By analyzing the data collected, we were able to highlight the specific characteristics of SMEs in terms of vulnerability. We were also able to gain an understanding of open innovation from the SME's point of view, as well as an insight into their choice to innovate internally, or call on external parties, while highlighting the advantages and disadvantages of this openness.

3.1. Open innovation: an approach suited to the vulnerability of SMEs:

During the COVID-19 pandemic, companies across various industries faced unprecedented challenges, prompting them to innovate and adapt to rapidly changing circumstances. Alpha and Beta, embarked on remarkable transformations that not only showcased their resilience but also highlighted their ability to meet evolving consumer needs.

Alpha, a company originally specializing in baby food and formula, found itself navigating a market where traditional demands were disrupted, recognizing the urgent need for sanitary products, Alpha swiftly shifted its production lines to manufacture essential items such as masks and disinfectants.

This pivot allowed the company to contribute to public health efforts while maintaining its business operations, by leveraging its existing manufacturing expertise and infrastructure, Alpha was able to meet the surge in demand for these critical products, ensuring that they

remained a relevant and vital player in the market during the pandemic.

On the other hand, Beta, a hotel nestled in the vibrant city of Marrakech, faced a different set of challenges, with travel restrictions and social distancing measures in place, the hospitality industry experienced a sharp decline in guests.

Rather than surrendering to these difficulties, Beta chose to innovate by externalizing its restaurant services, the hotel introduced a new offering known as "Bento Box," a gourmet delivery service that brought the fine dining experience directly to customers' homes, high-quality meals, prepared by the hotel's renowned chefs, were delivered in sealed, sanitary boxes, ensuring safety and convenience for their clientele, this initiative not only allowed Beta to continue generating revenue but also helped maintain the hotel's reputation for culinary excellence, even in the face of adversity.

Faced with limited resources, the studied SMEs made a bold decision to seek external assistance to execute their innovative projects. This strategic move allowed them to access the necessary skills, knowledge, and technologies they lacked internally, by collaborating with external partners, the SMEs were able to overcome barriers, drive innovation, and ensure their survival, positioning themselves for long-term growth and resilience.

3.2. Innovating in collaboration with external partners:

The company "Alpha" regularly undertakes projects with the Menara cluster and has worked on several initiatives with the CAC (Centre d'Analyse et de Caractérisation) at Cadi Ayyad University. Additionally, it has partnered with Spanish and Swedish companies, securing significant funding that enabled the launch of its baby cereal line, as the manager of Alpha stated: "So we regularly set up projects with the Menara cluster, and we've tried to run a number of projects with the CAC, the Analysis and Characterization Center at Cadi Ayyad University" The company Beta also innovated by creating unique packaging to enhance client safety, to achieve this, it organized meetings with multiple partners to develop a solution that complies with health and safety standards, furthermore, it collaborated with cosmetic companies to produce a spa water with a special fragrance tailored to its brand.

3.3. The benefits of Outside-in open innovation and concerns for openness in the Inside-out approach:

Collaborations between SMEs and their innovation partners can be mutually beneficial in a variety of ways, including access to technologies, resources and expertise not available in the firm's own facilities. Alpha's manager and its production manager respectively state: "... This is where we, as industrialists, have greatly reduced our analysis and laboratory costs", "reducing

costs and risks, in particular by sharing the necessary investments to develop new projects, can also contribute to strengthening business ties and improving corporate reputations”.

Sharing innovative internal practices with other companies offers a multitude of strategic benefits, it's in fact a powerful way of strengthening inter-company relations and forging lasting strategic partnerships, by opening the door to collaboration, SMEs can not only reinforce their networks, but also build alliances that encourage the pooling of resources and skills.

Moreover, by sharing their practices, companies gain access to their partners' expertise and experience in areas where they may be lacking which enables them to acquire new skills and overcome deficiencies, this mutual learning dynamic enriches internal knowledge and enhances the ability to respond to complex challenges.

While all interviewees agreed on the benefits of using external expertise for innovation, a certain reluctance was felt when asked whether they were in favor of sharing their in-house innovative practices, expertise and know-how.

As Alpha's sales manager put it: “However, we need to be vigilant about possible drawbacks and make sure that sharing does not harm our company. If these partners are in the same field as us, it's important to check that they won't use the information obtained to compete with our company”.

The interviewees highlight a crucial aspect of sharing innovative internal practices: the potential risk to the company when these practices represent strategic competitive advantages, if a company develops a particularly effective technique, such as a content marketing method that generates exceptional results, disclosing this information could have negative consequences.

By sharing these innovations, the company exposes its secrets and advantages to its competitors, who could then adopt them, thus narrowing the competitive gap.

This risk underlines the importance of discretion when sharing internal innovations. While sharing expertise can offer opportunities for collaboration and mutual learning, it is essential to protect the sensitive information that gives the company a distinct advantage in the market.

Preserving the confidentiality of these strategic practices enables the company to maintain its leadership and competitive advantages, while carefully choosing the areas in which sharing can be beneficial without compromising its position.

Conclusion

This study provides valuable insights into the perception and implementation of open innovation by small and medium-sized enterprises (SMEs) in Morocco, our findings highlight how these SMEs have adeptly navigated their vulnerabilities by embracing open innovation strategies, particularly in the context of the COVID-19 pandemic.

It suggests that SMEs can significantly benefit from open innovation if they strategically manage their internal and external innovation processes, by leveraging external collaborations and cautiously sharing internal innovations, SMEs can enhance their ability to innovate, overcome challenges, and secure long-term growth.

Our paper provides a dual perspective, from a theoretical point of view, it addresses a rare field of study, focusing on open innovation within vulnerable entities such as SMEs, from an empirical standpoint, our research explores the Moroccan context, providing insight into the real challenges facing Moroccan SMEs. This prospective can help Moroccan managers make better informed decisions when it comes to innovation.

However, it should be pointed out that the present study remains limited in scale, as it is primarily an exploratory qualitative study, and its results cannot therefore be generalized. Similarly, our field of study is made up of two heterogeneous SMEs, in terms of sector of activity, size and experience. Finally, the analysis was conducted manually, rather than using qualitative research analysis software.

In view of this, we consider it opportune to broaden the number of case studies, and generalize the results by means of a quantitative study, this exploratory research has raised a number of avenues for further research, and it would therefore be relevant to examine the role of innovation for Moroccan SMEs' resilience in a context of crisis.

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