



The Impact of Open Innovation on Organizational Performance in Tourism Companies

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ABSTRACT

This study explores the relationship between open innovation and organizational performance within the tourism sector. Open innovation involves leveraging external collaborations to enhance creativity, efficiency, and competitive advantage. Utilizing a quantitative methodology, data were gathered from managers of tourism companies in Greater Cairo and Giza, revealing a strong positive impact of inbound open innovation—such as integrating external knowledge and technologies—on organizational performance. However, outbound open innovation, which involves external commercialization of internal innovations, showed no significant influence. The findings underscore the importance of inbound innovation in driving sustainable growth and competitive success in the tourism industry, emphasizing the value of external knowledge adoption over external knowledge sharing.

KEYWORDS

open innovation, organizational performance, tourism industry, innovation, collaboration

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تأثير الابتكار المفتوح على الأداء التنظيمي في شركات السياحة

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الملخص

تبحث هذه الدراسة في تأثير الابتكار المفتوح على الأداء التنظيمي لشركات السياحة . الابتكار المفتوح هو استراتيجية تنظيمية تهدف إلى التعاون مع جهات خارجية لتطوير منتجات وخدمات جديدة. يمكن أن يلعب الابتكار المفتوح دوراً مهماً في تحسين الأداء التنظيمي لشركات السياحة من خلال:

- زيادة الإبداع والابتكار: يساعد الابتكار المفتوح على تبادل الأفكار وتطوير منتجات وخدمات جديدة تلبي احتياجات العملاء.
- تحسين سرعة طرح المنتجات في السوق: يمكن أن يساعد الابتكار المفتوح في تسريع عملية تطوير منتجات وخدمات جديدة، مما يسمح للشركات بالحصول على ميزة تنافسية.
- خفض التكاليف: يمكن أن يساعد الابتكار المفتوح في تقليل تكاليف البحث والتطوير من خلال التعاون مع جهات خارجية.

تظهر النتائج أن الابتكار المفتوح الوارد له تأثير إيجابي قوي على الأداء التنظيمي. وهذا يشير إلى أن الشركات التي تسعى بنشاط إلى اكتساب المعرفة والتقنيات والأفكار الخارجية وتدمجها تميل إلى تجربة نتائج أداء أفضل. يساهم دمج الابتكارات الخارجية في حل المشكلات بشكل أفضل وتطوير المنتجات والكفاءة الشاملة، مما يؤدي إلى نجاح تنظيمي أعلى.

على النقيض من ذلك، لا يظهر الابتكار المفتوح الصادر تأثيراً كبيراً على الأداء التنظيمي في هذه الدراسة. وهذا يعني أن مجرد مشاركة الابتكارات أو التقنيات الداخلية مع أطراف خارجية لا يعزز بشكل مباشر نتائج الأداء في سياق شركات السياحة. في حين أن الابتكار الصادر قد يوفر مزايا استراتيجية في سياقات معينة، إلا أنه لا يبدو أنه يلعب دوراً محورياً في تحسين الأداء التنظيمي ضمن نطاق هذا البحث.

باختصار، يظهر الابتكار المفتوح الوارد كعامل رئيسي في دفع الأداء التنظيمي، في حين لا يساهم الابتكار المفتوح الصادر بشكل كبير في تحسين الأداء. من المرجح أن تشهد الشركات التي تركز على الحصول على المعرفة والتقنيات الخارجية وتبنيها أداءً أفضل، مما يجعل الابتكار المفتوح الوارد عنصراً حاسماً لنجاح المنظمة.

الكلمات الدالة

الابتكار المفتوح، الأداء التنظيمي، صناعة السياحة، الابتكار، التعاون

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Introduction

Over the past ten years, open innovation has become a major issue in research on innovation management, with varying approaches producing varying outcomes. In order to examine how firms implement and structure open innovation, scholarly work in this area mostly uses case studies and practical project analyses (Dodgson et al., 2006). Furthermore, open innovation strategy adoption and its impact on business performance have been extensively evaluated through survey-based research (Laursen & Salter, 2006; Greco et al., 2015).

Within the innovation paradigm, inbound and outbound open innovation are the two primary methods of open innovation that are widely acknowledged. The practice of a business expanding its sources of innovation by working with clients, vendors, rivals, academic institutions, and other outside innovation specialists is known as "inbound open innovation" (Laursen & Salter, 2006). Innovation success is largely dependent on utilizing outside expertise from suppliers and customers, especially in industries like tourism (Mina et al., 2014).

A company's organizational performance, which indicates its ability to carry out plans and accomplish institutional objectives, is directly related to its success (Randeree & Al Youha, 2009). The business model's efficacy, operational efficiency, and the results attained are some of the variables that affect an organization's performance (Boyatzis & Ratti, 2009).

Many studies were done for the explanation of organizational performance. No motivational explanations are provided to explain how open innovation (inbound and outbound) brings about changes in organizational performance.

This is because of the literature on open innovation does not provide an explanation of the process of how open innovation has its profound effects on organizational performance.

The main objective of the study is to find out the relationship between types of innovation and organizational performance; the study will try to achieve the following specific objectives:

Determining the concepts of open innovation, and organizational performance.

To investigate the impact of open innovation on organizational performance in travel agencies.

Literature review

Open innovation (OI) has emerged as a strategic approach to enhance organizational performance. By collaborating with external partners, firms can access new knowledge, technologies, and markets. Inbound OI focuses on acquiring external knowledge, while outbound OI involves commercializing internal knowledge. While some studies suggest a positive link between OI and performance, it is not universally beneficial, as excessive openness can incur costs (Tomal & Jones, 2015). Inbound OI, where firms collaborate with external entities to enhance innovation capabilities, is shown to reduce resource dependence and improve performance. Outbound OI, involving the commercialization of internal innovations, can attract external partners and bolster a firm's market position. Overall, the study highlights the importance of balancing the breadth and depth of openness in OI strategies to optimize financial outcomes (Mohamed et al., 2018).

Open innovation

Open Innovation reflects a new open mindset to carry out innovation, as long as it takes advantage of all the potential collaborators available in the stakeholder system and their will to contribute. This contribution may be driven through crowdsourcing, co-creation, collaborative innovation, etc. but what really matters is that the innovation processes integrate the insights, know-how and creativity from different agents, so as to enrich the innovative concept and make it more suitable for all types of stakeholders to use directly or indirectly once implemented (Lohmann, 2004; Witt et al., 2013).

Open Innovation (OI) is a concept that challenges the traditional model of innovation, where firms solely rely on their internal capabilities to create new products and services. OI encourages firms to look beyond their own borders to collaborate with external partners, such as universities, research institutions, suppliers, and even customers. By doing so, firms can gain access to a broader array of knowledge, technologies, and markets, ultimately enhancing their innovation capacity and accelerating the development of new ideas (Chesbrough, 2003).

The concept of Open Innovation was introduced by Henry Chesbrough in 2003, who argued that the traditional "closed" model of innovation, where a company develops and commercializes its innovations internally, is increasingly inefficient in a world that is rapidly evolving and interconnected. According to Chesbrough, firms must open their innovation processes to external contributors, as this allows them to leverage external knowledge, reducing costs and time-to-market for new innovations (Chesbrough, 2003).

There are two primary types of Open Innovation: inbound innovation and outbound innovation. Inbound OI involves the process of acquiring external knowledge, technologies, or ideas and integrating them into the firm's innovation processes. This could involve various mechanisms such as licensing agreements, technology partnerships, or collaborative research projects. Inbound innovation allows firms to access new technologies and ideas that they may not have the resources or expertise to develop in-house, which can significantly accelerate their R&D efforts (Laursen & Salter, 2006).

On the other hand, outbound OI refers to the commercialization of internal knowledge and technologies that firms may not be able to fully exploit on their own. This can include licensing their patents, creating spin-offs, or forming partnerships with other companies to exploit their innovations in new markets or applications. Through outbound OI, firms can generate revenue from their internal innovations by offering them to external partners, thereby creating new business opportunities (West & Gallagher, 2006).

The benefits of Open Innovation are well-documented in academic literature. One of the key advantages is the ability to access a wider range of external knowledge and expertise, which can enhance the innovation process and lead to better performance outcomes. Studies have shown that firms engaging in open innovation can improve their R&D productivity and reduce the risks associated with innovation by spreading the costs and responsibilities across multiple partners (Laursen & Salter, 2006). Additionally, OI allows companies to tap into emerging markets and technologies more quickly, providing them with a competitive edge (Chesbrough, 2003).

However, while Open Innovation offers many advantages, it is not without its challenges. Excessive openness can expose firms to risks, particularly in terms of intellectual property (IP). Sharing knowledge with external partners can increase the risk of IP theft or leakage, and firms must carefully manage the protection of their proprietary technologies and ideas. Moreover, collaboration with external parties may result in misalignment of goals, inefficient coordination, or cultural differences, which could lead to additional costs and potential conflicts (West & Gallagher, 2006). Firms need to strike a balance between openness and control to fully capitalize on the benefits of OI without compromising their competitive advantage.

Despite these challenges, OI remains a powerful tool for firms looking to innovate more efficiently and effectively. By managing the risks and leveraging external resources and knowledge, firms can increase the likelihood of successful innovation outcomes and long-term performance improvements (Bogers et al., 2010).

Organizational performance

Organizational performance is defined as the extent to which an organization successfully fulfills its strategic objectives and attains its goals. It includes a wide range of dimensions, such as financial performance, market performance, operational efficiency, and the long-term sustainability of the organization. To evaluate performance, organizations rely on various key performance indicators (KPIs), including profitability, growth rates, customer satisfaction, employee engagement, and innovation outcomes (Huselid, 2020). These metrics provide a comprehensive view of how effectively an organization is operating and progressing toward its targets.

A critical factor influencing organizational performance is resource management. The effective utilization of resources—human, financial, and technological—plays a fundamental role in achieving organizational objectives. Firms that align their resources with their strategic goals tend to perform better, as they are able to maximize efficiency and capitalize on their competitive advantages (Barney, 2021). Resource-based theory (RBT) suggests that firms possessing valuable, rare, inimitable, and non-substitutable resources can gain a sustained competitive advantage, which positively impacts their performance (Wernerfelt, 2022).

Leadership and organizational culture are central to performance outcomes. Effective leadership provides clear direction, motivates employees, and fosters a culture of collaboration and innovation, which enhances overall performance (Avolio et al., 2019). Strong organizational culture aligns employees with the company's goals, encourages employee engagement, and facilitates teamwork. Studies have shown that firms with positive cultures are more innovative and resilient, which contributes significantly to long-term performance (Cameron & Quinn, 2020).

Additionally, innovation and adaptability are key drivers of organizational performance in the modern business environment. Companies that foster a culture of innovation and are quick to adapt to changes in the market or technological advancements tend to outperform their competitors (Teece, 2018). In particular, firms that engage in open innovation—leveraging external ideas and resources—are often able to accelerate their innovation processes and improve performance (Chesbrough, 2020).

External factors, such as economic conditions, industry competition, and technological trends, also influence organizational performance. Organizations that continuously monitor their external environment and adjust their strategies accordingly tend to be more successful. The dynamic capabilities framework suggests that firms with the ability to reconfigure their resources and capabilities in response to external changes are more likely to achieve superior performance (Teece, 2020). This ability to adapt quickly and effectively in a rapidly changing environment is a key determinant of success in today's competitive markets.

Finally, sustainability and corporate social responsibility (CSR) have increasingly become important factors affecting organizational performance. Companies that focus on social and environmental impacts, in addition to financial results, are gaining more attention from stakeholders, including consumers, investors, and employees. CSR activities that align with a firm's core values can enhance its reputation, build customer loyalty, and ultimately contribute to better performance (Elkington, 2021).

In conclusion, organizational performance is a multi-dimensional concept that reflects the extent to which an organization achieves its objectives through effective resource utilization, leadership, innovation, and adaptation to external factors. A firm's ability to manage internal and external influences, maintain a strong organizational culture, and engage in sustainable practices can significantly improve its overall performance and competitiveness.

The impact of Open innovation on organizational performance

Open innovation and performance

Across several study streams, the effect of open innovation (OI) on business financial performance has been thoroughly examined. Dahlander and Gann (2010) showed that disproportionate openness may result in unsustainable expenses, and they advocated for strategic alignment between OI practices and a firm's distinctive managerial and operational frameworks in contrast to the prevalent "more openness equals better outcomes" paradigm. The performance benefits of OI, on the other hand, are supported by empirical evidence. Ju et al. (2013) found significant relationships between OI processes, entrepreneurial orientation, and multidimensional performance metrics in SMEs. They found that combined processes primarily drive innovation excellence, outbound processes specifically increase financial returns, and inbound processes improve both financial and innovation outcomes.

From a conceptual standpoint, OI is an innovation paradigm that is distinguished by active knowledge exchange with external ecosystems and organizational permeability (Chesbrough, 2003, 2006). In order to increase innovation potential, the inbound component particularly includes strategic external engagements with academic institutions, industry peers, and value chain partners (suppliers, customers) (Laursen & Salter, 2006). Organizational learning and innovation capability are clearly improved by these knowledge-based partnerships (Zhu et al., 2017). On the other hand, outbound OI aims to generate value from internally developed innovations by monetizing underutilized intellectual assets through strategic commercialization pathways such as licensing agreements, patent sales, and collaborative development initiatives (Chesbrough, 2003, 2011) (West & Bogers, 2010).

In organizational contexts, openness refers to the extent and mode of a company's communication with external stakeholders, taking into account both the quantitative and qualitative aspects of these interactions (Chesbrough, 2003). While depth describes the substantive nature of these collaborations, breadth describes the diversity of collaborative networks in internal open innovation systems (Laursen & Salter, 2006). In the context of external open innovation projects, depth denotes the degree of dedication to these externalization processes, whilst breadth represents the range of market-oriented commercialization channels used (Sisodiya et al., 2013). Openness has generally been operationalized as a monolithic construct in previous scholarly approaches (Lichtenthaler & Ernst, 2007; Faems et al., 2010; Sisodiya et al., 2013). However, a more advanced framework for analyzing internal and external open innovation dynamics is provided by the analytical separation of the breadth and depth dimensions, which makes it possible to delve deeper into each of their operational architectures.

Utilizing a variety of cooperative tactics, including technology transfer, licensing, and spin-off company formation, outbound open innovation entails sharing valuable innovations and patented technologies with other industries or geographical regions for commercial objectives. This can lessen the difficulties and expenses involved in breaking into new markets and increase the reliance of outside organizations on the company's core assets. A firm's reputation and technical leadership within the industry can also be enhanced by the conversion of its technical standards into industry-wide standards, which can be facilitated by the spread of corporate knowledge (Rigby & Zook, 2002; Hu et al., 2015).

With this strategy, businesses can obtain a variety of resources and advantages that support their expansion (Lichtenthaler & Ernst, 2007). The business serves as a supplier of creative resources under this innovation paradigm. A company with a wide degree of openness might participate in a variety of outward innovation projects with partners from different sectors or regions. This can lessen the difficulties and expenses involved in breaking into new markets and increase the reliance of outside organizations on the company's core assets. A firm's reputation and technical leadership within the industry can also be enhanced by the conversion of its technical standards into industry-wide standards, which can be facilitated by the spread of corporate knowledge (Rigby & Zook, 2002; Hu et al., 2015).

Methodology

The detailed process used in the current study is described in this section. The research population, sample selection, pilot study, data gathering methods, and data analysis procedures are all included in the research methodology, which also explains the strategy taken with the data that was gathered. The following theories were examined in order to direct the investigation:

The study aims to test the following hypotheses:

H1. Inbound open innovation has positive impact on organizational performance.

H2. Outbound open innovation has positive impact on organizational performance.

The entire set of cases is referred to as the population, from which a sample is taken. The Egyptian Travel Agents Association (2014) reports that there are 1,539 cases in the population. However, time, money, and data made it impossible to research every

travel agency. Thus, a sample of Cairo's tourism businesses was used for the study. Managers of tourism businesses (Category A) in Great Cairo and Giza make up the population of this study. Managers of tourism businesses (Category A) in Great Cairo and Giza make up the population of this study. Data was gathered for this study using a questionnaire.

200 questionnaires were distributed to managers and department managers of tourism organizations in Egypt in order to gather data for the study. Out of the 200 total sample size, 184 questionnaire forms were sent and successfully collected, yielding a response rate of almost 92%. A straightforward random sampling technique was used to choose the research sample, guaranteeing an impartial and representative selection of participants.

A nine-item scale was used to assess organizational effectiveness (Part A), based on the research of Lashari and Rana (2018) and Lin (2007). This metric evaluated how much Egyptian travel agencies had improved their ability to compete in the travel industry. In particular, Lin's (2007) research served as the basis for the first five categories, which centered on the capacity to transfer knowledge. The study by Lashari and Rana (2018) served as the basis for the final four questions, which were created to capture additional facets of competitive skill.

Open innovation was evaluated in Part B, which explicitly looked at both incoming and outward OI. A four-item scale was used to assess outgoing OI, and a five-item scale was used to measure inbound OI. These elements were modified from earlier studies by Naqshbandi & Jasimuddin (2018), Sisodiya et al. (2013), Sisodiya (2008), and Naqshbandi (2016). Using a Likert scale with 1 denoting "strongly disagree" and 5 denoting "strongly agree," respondents in managerial roles scored each topic.

The purpose of Section C of the survey was to collect demographic data from the participants. Age, marital status, gender, professional experience, level of education, and current job title were all asked about in this section. The demographic questions were positioned near the end of the survey. This placement was intentional because the researcher believed that if such personal questions were asked right away, respondents could be less inclined to finish the study. This study uses Statistical Package for Social Sciences (SPSS) Version (19.0) to analyze the data.

The reliability of the study variables

Cronbach's alpha (α) and composite reliability (CR) were relied upon to measure the stability of the scales used to measure the study variables. The alpha coefficients and composite reliability should be equal to or greater than 0.7 to judge the reliability of the variables and dimensions of the study (Manley et al., 2021; Kock, 2022). It is clear from Table No. (1) that the Cronbach's alpha and CR coefficients rise to greater than 0.7, which indicates the reliability of the variables and dimensions of the study.

Table (1): The results of the reliability for the study variables

| Variable | Composite reliability coefficients (CR) | Cronbach's alpha coefficients (α) |
|----------------------------|---|--|
| Inbound innovation | 0.986 | 0.984 |
| Outbound innovation | 0.972 | 0.964 |
| Organizational performance | 0.975 | 0.962 |

Convergent validity

Convergent validity is one of the measures that is an indicator of the degree of convergence of the statements in the scale that loaded on the study variables and is measured by the average variance extracted (AVE), which must be greater than 0.5 (Hair et al., 2020). As shown in the table no. (2), all average variances for the variables are greater than 0.5, which indicates the convergent validity of all variables of the study.

Table (2): The results of the average variance extracted (AVE)

| Variable | AVE |
|----------------------------|-------|
| Inbound innovation | 0.884 |
| Outbound innovation | 0.874 |
| Organizational performance | 0.930 |

Result and discussion

Table (3) Descriptive Statics of Personal Information

| Gender | Frequency | Percentage |
|-----------------------------|------------|-------------|
| Male | 110 | 59.8% |
| Female | 74 | 40.2% |
| Total | 184 | 100% |
| Age | Frequency | Percentage |
| Less than 30 | 39 | 21.2% |
| 30 to less than 40 | 52 | 28.3% |
| 40 to less than 50 | 45 | 24.5% |
| 50 years and more | 48 | 26.1% |
| Total | 184 | 100% |
| Marital Status | Frequency | Percentage |
| Single | 27 | 14.7% |
| Married | 130 | 70.7% |
| Other | 27 | 14.7% |
| Total | 184 | 100% |
| Educational Level | Frequency | Percentage |
| High School | 11 | 6% |
| Bachelor | 140 | 76.1% |
| Postgraduate studies | 33 | 17.9% |
| Total | 184 | 100% |
| Position | Frequency | Percentage |
| General manager | 34 | 18.5% |
| Sales and Marketing Manager | 22 | 12% |
| Operation Manager | 44 | 23.9% |
| Reservation Manager | 19 | 10.3% |
| Human Resources Manager | 31 | 16.8% |
| Financial Manager | 25 | 13.6% |
| Other | 9 | 4.9% |
| Total | 184 | 100% |
| Work Experience | Frequency | Percentage |

| | | |
|-----------------------------|------------|-------------|
| Less than 1 year | 15 | 8.2% |
| From 1 to less than 3 years | 41 | 22.3% |
| From 3 to less than 6 years | 54 | 29.3% |
| 6 years and more | 74 | 40.2% |
| Total | 184 | 100% |

The results of descriptive analysis of demographic variables of respondents of the study sample tabulated in table (3) were as follows:

Gender: It could be noticed that, the majority of the respondents were males and occupy the highest percentage of the sample.

Age: As indicated in table (3) the majority of managers came between 30 to less than 40 years with a percentage of 28.3% and 26.1% ranging from 50 years and more. Then, the proportion of managers among 40 and less than 50 years old was 24.5%, while 21.2% of the managers came under 30 years.

Marital Status: The obtained findings noticed that both single and married managers work in deferent departments in the tourism company. Regarding the marital status, the majority of managers were married by 70.7%, followed by single with a percentage of 14.7%. The percentage of others reached also 14.7%.

Education Level: The obtained results are illustrated in Table (3). For education, most of the managers have a bachelor's degree by 76.1%, followed by a post graduate with a percentage of 17.9%. On another side, the percentage of managers with a high school was 6 %.

Organizational Performance Constructs

Table No. (4) Shows the descriptive statistical data of the respondents' attitudes towards Organizational performance. This part was measured by 9 items.

Table (4): Descriptive statistics for Organizational performance

| Items | | | Frequencies* | | | | | Mean | SD |
|-------|---|-------|-------------------|----------|---------|-------|----------------|------|-------|
| | | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | | |
| 1 | The company offers high quality services. | Freq. | 12 | 37 | 27 | 59 | 49 | 3.52 | 1.259 |
| | | % | 6.5 | 20.1 | 14.7 | 32.1 | 26.6 | | |
| 2 | The company offers affordable and quality services. | Freq. | 15 | 27 | 35 | 61 | 46 | 3.52 | 1.241 |
| | | % | 8.2 | 14.7 | 19 | 32.2 | 25 | | |
| 3 | The business offers quick quality services. | Freq. | 14 | 32 | 29 | 59 | 50 | 3.54 | 1.267 |
| | | % | 7.6 | 17.4 | 15.8 | 32.1 | 27.2 | | |
| 4 | The company does well in enhancing the efficiency of services provided. | Freq. | 10 | 32 | 36 | 55 | 51 | 3.57 | 1.217 |
| | | % | 5.4 | 17.4 | 19.6 | 29.9 | 27.7 | | |
| 5 | The organization | Freq. | 10 | 32 | 33 | 65 | 44 | 3.55 | 1.186 |

| | | | | | | | | | |
|----------------------------|---|-------|------|------|------|------|------|------|-------|
| | readily adapts to unexpected changes | % | 5.4 | 17.4 | 17.9 | 35.3 | 23.9 | | |
| 6 | Through procedures that are created to supply the appropriate skills and capacities, the organization assures compliance with client needs. | Freq. | 10 | 38 | 37 | 57 | 42 | 3.45 | 1.205 |
| | | % | 5.4 | 20.7 | 20.1 | 31 | 22.8 | | |
| 7 | The company is able to take advantage of new service opportunities. | Freq. | 13 | 33 | 39 | 56 | 43 | 3.45 | 1.227 |
| | | % | 7.1 | 17.9 | 21.2 | 30.4 | 23.4 | | |
| 8 | The business may compete in the current market. | Freq. | 14 | 29 | 40 | 53 | 48 | 3.50 | 1.246 |
| | | % | 7.6 | 15.8 | 21.7 | 28.8 | 26.1 | | |
| 9 | The company is regarded as prosperous in the market. | Freq. | 20 | 26 | 36 | 54 | 48 | 3.46 | 1.309 |
| | | % | 10.9 | 14.1 | 19.6 | 29.3 | 26.1 | | |
| Organizational performance | | | | | | | | 3.50 | 1.16 |

According to Table (4), the total mean for Organizational performance items is 3.50 (SD = 1.16) which is located in the agreeing level. This indicates that respondents agree on that their travel agencies adopting Organizational performance.

Open Innovation Constructs

Table (5): Descriptive statistics for Open innovation

| Items | | | Frequencies* | | | | | Mean | SD |
|--------------------------------|--|-------|-------------------|----------|---------|-------|----------------|-------------|--------------|
| | | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | | |
| Inbound Open innovation | | | | | | | | 3.49 | 1.163 |
| 1 | My company continuously searches the outside environment for inputs such as information, knowledge, ideas, and technology. | Freq. | 17 | 31 | 37 | 51 | 48 | 3.45 | 1.292 |
| | | % | 9.2 | 16.8 | 20.1 | 27.7 | 26.1 | | |
| 2 | When creating new products, my company actively | Freq. | 16 | 28 | 39 | 63 | 38 | 3.43 | 1.222 |
| | | % | 8.7 | 15.2 | 21.2 | 34.2 | 20.7 | | |

| | | | | | | | | | |
|--------------------------|---|--------|------|------|------|------|------|------|-------|
| | seeks information and technology from outside sources (such as research organizations, universities, suppliers, clients, rivals, etc.). | | | | | | | | |
| 3 | My company thinks it's beneficial to employ outside resources to supplement its own R&D, such as research organizations, universities, suppliers, customers, and competitors. | Freq . | 18 | 25 | 38 | 56 | 47 | 3.48 | 1.276 |
| | | % | 9.8 | 13.6 | 20.7 | 30.4 | 25.5 | | |
| 4 | My company frequently uses technology and information created outside of our organization in conjunction with our own research and development. | Freq . | 12 | 33 | 29 | 65 | 45 | 3.53 | 1.223 |
| | | % | 6.5 | 17.9 | 15.8 | 35.3 | 24.5 | | |
| 5 | My company looks for technology and patents from other businesses, research institutions, or academic institutions. | Freq . | 11 | 30 | 34 | 61 | 48 | 3.57 | 1.208 |
| | | % | 6 | 16.3 | 18.5 | 33.2 | 26.1 | | |
| Outbound Open innovation | | | | | | | | 2.75 | .866 |
| 6 | In my company, all technologies are often sold to outside companies for external commercialization. | Freq . | 12 | 36 | 27 | 64 | 45 | 3.51 | 1.237 |
| | | % | 6.5 | 19.6 | 14.7 | 34.8 | 24.5 | | |
| 7 | In my company, commercialization of foreign technologies is only permitted for reverse-coded technologies that are not employed internally. | Freq . | 73 | 47 | 5 | 7 | 52 | 2.55 | 1.682 |
| | | % | 39.7 | 25.5 | 2.7 | 3.8 | 28.3 | | |

| | | | | | | | | | |
|-----------------|---|--------|------|------|-----|------|------|------|-----------|
| 8 | In my company, commercialization of external technologies is only allowed for relatively established and tested technologies (reverse coded). | Freq . | 46 | 71 | 9 | 5 | 53 | 2.72 | 1.58 1 |
| | | % | 25 | 38.6 | 4.9 | 2.7 | 28.8 | | |
| 9 | In my company, commercialization of outside technology is only allowed for non-core technologies (reverse coded). | Freq . | 82 | 35 | 9 | 56 | 2 | 2.24 | 1.32 6 |
| | | % | 44.4 | 19 | 4.9 | 30.4 | 1.1 | | |
| Open innovation | | | | | | | | 3.12 | 0.36 9 |

* 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.

In Table (5), the results show that the majority of participants in the study agreed with several statements regarding inbound innovation in their companies. For example, 26.1% of respondents strongly agreed with the statement, "My company continuously searches the outside environment for inputs such as information, knowledge, ideas, and technology," while 27.7% agreed with it. The mean value was 3.45 (SD = 1.29), indicating general agreement among the respondents.

Regarding the statement, "When creating new goods, my company actively seeks information and technology from external sources such as research organizations, universities, suppliers, clients, competitors, etc.," 54.9% of respondents accepted the statement, with a mean value of 3.43 (SD = 1.22), suggesting agreement among most participants.

Similarly, participants agreed with the statement, "My company thinks it's beneficial to employ outside resources to supplement its own R&D, such as research organizations, universities, suppliers, customers, and competitors." 55.9% of respondents agreed, with a mean value of 3.48 (SD = 1.27).

When it comes to outbound innovation, the responses were more varied. For example, regarding the statement, "In my company, all technologies are often sold to outside companies for external commercialization," 59.3% of participants agreed, with a mean of 3.51 (SD = 1.23). However, for the statement, "In my company, commercialization of foreign technologies is only permitted for reverse-coded technologies that are not employed internally," 65.2% disagreed, with a mean of 2.55 (SD = 1.68), indicating a general lack of agreement.

The results also showed no statistically significant differences based on experience, education, or position concerning knowledge-oriented leadership, inbound innovation, outbound innovation, and sustainable performance. The Kruskal-Wallis test was used to examine these differences, and the P-values were all greater than 0.05, indicating no differences in attitudes based on these variables.

Table (6): Kruskal-Wallis test for the difference among respondents based on Experience towards study variables

| Variables | Experience | N | Mean Rank | Chi-Square | Sig. |
|-----------------------------------|---------------------|----|-----------|------------|-------|
| Organizational Performance | Less than 1 years | 15 | 90.97 | 0.602 | 0.896 |
| | 1- less 3 years | 41 | 95.96 | | |
| | 3-less than 6 years | 54 | 88.19 | | |
| | 6 years and more | 74 | 94.03 | | |
| Inbound Open Innovation | Less than 1 years | 15 | 99.37 | 1.155 | 0.764 |
| | 1- less 3 years | 41 | 98.26 | | |
| | 3-less than 6 years | 54 | 88.09 | | |
| | 6 years and more | 74 | 91.14 | | |
| Outbound Open Innovation | Less than 1 years | 15 | 74.80 | 4.492 | 0.213 |
| | 1- less 3 years | 41 | 82.52 | | |
| | 3-less than 6 years | 54 | 100.07 | | |
| | 6 years and more | 74 | 94.88 | | |

As shown in Table (6), the P -values are more than 0.05. This means that there aren't differences among travel agencies employees based on education towards inbound innovation (P -value= 0.760), outbound innovation (P -value= 0.213), and organizational performance (P -value= 0.212).

Table (7): Kruskal-Wallis test for the difference among respondents based on Education towards study variables

| Variables | Education | N | Mean Rank | Chi-Square | Sig. |
|-----------------------------------|-----------------|-----|-----------|------------|------|
| Organizational Performance | High School | 11 | 104.82 | .661 | .718 |
| | Bachelor degree | 140 | 91.36 | | |
| | Postgraduate | 33 | 93.24 | | |
| Inbound Open Innovation | High School | 11 | 103.64 | .548 | .760 |
| | Bachelor degree | 140 | 91.44 | | |
| | Postgraduate | 33 | 93.29 | | |
| Outbound Open Innovation | High School | 11 | 89.27 | 3.106 | .212 |
| | Bachelor degree | 140 | 95.58 | | |
| | Postgraduate | 33 | 77.85 | | |

As shown in Table (7), the P -values are more than 0.05. This means that there aren't differences among travel agencies employees based on position towards inbound innovation (P -value= 0.610), outbound innovation (P -value= 0.551), and organizational performance (P -value= 0.567).

Table (7): Kruskal-Wallis test for the difference among respondents based on Position towards study variables

| Variables | Position | N | Mean Rank | Chi-Square | Sig. |
|-----------------------------------|-----------------------------|----|-----------|------------|-------|
| Organizational Performance | General manager | 34 | 95.10 | 4.818 | 0.567 |
| | Sales and marketing manager | 22 | 85.14 | | |
| | Operation manager | 44 | 103.95 | | |
| | Reservation Manager | 19 | 95.58 | | |

| | | | | | |
|---------------------------------|-----------------------------|----|--------|-------|-------|
| | Human Resources Manager | 31 | 90.26 | | |
| | Financial Manager | 25 | 77.04 | | |
| | Other | 9 | 88.83 | | |
| Inbound Open Innovation | General manager | 34 | 99.82 | 4.495 | 0.610 |
| | Sales and marketing manager | 22 | 83.45 | | |
| | Operation manager | 44 | 101.05 | | |
| | Reservation Manager | 19 | 96.42 | | |
| | Human Resources Manager | 31 | 89.82 | | |
| | Financial Manager | 25 | 78.84 | | |
| | Other | 9 | 84.06 | | |
| Outbound Open Innovation | General manager | 34 | 92.63 | 4.945 | 0.551 |
| | Sales and marketing manager | 22 | 109.61 | | |
| | Operation manager | 44 | 83.52 | | |
| | Reservation Manager | 19 | 84.39 | | |
| | Human Resources Manager | 31 | 89.18 | | |
| | Financial Manager | 25 | 101.04 | | |
| | Other | 9 | 87.72 | | |

As shown in Table (7), the *P*-values are more than 0.05. This means that there aren't differences among travel agencies employees based on Position towards inbound innovation (*P*-value= 0.610), outbound innovation (*P*-value= 0.551), and organizational performance (*P*-value= 0.567).

Discriminant validity

Discriminant validity shows the extent to which the statements that measure each dimension of the study differ from other variables and are measured by the square root of the average variance extracted (AVE). The square root of the AVE for each dimension must be greater than its correlation with the other dimensions (Fornell & Larcker, 1981). Table No. (8) show that the square root of the AVE is greater than the correlations with the other dimensions, which indicates the presence of discriminant validity and high consistency for the study scale.

Table (8): Discriminant validity assessment

| No. | Variable | 1 | 2 | 3 | 4 |
|-----|----------------------------|--------|---------|---------|---------|
| 1 | Inbound innovation | 0.965 | (0.940) | | |
| 2 | Outbound innovation | 0.962 | 0.964 | (0.935) | |
| 3 | Organizational performance | -0.871 | -0.864 | -0.855 | (0.964) |

Measurement Model Fit

The process of model fit is considered one of the important factors in building the structural equation model (SEM) because it identifies the extent to which the theoretical model of the study fits the field results. 11 indicators were taken into account, as shown in Table No. (9). The model is based on these indicators according to the acceptance criteria shown in the table (Kock, 2022). The results show the fit of the model.

Table (9): The results of the measurement model fit

| Indices | Test result | The criteria | Accepted/ Not Accepted |
|--|--------------------|--|------------------------|
| Average path coefficient (APC) | 0.571, $P < 0.001$ | $P < 0.05$ | Accepted |
| Average R-squared (ARS) | 0.899, $P < 0.001$ | $P < 0.05$ | Accepted |
| Average adjusted R-squared (AARS) | 0.898, $P < 0.001$ | $P < 0.05$ | Accepted |
| Sympson's paradox ratio (SPR) | 1.000 | acceptable if ≥ 0.7 , ideally = 1 | Accepted |
| R-squared contribution ratio (RSCR) | 1.000 | acceptable if ≥ 0.9 , ideally = 1 | Accepted |
| Statistical suppression ratio (SSR) | 1.000 | acceptable if ≥ 0.7 | Accepted |
| Nonlinear bivariate causality direction ratio (NLBCDR) | 1.000 | acceptable if ≥ 0.7 | Accepted |
| Standardized root mean squared residual (SRMR) | 0.055 | acceptable if ≤ 0.1 | Accepted |
| Standardized mean absolute residual (SMAR) | 0.040 | acceptable if ≤ 0.1 | Accepted |
| Standardized threshold difference count ratio (STDCR) | 0.992 | acceptable if ≥ 0.7 , ideally = 1 | Accepted |
| Standardized threshold difference sum ratio (STDSR) | 0.952 | acceptable if ≥ 0.7 , ideally = 1 | Accepted |

Hypotheses tests

The Structural Equation Modeling (SEM) was analyzed using the WarpPLS V.8 program to prove the study hypotheses. The results of the hypotheses tests were as follows:

H1: Inbound open innovation has positive impact on organizational performance.

The findings show that there is a positive relationship between inbound open innovation and organizational performance, where the significance value was less than 0.01 and the path coefficient was 0.48. This means that inbound open innovation in travel agencies lead to increase organizational performance. In addition to, inbound open innovation explained 95% of the variance in organizational performance ($R^2 = 0.95$) Therefore, H1 was supported.

H2: Outbound open innovation has positive impact on organizational performance.

The results show that there is no relationship between knowledge-oriented leadership and outbound open innovation, where the significance value was than 0.27 and the path coefficient was -0.04. This means that outbound open innovation in travel agencies do not make any difference in organizational performance. Hence, H2 was not supported.

Table (10): Findings of the hypotheses tests

| Hypotheses | Outcome |
|--|----------------------|
| H1: Inbound open innovation has positive impact on organizational performance. | Supported |
| H2: Outbound open innovation has positive impact on organizational performance. | Not Supported |

Conclusion and Recommendations

This study highlights the significant relationship between **open innovation** and **organizational performance** in tourism companies. The findings show that **inbound open innovation** has a strong positive effect on organizational performance. This suggests that companies that actively seek and incorporate external knowledge, technologies, and ideas tend to experience improved performance outcomes. The integration of external innovations contributes to better problem-solving, product development, and overall efficiency, leading to higher organizational success.

In contrast, **outbound open innovation** does not show a significant impact on organizational performance in this study. This implies that simply sharing internal innovations or technologies with external parties does not directly enhance performance outcomes in the context of tourism companies. While outbound innovation may provide strategic advantages in certain contexts, it does not appear to play a pivotal role in improving organizational performance within the scope of this research.

In summary, **inbound open innovation** emerges as a key factor in driving organizational performance, whereas **outbound open innovation** does not significantly contribute to performance improvements. Companies focusing on sourcing and adopting external knowledge and technologies are more likely to see better performance, making inbound open innovation a crucial element for organizational success.

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