# The relationship between perceived innovation support and its outputs in Egyptian five-star hotels: the mediation role of employee innovative work behavior

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## Abstract

This study seeks to explore the relationship between perceived innovation support (PIS) from employees' perspectives and innovation outputs (IO) in five-star hotels in Greater Cairo in Egypt. Furthermore, this study also endeavors to identify the mediating role of employees' innovative work behavior (IWB). Self-administered questionnaire forms were distributed to 700 employees in 30 five-star hotels. Total forms 577 were received representing a response rate of 82.42 %. There were 157 forms not valid hence, they were excluded. So, 420 forms were valid for further analysis. Data were analyzed using the partial least square (PLS.3) technique. The findings of this study inferred a positive relationship between PIS and IO. In addition, the findings also indicate that employees' IWB is considered a partial mediator factor in the relationship between PIS and IO. Finally, the findings have profound important implications. The study recommended that the hotel management should enhance the individual interests of the employees and their creative abilities through the development of some administrative and organizational strategies that aim to encourage employees to generate and develop new ideas and achieve the desired results by allocating the necessary resources e.g., appropriate budget, sufficient time, advice and accurate sharing of information as well as appropriate rewards and incentive link to performance. The study also recommends that hotel management establish an innovation sponsorship committee to which employees with new ideas can apply to obtain specific budgets for building prototypes, conducting market research, or other processes necessary to develop and implement these new ideas.

*Keywords*: Innovation support; innovation outputs; innovative work behavior.

## Introduction

Every sector and everyone who lives and works throughout the world has been affected by the Covid-19 pandemic (Yacoub & ElHajjar, 2021). 70% of hotel employees have been temporarily laid off or vacationed around the world due to the low occupancy rate (Alsetoohy et al., 2021). Furthermore, due to increased competition for products and services in many markets, as well as new trends such as globalization, technological change, and digitalization in the current unpredictable environment, various industries have seen dramatic changes in their product and service offerings, as well as operational activities (Boucher et al., 2019; Aguilar, 2019). As a result, organizations have faced several obstacles and hurdles in gaining a competitive advantage (Jia et al., 2018; Le & lei, 2018). Accordingly, efficiency and productivity are no longer the sole foci of organizational attention (Rouse, 2013).

One of the primary drivers of business growth and improving competition is innovation. An organization's longevity is determined by its ability to innovate successfully (Ahlstrom, 2010). Furthermore, adapting the organization to environmental changes is a requirement for survival. Firms' innovation is heavily reliant on the abilities of their employees. This means that, at the individual level, it is critical to study the (IWB) to understand how to improve IO within organizations (Contreras et al., 2017).

Although innovation is a key strategic instrument in hotel management for preventing the obsolescence of the service portfolio and organizational processes, it is not necessarily associated with desirable outcomes. As putting innovations into practice is the difficult work of executing a new idea (Enz & Way, 2016). To avoid the consequences of new service failure in terms of human, financial, and time resources, as well as any potential damage to the hotel's brand image and guest loyalty, hotels must innovate successfully (Santos-Vijande et al., 2018; Pascual-Fernández et al., 2020).

The key issue for hotels now is how to drive their employees to create and generate new ideas, as well as how to set the environment for their employees to put such ideas into action (Rady, 2010). To improve service quality and maintain sustainable growth, hotels have begun to explore novel ways to attract and retain their guests by encouraging their employees to come up with creative and new ideas related to hospitality products, services, and processes (Wang et al., 2014). Innovative employees engage in complex and non-trivial tasks that need persistence and creativity in addition to their regular tasks (Bammens, 2016), and they face barriers to their IWB such as lack of innovation support e.g., a lack of time, knowledge, budget, advice and cooperation from other firm members (such as supervisors and experts from other departments), and energy (Anderson et al., 2014). Moreover, clarifying what motivates them to exhibit IWB is required, to establish managerial strategies such as innovation support programs to enhance such IWB and outputs (Eid & Agag, 2020). Although the value of innovation in the hospitality industry is widely recognized, few empirical studies have investigated employees' creativity and IWB in these organizations (Hon & Lui, 2016; Teng et al., 2020). This represents a gap that needs to be tackled. According to the social exchange theory, the hotel work environment must be regulated to support innovation for employees' IWB, which results in useful IO (De Souza Meira & Hancer, 2021). Thus, the purpose of this study is to address employees' perception of support for innovation whether managerial, organizational, or cultural as a potentially important factor that may affect and improve IO in the hospitality industry. Furthermore, it seeks to identify the IWB's mediation role in fostering this relationship.

**Literature Review**
**Perceived innovation support (PIS)**
Perceived innovation support (PIS) is defined as organization members' perceived assessment of organizational climate as supportive of innovation (Scott & Bruce, 1994), A supportive environment for innovation is one where staff realizes that "the environment within which they work encourages, recognizes, respects and rewards those who exhibit creativity" (Shalley et al., 2009, p. 492). PIS focus on the individual's subjective assessment of specific situations in innovation (Lee & Jang, 2012). People working in a creativity-supportive environment are oriented toward and supported in developing useful ideas for innovation and contribute to innovation performance (Dul & Ceylan, 2014; Tamayo-Torres et al., 2016; Segarra-Ciprés et al., 2019). In other meaning, PIS refers to the extent to which an organization assists its employees to be creative, flexible, and open to change. Lukes & Stephan (2017) divided PIS into three dimensions: cultural, organizational, and managerial. They studied the effect of cultural support on organizational support and the effect of organizational support including managerial support on employees' IWB (Sönmez et al., 2019). While Liu et al. (2019) stated that PIS includes coworker support, supervisory support, and organizational support. They considered the term PIS also to refer to innovation climate. Climate is often described as employees' experience and perception of the organization. Climate is "reflected in peoples' perceptions of, or beliefs about, environmental

attributes shaping expectations about outcomes, contingencies, requirements, and interactions in the work environment". Climate is treated as an individual construct that reflects an orientation based on personal values (i.e., climate perception) (Shanker et al., 2017). Crossan & Apaydin (2010) reported that the more employees received support for creativity from supervisors and coworkers, the better creative performance was. Hence, IWB will benefit from being explicitly legitimized by innovation-supportive managers, organizations, and national culture.

## Managerial support (MS)

Managerial support (MS) can be described as a perception that an employee's supervisor is supportive of new and innovative ideas (Oldham & Cummings, 1996). Concerning the role of managers, past research has explored the effects of a range of different leadership styles on IWB (Hammond et al., 2011; Rosing et al., 2011). One aspect that receives consistent support is leader/ manager support for employee innovation (Lukes & Stephan, 2017). Managers are responsible for utilizing the energy of individuals (Riaz et al., 2018). Leaders at work provide not only major resources and support but also behavioral modeling to their subordinates. Likewise, any leader behaviors that promote and support innovation (e.g., leaders' networking for innovation) are likely to contribute to building an overall climate of PIS (Chung et al., 2020). Organizations should encourage more interdepartmental communication among employees from different teams and arrange seminars and visits to other branches which can increase the social circle and benefit employees as a source of fresh energy and new things to learn. This can make a change in their routine work and most importantly promote innovation (Riaz et al., 2018).

## Organizational support (OS)

Organizational support (OS) can be defined as the employees' general perceptions concerning organizations' readiness to value their contributions and care about their wellbeing (Kim & Choi, 2020). Employees develop global beliefs about their organization based on what degree to which their efforts are appreciated by their organization and take their welfare seriously (Ashmel, 2021). This includes the organization making resources available for the implementation of new ideas and the encouragement of innovation including top management support and the use of rewards (Shanker et al., 2017). From the employees' perspective, the perception of OS for innovation is important and encourages them to engage in IWB (Lukes & Stephan, 2017). Moreover, Yu et al. (2018) stated that organizational support as a perceptive construct can allow organizations to achieve desired outcomes by providing a meaningful environment. Some researchers have also discovered the positive effect of perceived OS for innovation on employee IWB (Gu et al., 2014; Wen, 2020).

An organization's strategy, structures, support mechanisms, and behaviors that encourage innovation (i.e., Organizational support for innovation) will either enhance or hinder creativity and innovation in the organization. Innovation requires significant investment in time and resources, as well as creating risk for the organization. The innovation-performance relationship is context-dependent and variables such as the age of the firm, the type of innovations being implemented, and the cultural context play a role in influencing the innovation-performance relationship (Duran et al., 2016). Fostering an innovation orientation in the firm encompasses embracing ambitious goals, allocating resources in areas to create more value, challenging firm culture, and effective risk-taking (Lee et al., 2019). So, organizations should realize the importance of organizational factors' impact on employees' behavior; organizations could select the most energized and opportunity-seeking employees to assign them to projects involving innovative ideas, and provide

support to them in the form of autonomy, power, information, and rewards, and promote them as an inspiration for other workers to motivate them (Munir & Beh, 2019).

### Cultural support (CS)

Related research at the country level confirms a relationship of culture with innovation and entrepreneurship (Stephan & Uhlaner, 2010). National culture is assumed to influence organizational culture since organizations are embedded in national cultures (e.g., Schneider et al., 2013). Employees' ability to understand, interpret, and respond to work atmosphere and management actions such as support programs is heavily influenced by national culture and its values. As a result, national culture influences employees' IWB in either a positive or negative way (Engelen et al., 2018).

### Innovation outputs (IO)

It is observed that IO has been inconsistently defined in the literature and sometimes is confounded with implementation activities (De Jong & Den Hartog, 2010). Lukes & Stephan (2017) defined IO as the reports of achieved changes, i.e., implemented novel ideas, changed or new products, services, or processes in an organization. Ahmetoglu et al. (2018) identified IO as the extent to which an individual has produced or is currently engaging in the innovation process. They used this term to refer to different types of innovation e.g., corporate innovation and technological innovation. IO is defined as the results achieved from innovation activities by measuring areas of performance that are important for organizational success, in this case, the success of innovation work is determined by the widespread acceptance of such innovations by the guests, as well as the ability of the organization to the sale of innovative ideas to customers (Blind et al., 2017; Smith & Webster, 2018). Five categories of tourism innovation were identified by Hjalager (2010): 1) Product or service innovations such as changes that guests can see, with "new" referring to either never-before-seen or simply new to the particular enterprise or destination; these products and services are beneficial to tourists to the point where they may decide to buy them solely because they are new); 2) Process improvements includes usually behind-the-scenes actions aimed at improving efficiency and productivity; technological expenditures are required for such improvements; 3) Management innovations such as novel ways of organizing corporate operations, empowering people, paying excellent work with monetary or non-monetary advantages, and enhancing workplace pleasure; strategies to retain staff are very valuable in the hospitality industry, which is highly labor-sensitive. 4) Marketing innovations, such as loyalty programs and brand co-production; and 5) Institutional innovations, such as clusters, networks, and alliances, are new kinds of collaborative/organizational structures.

### Innovative work behavior (IWB)

IWB was picked up and used in many different studies since the launch of the concept by Scott & Bruce (1994). Janssen (2000, p. 288) defined IWB as the intentional creation, introduction, and application of new ideas within a work role, group, or organization, to benefit role performance, the group, or the organization. IWB is a form of innovation at the individual level that is a key factor to gain a competitive advantage. Employees need to have the ability to work outside of routine activities e.g., finding new technology, implementing new work methods, and conducting investigations to implement new ideas. So, IWB is not only an individual intention to generate new ideas, but also introducing and applying these ideas efficiently and effectively to solve any problem (De Jong & Den Hartog, 2010). De Jong & Den Hartog (2010) developed a model to

review and measure employee innovation behaviors which consisted of four dimensions (i.e., idea generation, idea exploration, idea champion, and idea implementation). Later, Lukes & Stephan (2017) modified the previous model and added other dimensions to provide a six-dimensional model (i.e., idea generation, idea search, idea communication, implementation of starting activities, involving others, and overcoming obstacles).

**Conceptual framework**
Concerning the relationship between PIS in an organization and employee's IWB, previous studies e.g., Oldham & Cummings (1996) found a significant correlation between supportive supervision and the number of patent disclosures employees wrote over two years. Frese et al. (1999) provided evidence to support the positive relationship between supervisor support and making suggestions in companies. Crossan & Apaydin, (2010) reported that the more employees perceived support for creativity from supervisors and coworkers, the better creative performance was. More specifically, Hsu & Fan (2010) and Schneider et al. (2013) have consistently indicated that PIS in an organization facilitates an employee's IWB. Hülsheger et al. (2009) also found that PIS was positively associated with IWB. Lukes & Stephan (2017) revealed that employees' IWB is also influenced by the perceived work environment and support. They extend the contextual drivers to include perceived cultural support for innovation. Specifically, cultural norms influence organizational cultural support towards innovation, which in turn shapes how supportive leaders and managers affect employees' IWB. Hence, PIS is one of the booster predictors of positive outcomes (Yildiz & Yildiz, 2015; Yildiz et al., 2017). In other words, organizations that support innovation must develop and maintain an innovative climate where members feel secure and free to experiment with new ideas and where diversity of thought and opinion is valued. Thus, an innovative climate encourages employees to engage in innovative activities. Furthermore, employees working in an innovative environment are more willing to take the risk and are encouraged to think freely and exchange their opinions and ideas openly. It follows that the perception of an innovative climate is more likely to exert IWB (Liu et al., 2019).

Wen (2020) concluded that perceived organizational support for innovation has a significant positive correlation to employees' IWB, as employees are motivated to engage in creative activities when they perceive factors of PIS from the organization. According to social information processing theory, "individuals as adaptive organisms adapt attitudes, behavior, and beliefs to their social context". (Salancik & Pfeffer, 1978, p. 226). Thus, information cues from the surrounding environment, such as values, norms, and expectations, can influence perceptions, attitudes, and behaviors. Hence, the climate for innovation, i.e., PIS is regarded as an important source of information that affects employees' IWB (Liu et al., 2020). Prior research has indicated that culture has an impact on employees' IWB (e.g., Hohenberg & Homburg, 2016). According to the fit theory, creating IWB is a complicated function in which national culture plays a critical role in managers' capacities to establish corporate support programs to stimulate IWB in their employees (Engelen et al., 2018). Sönmez et al., (2019) adapted a scale for the IWB and innovation support for Turkish nurses and investigated the relationship between nurses' PIS, IWB, and IO. They revealed that the IWB of the nurses was found to have a significantly high impact on IO. They also found that managerial support has a proximal effect on the nurses' IWB. They mentioned that to achieve IO, nurses' IWB should be increased. They also concluded that nurses' IWB was most affected by managerial support, but cultural support had an indirect impact on IWB by affecting organizational support and managerial support, respectively.
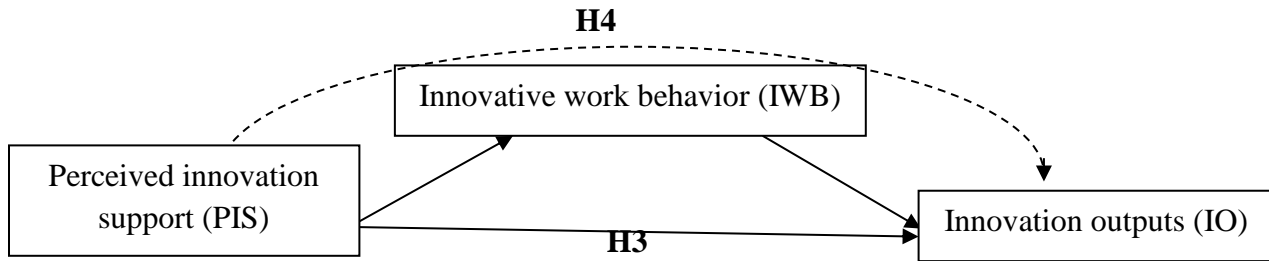
Emiralioğlu & Sönmez, (2021) investigated the relationship between the nursing work environment and PIS with nurses' IWB and IO. They concluded that PIS at the managerial, organizational and cultural levels was an important factor in creating nurses' IWB and IO. Furthermore, they also revealed that nurses' IO was influenced by their IWB and that IWB is the most major antecedent of nurses' IO. Accordingly, as shown in Figure1 we can suppose that:

**H1:** There is a relationship between PIS and IWB.

**H2:** There is a relationship between IWB and IO.

**H3:** There is a relationship between PIS and IO.

**H4**: IWB mediates the relationship between PIS and IO.

**H4**

Innovative work behavior (IWB)

Perceived innovation support (PIS)

**H3**

Innovation outputs (IO)

**Figure (1): Conceptual framework of the study**

**Research Methodology**
**Sampling and Data Collection**
23500 employees are working in 30 five-star hotels in Greater Cairo, they represent the population for this study. These categories of hotels (i.e., five-star hotels) are more likely to be engaged in innovative activities and investment in their human capital than other categories of hotels (Alzyoud, 2019). Moreover, Greater Cairo was chosen as a geographic area for investigation in this study as it is the largest region in Egypt. Furthermore, it is accessible which may save time, and money and facilitate data collection. To calculate the sample size, the Steven K. Thompson equation has been used as follows (Thompson, 2012, p.59). Accordingly, the minimum number of respondents should be 377. A simple random sample was used in this study. Self-report questionnaire forms were distributed to 700 employees in the selected sample to ensure an adequate number of correct questionnaires. A well-planned questionnaire is capable of generating effective and accurate data (Taherdoost, 2016). Forms were distributed among three categories of respondents; managers, supervisors, and workers or technicians, and they were asked to self-report their perceptions and behaviors related to the study topic. Data were collected during August and December 2021. The research methodology was quantitative. Total forms 577 were received representing a response rate of 82.42 %. There were 157 forms not valid (e.g., not completed, or had duplicated answers to the same question), thus, they were excluded. So, 420 forms were valid for further analysis.

**Measures**
Questionnaire forms consisted of four main parts to facilitate the data analysis process. *The first section* contained eight items about the demographics of the respondents and other work-related information. *The second section* was about the PIS at the managerial, organizational and cultural levels, this section was measured by twelve items representing three dimensions of innovation support. *The third section* measured the employees' level of IWB; it included nineteen items

representing six dimensions of IWB. *The fourth section* investigated the IO and was measured by three items. All scales used here were developed by Lukes & Stephan (2017). All participants responded to the validated survey items on a six-point Likert scale (1 = strongly disagree to 6 = strongly agree).

**Data Analysis**
**Demographics of Respondents**
This section was valuable in gaining a better understanding of the respondents' backgrounds. The demographic profile of the study's participants is shown in table (1).

**Table 1: Sample profile**

| Items | | Freq. | % |
|---|---|---|---|
| Gender | Male | 313 | 74.5 |
| | Female | 107 | 25.5 |
| Age | less than 30 years | 144 | 34.3 |
| | 30 years - less than 40 years | 178 | 42.4 |
| | 40 years - less than 50 years | 63 | 15.0 |
| | 50 years and more | 35 | 8.3 |
| Level of education | Technical education | 143 | 34.0 |
| | Bachelor | 241 | 57.4 |
| | Post-graduate | 36 | 8.6 |
| Department | Guest contact | 275 | 65.5 |
| | Non-guest contact | 145 | 34.5 |
| Job class | Manager | 84 | 20.0 |
| | Supervisor | 151 | 36.0 |
| | Employee/Technician | 185 | 44.0 |
| Is this hotel the first one you worked in | Yes | 190 | 45.2 |
| | No | 230 | 54.8 |
| Organizational tenure in this hotel | less than 3 years | 103 | 24.5 |
| | 3 years - less than 6 years | 127 | 30.2 |
| | 6 years and more. | 190 | 45.2 |
| Years of experience in the hospitality industry | less than 3 years | 73 | 17.4 |
| | 3 years - less than 6 years | 111 | 26.4 |
| | 6 years and more. | 236 | 56.2 |

Table 1 indicates that out of 420 respondents, 313 (74.5%) were male and 107 (24.5%) were female; this confirms what Elbaz & Haddoud (2017) have found that males are more dominant in the labor market in the hospitality industry than females in Middle Eastern countries. Regarding the age, 144 (34.3%) respondents were under 30 years, 178 (42.4%) of respondents were 30 years - until less than 40 years, the segment 40 years - until less than 50 years including 63 (15%) respondents and only 35 (8.3%) respondents were 50 years and more. Most respondents 241 (57.4%) had bachelor's degrees, 143 (34%) respondents had technical education, while only 36 (8.6%) respondents completed post-graduate studies. Also, most respondents 275 (65.5%) were working in guest contact departments while 145 (34.5%) respondents were working in non-guest contact departments. Regarding job class, 185 respondents (44%) were employees or technicians,

151 respondents (36%) were supervisors, and only 84 respondents (20%) were managers. Concerning the question "Is this hotel the first one you worked in", the majority of respondents 230 (54.8%) answered "no" and 190 respondents (45.2%) answered positively. Regarding organizational tenure, 103 respondents (24.5%) were working in the same hotels for less than 3 years, 127 respondents (30.2%) were working from 3 years - until less than 6 years and 190 respondents (45.2%) were working for 6 years and more in the same hotels. Concerning years of experience in the hospitality industry, only 73 of the respondents (17.4%) had less than 3 years of experience, 111 respondents (26.4%) had from 3 years - until less than 6 years of experience and the majority of respondents 236 (56.2%) had 6 years of experience and more in the hospitality industry.

There are no significant differences among respondents in PIS concerning gender, department, and being the first hotel to work at, as all *p* values are $> 0.05$, which means that the perceptions of PIS ratings were not significantly affected by either the gender, department, or being the first hotel to work at. There are significant differences among respondents in PIS regarding age, a p value= of 0.014 which is $\leq 0.05$, this means that age makes difference in the perceptions of (IS). According to the mean rank, the results showed that respondents who were under 30 years with a mean rank= 222.18, have received PIS for more than 30 years - until less than 40 years with mean rank= 219.85 and 40 years - until less than 50 years with mean rank= 169.68 and 50 years and more with mean rank= 188.39. This result may be ascribed to the understanding of hotel management for the importance of supporting young employees to gain their innovative ideas. This segment needs support for innovation more than other age segments. In addition to this, the employees in this segment are fresh or newly employed. There are no significant differences among respondents in the perceptions of PIS according to the level of education, as the p value= of 0.359 is $> 0.05$, which means that the level of education does not make difference in PIS. This result reflects that respondents from all levels of education are receiving a similar level of support for innovation, which is indicated by the convergence of the rank mean of technical education, bachelor and postgraduate. There are no significant differences among respondents in the PIS regarding job class, as the *p* value= of 0.500 is $> 0.05$, which means that the job class does not make difference in the perceptions of PIS. This result reflects the stability of the level of PIS for various job classes, and hotel management did not distinguish between one organizational level and another. There are no significant differences among respondents in PIS regarding organizational tenure in the same hotel, as the *p* value= of 0.298 is $> 0.05$, which means that the organizational tenure does not make difference in the perceptions of PIS. There are no significant differences among respondents in the PIS regarding experience in the hospitality industry, as the *p* value= of 0.100 is $> 0.05$, which means that the experience of employees in the hospitality industry does not make difference in PIS.

There are significant differences among respondents in their IWB regarding gender, as the gender with a *p* value= of 0.001 is $\leq 0.05$. According to the mean rank, the results showed that males (mean rank= 222.52) exceed females (mean rank=175.35) in their IWB. Accordingly, the ratings of IWB were affected by gender. This is a point of contention among previous studies in the field of innovation. Some previous studies (e.g., Ülger & Morsünbül, 2016) concluded that females were more creative than males. In opposite, some others (e.g., Stoltzfus et al., 2011; Saputro, 2022) reported that males are more creative than females. However, it was observed that there was no significant difference between females and males according to other studies. Culture may encourage or discourage creative behavior. Perhaps growing up in the Egyptian society, which is a masculine society, allows the male freedom of opinion and expression, and perhaps creativity

and innovation from childhood more than females. Moreover, there are significant effects of society, gender and thinking style on the creative thinking ability of students (Piaw, 2014). Egyptian males are accustomed to solving various social and practical problems, which would develop innovative thinking and skills, to find the most appropriate possible solutions, as well as their ability to bear the ensuing consequences is higher than females. There are no significant differences among respondents in their IWB concerning their departments, as p value=0.081 is > 0.05. This result contradicts Maria Stock et al.'s (2017) findings that innovative service behaviors of front-office personnel act as an important determinant for levels of consumer satisfaction. The close interaction between employees and customers during service-delivery processes help employees to create more innovative ideas, which could directly affect employees' IWBs, and thus, the quality and satisfaction perceptions of consumers (Baradarani & Kilic, 2018). There are significant differences among respondents in their IWB regarding being the first hotel to work at p value= 0.001 is ≤ 0.05. According to the mean rank, the results showed that respondents who answered "yes" with a mean rank= 189.53 are less than respondents who answered "no" with a mean rank= 227.82 in their IWB. This means that employees who had worked in more than one hotel before showed IWB more than fresh employees. Because they became familiar with the organization and its culture, collected various ideas from different hotels, received considerable training and accumulated huge experience. Subsequently, they were more able to provide novel ideas and show IWB more than new employees. There are no significant differences among respondents in their IWB regarding respondents' age and level of education, as *p* values of age= 0.097 and *p* values of the level of education= 0.208 which were > 0.05. Hence, the ratings of IWB are not affected by either age or level of education. Although employees' age will affect their ability or willingness to perform IWB, younger adults were found to have a higher ability to perform creative behaviors e.g., reorganizing and restructuring in the workplace (Ward, 2016). There are significant differences among respondents in their IWB regarding job class as p values= 0.012 is ≤ 0.05. Hence, the ratings of IWB are affected by job class. According to the mean rank, the results showed that managers with a mean rank= 245.67 have IWB more than employees/technicians with mean rank= 200.35 and supervisors with a mean rank= 203.37. As previously cited Pierce et al. (2017) stated that individuals at higher job positions, with higher income, may possess a high level of PO, which in turn increases their willingness to exhibit IWB. There are significant differences among respondents in their IWB regarding to organizational tenure as p values= 0.000 is ≤ 0.05. Hence, the ratings of IWB are affected by organizational tenure. According to the mean rank, the results showed that respondents who spent 6 years and more in the same hotel with mean rank= 236.42 have IWB more than those who spent less than 3 years with mean rank= 197.45 and those who spent 3 years - until less than 6 years with mean rank= 182.31. Employees with long organizational tenure gained tremendous knowledge about the hotel and its competitors and received enough training which enables them to be innovative at their work. There are significant differences among respondents in their IWB regarding their experience in the hospitality industry, as p values= 0.000 is ≤ 0.05. Hence, the ratings of IWB are affected by the experience in the hospitality industry. According to the mean rank, the results showed that respondents who have 6 years and more experience with mean rank= 242.77 have IWB more than those who have less than 3 years of experience with mean rank= 187.42 and those who have 3 years - until less than 6 years of experience with mean rank= 157.07. Regarding the relationship between IWB, organizational tenure and the experience in the hospitality industry, each result completes and illustrates the other. Because the longer the organizational tenure of an employee is, the more experience he/she will gain which made them feel more efficacious about

working with the hotel, feeling more accountable for their actions, which leads to a high IWB. There are no significant differences among respondents in IO concerning gender, as the gender with p value= 0.076 is > 0.05, which means that the gender does not make difference in the IO. there are no significant differences among respondents in the IO about their department, as p value= 0.550 is > 0.05. Accordingly, the department does not make difference in IO. There are significant differences among respondents in the IO regarding to their "Is this hotel the first one you worked in", as p value= 0.041 is less than 0.05. Hence, the results showed that respondents who answered "no" with mean rank= 221.41 are more than respondents who answered "yes" with mean rank= 197.29 in their IO. Accordingly, IO affected by being the first hotel to work at or not. This result confirms the previous result concerning IWB and employees who worked at different hotels before. Since they gained tremendous knowledge from various hotels, which helped them to show IWB led to various IO. There are no significant differences among respondents in the IO regarding to age, with p value= 0.868 is > 0.05, which means that the age does not make difference in the IO. There is no significant difference among respondents in the IO regarding to level of education, with p value= 0.899 is > 0.05, which means that the level of education does not make differences in the IO. There is no significant difference among respondents in the IO regarding to job class, with p value= 0.249 is > 0.05, which means that the job class does not make difference in the IO. there is significant difference among respondents in their IO regarding organizational tenure in the same hotel as p values= 0.001 that is ≤ 0.05. Hence, the ratings of the IO are affected by organizational tenure. According to the mean rank, the results showed that respondents who spent 6 years and more in the same hotel with mean rank= 229.05 have more IO than those who spent less than 3 years with mean rank= 217.73 and those who spent 3 years - until less than 6 years with mean rank= 176.88. This result means that the longer the employee joined the organization for more than 6 years, the higher the level of his IO. This is since s/he has acquired a tremendous amount of knowledge of the organization, its culture and characteristics, and has the control over the work tools that enable her/his to produce a distinguished level of IO. There are significant differences among respondents in their IO regarding the experience in the hospitality industry, as p values= 0.000 that is ≤ 0.05. Hence, the ratings of IO are affected by the experience in the hospitality industry. According to the mean rank, the results showed that respondents who have 6 years and more of experience with mean rank= 233.04 have more IO than those who have less than 3 years of experience with mean rank= 218.77 and those who have 3 years - until less than 6 years of experience with mean rank= 157.14. This result indicates that the more the employee's level of experience exceeds 6 years, the higher the level of his IO.

**Hypothesis Testing**
Structural equation modeling (SEM) with SmartPLS 3 software and descriptive statistics with SPSS v. 26 were used to examine the conceptual models and hypothesized correlations. Examining a set of measurement model criteria was the first stage in analyzing the PLS-SEM results. Reflective measurement model specifications were used, which means that causation was established from the constructs to the observed variables or claims. After the measurement model had been evaluated, the structural model was evaluated (Ringle et al., 2020).

**The Measurement Model (Outer Model)**
Convergent validity, internal consistency reliability, and discriminant validity were used to evaluate the reflective measurement paradigm. The degree to which a variable relates positively to other variables used to measure the same construct is known as convergent validity. It was evaluated by using variable loadings and average variance extracted (AVE). Internal consistency

reliability assesses the reliability of a construct based on the magnitudes of the observable variables' intercorrelations, which were evaluated by composite reliability and Cronbach's alpha as given in Table (2). The Heterotrait–Monotrait (HTMT) ratio of correlations between constructs was used to measure discriminant validity, which is the degree to which a construct is distinct from other constructs (Hair et al., 2017). (HTMT) ratio values ranged from 0.323 to 0.819, which meets the required criteria as the HTMT ratio value must be < 0.85, whereas a value that is > 0.85 reflects a lack of discriminant validity as shown in table (3). Table (3) lists the remaining rule-of-thumb assessment criteria based on Hair et al. (2017). As can be seen, all the requirements were met, demonstrating the validity and reliability of the measurement model.

**Table (2): Item loadings and construct reliability and validity**

| Construct | Dimension | Items | Factor Load | Ave | CR | Cronbach's alpha |
|---|---|---|---|---|---|---|
| PIS | Managerial support (MS) | Man1 | 0.878 | 0.734 | 0.932 | 0.908 |
| | | Man2 | 0.746 | | | |
| | | Man3 | 0.912 | | | |
| | | Man4 | 0.839 | | | |
| | | Man5 | 0.898 | | | |
| | Organizational support (OS) | Org1 | 0.904 | 0.851 | 0.945 | 0.912 |
| | | Org2 | 0.942 | | | |
| | | Org3 | 0.921 | | | |
| | Cultural support (CS) | Cul1 | 0.876 | 0.793 | 0.938 | 0.912 |
| | | Cul2 | 0.930 | | | |
| | | Cul3 | 0.930 | | | |
| | | Cul4 | 0.821 | | | |
| IWB | Idea generation (IG) | Gen1 | 0.826 | 0.773 | 0.911 | 0.853 |
| | | Gen2 | 0.914 | | | |
| | | Gen3 | 0.896 | | | |
| | Idea search (IS) | Sch1 | 0.884 | 0.774 | 0.911 | 0.854 |
| | | Sch2 | 0.857 | | | |
| | | Sch3 | 0.897 | | | |
| | Idea communication (IC) | Com1 | 0.853 | 0.798 | 0.940 | 0.915 |
| | | Com2 | 0.903 | | | |
| | | Com3 | 0.921 | | | |
| | | Com4 | 0.895 | | | |
| | Implementation starting activities (ISA) | Act1 | 0.917 | 0.837 | 0.939 | 0.903 |
| | | Act2 | 0.919 | | | |
| | | Act3 | 0.908 | | | |
| | Involving others (InO) | Inv1 | 0.893 | 0.810 | 0.927 | 0.882 |
| | | Inv2 | 0.930 | | | |
| | | Inv3 | 0.876 | | | |
| | Overcoming obstacles (OO) | Obs1 | 0.890 | 0.828 | 0.935 | 0.896 |
| | | Obs2 | 0.919 | | | |
| | | Obs3 | 0.922 | | | |
| IO | | Output1 | 0.885 | 0.787 | 0.917 | 0.865 |
| | | Output2 | 0.895 | | | |
| | | Output3 | 0.882 | | | |

**Table (3): Heterotrait–Monotrait Ratio (HTMT)**

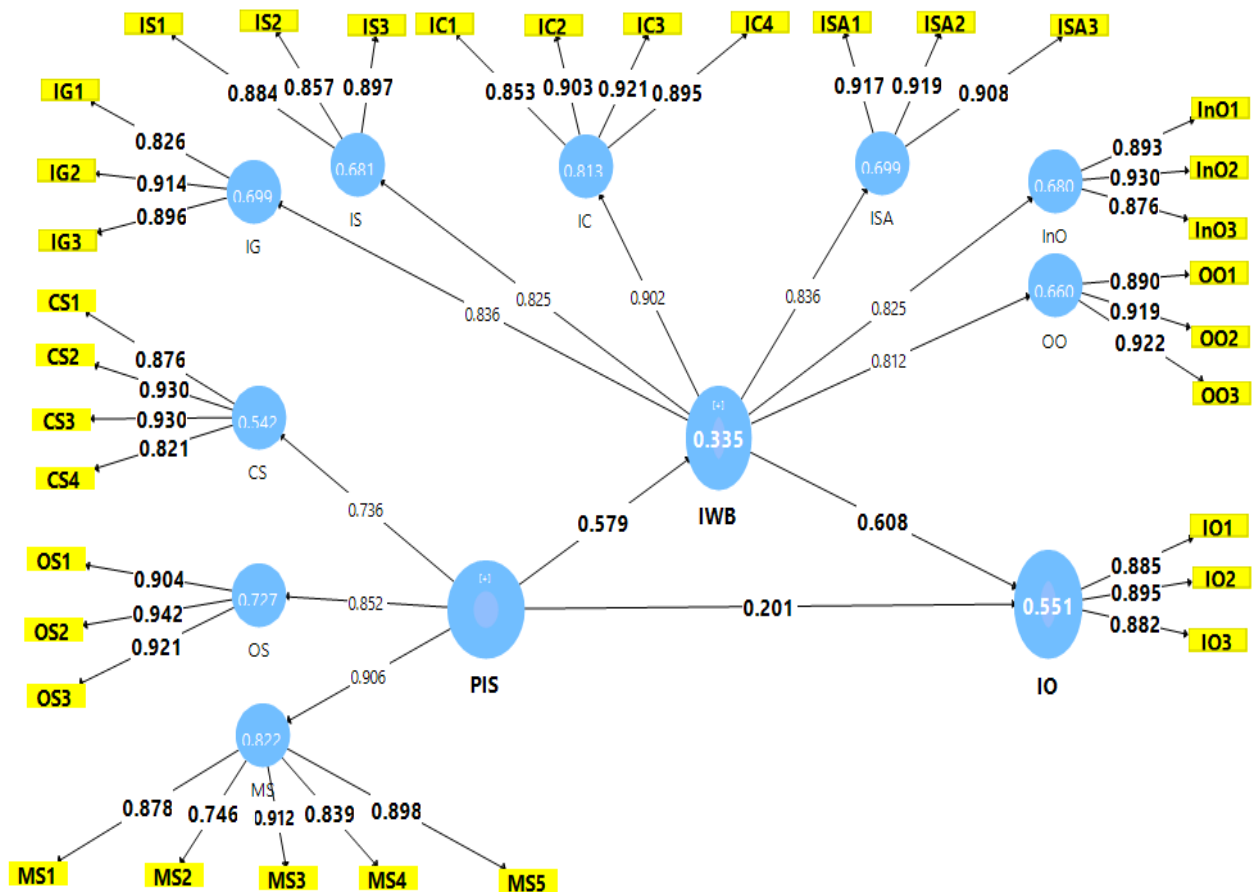|     | CS | IC | IG | IO | IS | ISA | InO | MS | OO | OS |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **CS** | | | | | | | | | | |
| **IC** | 0.505 | | | | | | | | | |
| **IG** | 0.489 | 0.819 | | | | | | | | |
| **IO** | 0.533 | 0.746 | 0.669 | | | | | | | |
| **IS** | 0.480 | 0.769 | 0.778 | 0.628 | | | | | | |
| **ISA** | 0.489 | 0.764 | 0.727 | 0.704 | 0.692 | | | | | |
| **InO** | 0.382 | 0.764 | 0.669 | 0.618 | 0.752 | 0.727 | | | | |
| **MS** | 0.503 | 0.495 | 0.448 | 0.532 | 0.428 | 0.524 | 0.441 | | | |
| **OO** | 0.549 | 0.742 | 0.712 | 0.778 | 0.671 | 0.679 | 0.681 | 0.484 | | |
| **OS** | 0.472 | 0.384 | 0.323 | 0.495 | 0.338 | 0.539 | 0.361 | 0.811 | 0.373 | |

**Structural Model (Inner Model)**

Evaluating the structural model is the second phase in the structural equation model (SEM). To assess the hypotheses, five criteria were used: path coefficient significance (i.e., p value), coefficient of determination ($R^2$), effect size ($F^2$), predictive Relevance ($Q^2$) and finally goodness of fit (GoF) (Hair et al., 2017). Before evaluating the structural model, collinearity between the latent variables was investigated through the variance inflation factor (VIF) values. All VIF values were < 5, indicating no multicollinearity problems. The standardized path coefficient between PIS and IWB was significant ($\beta$= 0.579, p=0.000) as shown in fig2. The path coefficient between IWB and IO was significant ($\beta$ = 0.608, p= 0.000), then the path coefficient between PIS and IO was significant ($\beta$ = 0.201, p= 0.000). These results supported H1, H2, and H3.

The $R^2$ value, also known as the coefficient of determination, is an important criterion for assessing the structural model in PLS-SEM (Hair et al., 2011; Henseler et al., 2009). The $R^2$ represents the squared correlation between the predicted values of the constructs and actual values. It is a measure that assesses the predictive power of the model, through the explained variance of the endogenous variables (Peng & Lai, 2012). Chin (1998) suggested that the values of $R^2$ that are > 0.67 is considered high, while values ranging from 0.33 to 0.67 are moderate, whereas values between 0.19 to 0.33 are weak and any $R^2$ values ≤ 0.19 are not acceptable. The $R^2$ value of IWB for PIS was moderate ($R^2$ = 0.335). The $R^2$ value of IO was moderate ($R^2$ = 0.551).

To evaluate changes in the $R^2$ when a claim is omitted from its latent variable, effect size indicates the relative effect of a exogenous latent variable (i.e., PIS) on the endogenous latent variable (i.e., IWB and IO) using changes in the R squared (Chin, 1998). According to the guidelines of Cohen (1988) the impact values differ, if $F^2$ value is > 0.35, it has a large/ strong effect size, if $F^2$ value ranges from 0.15 to 0.35, it has a medium effect size, if $F^2$ value ranges from 0.02 and 0.15, it is considered a small effect size and if $F^2$ value is < 0.02, it has no effect size. The $F^2$ effect size value of our model for IWB was (0.504) which was > 0.35. This means that PIS had large or strong effects on IWB. $F^2$ of IWB on IO (0.548) which was > 0.35; this means that IWB had large or strong effects on IO.

We also investigated the out-of-sample predictive power ($Q^2$). The value of the endogenous latent variable(s) (i.e., IWB and IO) should be greater than zero which supports the claim that this study models have adequate ability to predict. Thus, to obtain $Q^2$ values, the blindfolding method was used to obtain cross-validated redundancy values. Moreover, predictive relevance values differ

when measuring $Q^2$. $Q^2$ of IWB was 0.188 and $Q^2$ of IO was 0.425. These results reflect strong predictive power.



**Figure (2): Results of the measurement model and structural model**

Finally, we evaluated Goodness of Fit (GOF) for our model, Tenenhaus et al. (2005) defined GoF as the global fit measure, it is the geometric mean of both average variances extracted (AVE) and the average of $R^2$ of the endogenous variables. The purpose of GoF is to account on the study model at both levels, namely measurement and structural model with focus on the overall performance of the model (Chin, 2010; Henseler & Sarstedt, 2013). The calculation formula of GoF is (GoF= $\sqrt{R^2 \times AVE}$). Wetzels et al. (2009) identified the value of GoF and its fit degree. If GoF is < 0.1, it means the model is no fit, if GoF is between 0.1 to 0.25 it means the model is a small fit, if GoF is between 0.25 to 0.36 it means the model is medium fit and finally, if GoF is > 0.36 it means the model is large fit. In our case, GoF of our model $= \sqrt{(0.443 \times 0.7985)} = 0.594$. This result indicates that our model has a large goodness of fit.

**Mediation effect:**
Baron & Kenny (1986, p. 1176) defined the mediator variable as "a variable that accounts for all or part of the relationship between a predictor and an outcome". There are two conditions for the mediation. Firstly, the indirect effect must be significant. Secondly, the 95% bootstrapped confidence interval should not contain the value of zero (Hair et al. 2021; Preacher & Hayes 2008).

To test Hypothesis 4, which states that IWB mediates the relationship between PIS and IO, we checked both direct and indirect effects. The direct effect of PIS on IO was significant as ($\beta$ = 0.201, p= 0.000). The indirect effect of PIS on IO was still significant ($\beta$ = 0.352, p= 0.000). The total effect of PIS on IO was also significant ($\beta$ = 0.553, p= 0.000). Moreover, as indicated by Preacher and Hayes (2008), the 95% bootstrapped confidence interval value had not included the value zero, which also indicated the existence of partial mediation and supported H4. Furthermore, IWB is considered as a complementary partial mediator factor because both the indirect and direct effects are significant and point in the same direction (Hair et al., 2017).

**Table (4):** Summary of the hypothesis-testing results.

| Hypo | Relationship | | | | | Result |
|------|------|------|------|------|------|------|
| H1 | PIS | ⟶ | | | IWB | Supported |
| H2 | IWB | ⟶ | | | IO | Supported |
| H3 | PIS | ⟶ | | | IO | Supported |
| H4 | PIS | ┈┈➤ | IWB | ┈┈┈➤ | IO | Supported |

**Discussion**

The results of our PLS-SEM analyses revealed significant findings. Firstly, there is a positive relationship between PIS and IWB. Secondly, there is a positive relationship between IWB and IO. Moreover, there is a direct relationship between PIS and IO. Finally, IWB is partially mediates the relationship between PIS and IO. Organizations and managers may promote innovation through developing a work environment that supports and encourages innovation (Newman et al., 2020). Organizational behaviors are often explained by Blau's (1964) social exchange theory (SET), which defines the mutual interaction between the employee and the organization with the goal of maximizing profits. According to the SET, employees who believe that the acquirements they have made as a result of the support and opportunities provided to them in the organization as a reward or investment will work for organizational outcomes that add value to the organization. Thus, employees who work within positive environment (i.e., supportive) are more interested in accomplishments and aspirations and are more willing to take risks (Kark & Van Dijk, 2019). Hence, they may become more enthusiastic to achieve organizational goals which may result in being innovative and creative to gain a competitive advantage (Rau et al., 2019).

The climate of innovation in organizations increases employees' passion for invention (Kang et al., 2016). Hence, more creative employees demonstrate more IWB in the work environment which supports and enhances innovation (Jaiswal & Dhar, 2015). Although cultural support has been considerably ignored in innovation support, it is stated that individuals' perception of cultural support is effective in generating ideas and the innovation process (Emiralioğlu & Sönmez, 2021; Lukes & Stephan, 2017).

Employees' expected performance outcomes are positive when they believe their IWB will boost their job role or organizational performance. High quality, reduced error rates, greater productivity, and overall job performance are all positive performance outcomes. Briefly, employees are more inclined to engage in an innovative activity if they believe it will enhance their work (Cingöz, & Akdoğan, 2011). According to the theory of planned behavior (La Barbera & Ajzen, 2020), the more favorable the attitude toward performing a behavior, the easier the performance of the behavior is perceived to be, the stronger the behavioral intention and the more likely the behaviors (e.g., IWB) will be performed (Xiao, 2008).

Our results resonate with the findings of Goyal et al. (2021) who revealed that behaviors are not outputs, but behaviors only contribute partly to the outputs. Moreover, outcomes stem from both an individual's behavior and other factors in many situations.

**Implications**
**Theoretical implications**
Our study offers several theoretical contributions for the literature on PIS, IWB and IO in the hospitality context. First, our study incorporates a fit theory and SET views to the study area of innovation. From the SET's point of view, the hotel work environment should be oriented to stimulate IWB, and the IWB process of hotel employees should be facilitated and supported through multidimensional (managerial, organizational and cultural) to ensure that their employees' IWB give rise to IO. Our research also contributes to employees' innovation by developing and empirically validating a multilevel model that links employees' IWB and IO to employees' perceptions of multilevel support, which includes managerial, organizational, and cultural support. This study used the structural equation modeling for empirically examining the impact of PIS on IO. Previous studies found that multilevel models are lacking in innovation studies (Anderson et al., 2014). By incorporating managerial, organizational, and cultural level factors into this research, we respond to Felin et al. (2015)'s call to develop models with firm-level, i.e., managerial, organizational support, and nation-level, i.e., cultural support, factors to address the complexity of employee behaviour in organizations. Our study has contributed to the PIS literature by diminishing the paucity of PIS knowledge specifically in developing and emerging economies. It provides a perspective of how hotels in emerging economies, could promote PIS-based practices to harvest organizational oriented IO.

**Practical Implications**
According to the findings of this study, employees' IWB should be encouraged and supported so that they can provide innovative outputs. Hotel management should enhance employees' individual interests and creative abilities, through developing some managerial and organizational strategies that aim to encourage employees to generate and develop new ideas, produce the desired results by allocating the necessary resources (e.g., a suitable budget, sufficient time, advice, accurate information, appropriate rewards and link financial incentive to performance ), hotels' management must help them to create IO that add value by allowing them to explore and try new things. Hotels' management must revise the new product or application after putting it into practice. Furthermore, hotels can also set up an innovation sponsorship committee where employees who come up with novel ideas can apply for specific budgets for building prototypes, market research, or other necessary processes for developing and implementing these novel ideas. In addition, hotels could also provide adequate environmental support to their staff. For example, they can provide a unique place within the hotel where staff can go to be inspired. This space can have publications, photographs of various stimuli, novels, and relaxing facilities to stimulate them to come up with creative ideas and innovative outcomes (Eid & Agag, 2020). Furthermore, hotels can provide advice to their employees by training managers that employees are the source of innovation and that they may face some barriers to being innovative, therefore managers must show interest in, communicate with, and assist their staff to pave the way for them to be innovative. The Ministry of Tourism should cooperate with hotels management to provide the required cultural support to hotel workers by organizing some cultural seminars and scientific workshops to discuss the problems and challenges facing the hospitality industry and how to handle them in innovative

and creative ways, as well as organizing some cultural competitions and allocating awards to hotel staff who come up with bright ideas.

**Limitation of the Study and Future Research**
Although the current study provides some contributions, it also has several limitations that provide opportunity for future research. Due to the use of cross-sectional analysis and self-report data collection procedures, the research data had limitations. Using alternative data collection tools could improve the reliability and validity of these variables. The population of this study was some of the employees from five-star hotels. Hence, the findings of this study cannot be generalized to other different hotel categories due to the nature of the hospitality industry as each hotel category associated distinctive market position, targeted customers, service and facilities (Su & Reynolds, 2019). It will also be valuable to compare the findings of this study with those of other studies applied on hotel chains in different geographical areas. As well as, applying some studies on other hotel categories (i.e., four and three hotel star) may be also beneficial. Future research can include different aspects of the PIS such as organizational barriers to innovation, resources, and peer/ supervisor support. It is recommended to investigate other factors that may mediate the relationship between PIS and IO such as knowledge sharing behavior.

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## العلاقة بين الدعم المدرك للإبداع ومخرجاته في فنادق الخمس نجوم المصرية: الدور الوسيط لسلوك العمل الإبداعي للعاملين

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**الملخص العربي:**

سعت هذه الدراسة إلى استكشاف العلاقة بين الدعم المدرك للإبداع (Perceived Innovation Support) من منظور الموظفين ومخرجات الإبداع (Innovation Outputs) في فنادق الخمس نجوم بالقاهرة الكبرى في مصر. كما تسعى هذه الدراسة أيضًا إلى تحديد دور الوساطة لسلوك العمل الإبداعي لدى الموظفين ( Employee Innovative Work Behavior). من أجل ذلك تم تصميم استبانة لدراسة العلاقات المفترضة ومن ثم وزعت استمارات الاستبيان على ٧٠٠ موظف في ٣٠ فندقاً من فئة الخمس نجوم بالقاهرة الكبرى بمصر. تم استلام إجمالي الاستمارات ٥٧٧ وهو ما يمثل معدل استجابة ٨٢,٤٢٪. كان هناك ١٥٧ استمارة غير صالحة وبالتالي تم استبعادها. ومن ثم، أصبح ٤٢٠ نموذجًا صالحًا لمزيد من التحليلات التالية. تم تحليل البيانات باستخدام تقنية المربعات الصغرى الجزئي(PLS.3) . استنتجت هذه الدراسة وجود علاقة إيجابية بين الدعم المدرك للإبداع ومخرجات الإبداع. كما تشير النتائج أيضًا إلى أن سلوك العمل الإبداعي لدى الموظفين يمثل عامل وسيط جزئي في العلاقة بين الدعم المدرك للإبداع ومخرجات الإبداع. وقد أوصت الدراسة بأنه يجب أن تعزز إدارة الفندق الاهتمامات الفردية للموظفين وقدراتهم الإبداعية، من خلال تطوير بعض الإستراتيجيات الإدارية والتنظيمية التي تهدف إلى تشجيع الموظفين على توليد أفكار جديدة وتطويرها وتحقيق النتائج المرجوة من خلال تخصيص الموارد اللازمة من ميزانية مناسبة، وقت كاف، النصيحة والمشاركة للمعلومات الدقيقة وكذلك المكافآت المناسبة وربط الحافز بالأداء. كما توصي الدراسة إدارة الفنادق أيضًا بإنشاء لجنة لرعاية إبداع العاملين حتى يتمكن الموظفين الذين يملكون أفكار جديدة التقدم لها للحصول على ميزانيات محددة لبناء النماذج الأولية وإجراء أبحاث السوق أو غيرها من العمليات الضرورية لتطوير وتنفيذ هذه الأفكار الجديدة. كما يجب على المديرين إظهار الاهتمام بموظفيهم والتواصل معهم ومساعدتهم لتمهيد الطريق لهم ليكونوا مبدعين. كما يجب على وزارة السياحة بالتعاون مع الفنادق تقديم الدعم الثقافي للعاملين بالفنادق من خلال تنظيم بعض الندوات الثقافية والورش العلمية التي تناقش المشكلات والتحديات التي تواجه صناعة الضيافة وكيفية التعامل معهم بطرق مبتكرة وإبداعية كذلك تنظيم بعض المسابقات الثقافية وتخصيص جوائز لأصحاب الأفكار النيرة من العاملين بالفنادق.