The Effect of Information Literacy on Employees' Innovation in Egyptian Official Tourism Organizations

Dalia Mohamed Soliman[1]   **May Baher[2]**   **Merhan Rizk Soliman[3]**

Tourism Guidance- Faculty of Tourism & Hotels Management, Helwan University, Egypt

ARTICLE INFO

Abstract

This study aims to assess the effect of information literacy on employees' innovation in the official tourism organizations in Egypt, and to examine if being information literate facilitates and supports the innovation attempts, and to examine if information literate employees are more innovative than other employees. Data were obtained from 304 employees working in the Ministry of Tourism and Antiquities and the Egyptian Tourism Promotion Board as official organizations that are in charge of the tourism industry in Egypt. Results indicated that information literacy positively affects the employees' innovation. This study provides several contributions to the information literacy by complementing previous studies and introducing new outcomes. The practical implications of this study also benefit tourism and official tourism organizations in Egypt in assessing their employees' innovation and information literacy level.

Introduction

Innovation is the reason why organizations exist. By encouraging steady growth and the creation of competitive advantage, it ensures their long-term survival. Novel approaches and prompt decisions resulting from information analysis and environmental scanning drive continuous innovation (Tang, 2016; Al-Romeedy & Mohamed, 2022). Information serves organizations in many ways, but its increasing volume, richness, and variety have emerged as some of the biggest obstacles to the development of new ideas (Damanpour, 2017; Dean & Webb, 2011). Thus, for successful innovation, people's ability to engage with complex information and utilize it to guide analysis of the market, decision - making process, and strategic planning process has become increasingly crucial (Deltor, 2010; García-Morales et al., 2012; Zhu et al., 2016; Al-Romeedy & Ozbek, 2022). Recent literature has identified information literacy as a critical competency for assisting organizations in successfully leveraging information to generate economic value (Forster, 2017; Inskip, 2014; Farhat et al., 2022; Mohamed et al., 2022). According to previous research in the educational environment and more recently in the business context, information literacy is reported to support in important information assessment and balanced decision making, paving the way for knowledge generation, learning, and innovative thinking (Cheuk, 2008; Forster, 2017; Lloyd, 2010; Zhang et al., 2010). Theorizing suggests a possible link between innovation and information literacy (Cheuk, 2017), but concrete empirical data is still lacking. Specifically, how the information literacy affects innovation among employees and if information literate employees innovate more than other employees. In light of this; this study aims to: 1) assess the impact of information literacy on employees' innovation, 2) identify the impact of information literacy on opportunity recognition, idea generation, idea communication, and idea implementation. 3) explore if information literate employees are more innovative than other employees in the Egyptian official tourism organizations.

Review of Literature

Information literacy IL

Information literates are those who have been trained and have developed methods and abilities a variety of information resources to address issues at work (Behrens, 1994; Al-Romeedy & Talhi, 2019; Talhi & Al-Romeedy, 2022). Bruce (1999) defined information literacy as a person's capacity to function effectively in an information society, which includes critical thinking, awareness of one's own and others' ethical obligations, the capacity to recognize a need for information, the ability to evaluate that information, interaction with information professionals, and effective use of information in problem-solving and decision-making processes. Bruce (1999) also described the complex character of IL and listed seven distinct ways in which people encounter information at work. These seven approaches are as follows:

1) Using information technology to retrieve and transmit information,
2) Locating information in information resources,
3) The execution and information-gathering procedure,
4) Information control,
5) Creating knowledge,
6) Broadening/expanding one's understanding, and
7) Making good use of information for the benefit of others.

According to Bruce (1999), workplace practices that effectively relate an employee's information experiences at work are strongly related to the seven faces of IL.

Information literacy skills should be developed in the context of job competence and expectations. In this vein, Bruce (2000) established that employees experience IL in the workplace through: 1) varying emphasis on technology, 2) emphasis on the ability to engage in broad professional responsibilities rather than specific skills, 3) social cooperation or interdependence among colleagues rather than an emphasis on individual capability, 4) requirement for information intermediary partnership, and 5) emphasis on intellectual manipulation of information rather than physical manipulation of information.

According to Shrestha (2018), an information-literate person can estimate the volume of information required, obtain the required information in an effective and efficient manner, and critically analyze information and information resources. In addition, selected material should be included in one's knowledge base. And lastly, to recognize the economic, legal, and social challenges surrounding the use of information, as well as to access and utilize information legally and ethically (Søby, 2013). Table (1) shows some of the most important examples of the IL skills.

Table (1) Information Literacy Skills examples

Information literacy
1. Capability to locate required information
2. Capability to select reliable information sources
3. Capability to quickly obtain required media information
4. Capability to distinguish news or hoaxes.
5. Capability to distinguish between news facts and opinions.
6. Capability to distinguish between official and personal websites.
7. Capability to obtain various types of information from the media.
8. Capability to apply acquired information.
9. Capability to communicate information with others.
10. The ability to compile and rewrite information in their own language.
11. Understanding of how to cite online references in the proper format.
12. The ability to correctly format reference sources obtained from the internet.

Source: Wardhani et al., 2019: 113-1134.

Employees' innovation

Employee innovation in the place of work is critical to the effectiveness and survival of an organisation (Bani-Melhem et al., 2018; Gu et al., 2017; Khairat & Al-Romeedy, 2016; Scott & Bruce, 1994; Tichaawa, 2017; Al-Romeedy, 2019). It refers to the process by which individuals generate new ideas as well as build innovative problem-solving approaches in their work roles and then try to put those ideas into action (Amabile, 1988). Employees' innovation is defined by the speed at which an individual adopts new ideas particularly in comparison to other members of a social system (Pilav-Velic et al., 2021; Elbaz et al., 2022; Gaffar et al., 2021).

There are four dimensions of employee innovation suggested by De Jong (2007). Opportunity exploration: it refers to the stage of identifying the performance gaps, which is the difference between existing and potential performance. The realization of something new begins with a person spotting opportunity (Basadur, 2004). The beginning of the innovation process is frequently dictated by chance: the discovery of an opportunity, the emergence of an issue, or the solution to a problem. Idea generation: it refers to behaviors that aim at producing concepts for the goal of improvement. Ideas may be generated in relation to new goods, services, or processes; the entry of new markets; improvements in present work processes; or more broadly, solutions to identified issues (Amabile, 1988; Van de Ven, 1986). Championship or idea communication: it refers to the stages in which champions put effort into developing innovative ideas. They are individuals who drive creative ideas beyond organizational barriers (Shane, 1994). Innovative people who assume responsibility for the introduction of innovations are those who have a strong personal commitment to certain ideas and can sell them to others. Idea implementation/application: it refers to doing what is required to turn ideas into reality. This typically involves significant effort from employees; it also encompasses behaviors such as designing new goods or work procedures and testing and adjusting them (Kanter, 1988; Van de Ven, 1986).

Information literacy and its effect on employees' innovation

Faleye et al. (2014) demonstrate that employees' ability to access relevant information in industry networks supports in the development of highly innovative patents by assisting in the evaluation and exploitation of innovative ideas, as well as in making appropriate resource allocation decisions. Given the importance of employees' information processing capability identified in previous workplace innovation research, as well as proof that information literacy aids in environmental scanning and efficient information analysis (Gilbert, 2017; Goldstein & Whitworth, 2017), it appears clear that employees' information literacy influences innovation in the workplace.

H1: Information literacy affects the employees' innovation in the Egyptian official tourism organizations.

The most important step in the innovation process has been identified as opportunity recognition (Kuckertz et al., 2017). Changes in technology, market competition, policies, industries and market trends create opportunities (George et al., 2016). As a result, identifying opportunities is a highly information-intensive process (Gaglio and Katz, 2001; Ozgen & Baron, 2007). According to Gaglio and Katz (2001), employees discover opportunities in different ways depending on their ability to obtain relevant information.

According to Dean and Webb (2011), employees' high level of information handling competence is critical in interpreting and assessing information and its implications, as well as dealing with information overload. In this light, it is argued that employees' information literacy is critical in the process of identifying opportunities, as it is known to support in the extraction of insights from large amounts of information in a timely and constructive manner. As a result, we propose that information literacy has a direct positive influence on opportunity recognition.

H2: Information literacy significantly affects the idea exploration in the Egyptian official tourism organizations.

According to Wong et al. (2017), employees' information literacy influences their ability to generate ideas and develop innovation. Their ability to make exceptional decisions, such as the adoption of untested technologies or the development of products for new markets, is enhanced by information literacy. The more information literacy, which has been linked to idea generation, the higher the self-efficacy and confidence in generating more innovative ideas that benefit the workplace (De Meulemeester, 2018; Kurbanoglu et al., 2006), As a result, we propose that there is an influence of information literacy on idea generation.

H3: Information literacy significantly affects the idea generation in the Egyptian official tourism organizations.

An important aspect of information literacy is the ability to communicate effectively across multiple media. The communication, creative, and publication skills activities focus on the ability to read and write electronic texts as well as create compelling messages in information systems. Communications skills refer to the ability to send and receive electronic messages (communication competence), whereas creative and publication skills refer to the capacity to generate and distribute multimedia content to a wide range of audiences (competency with creating information).Being literate in information facilitates and supports attempts to communicate ideas at work (Buckingham, 2003). As a result, we propose that information literacy has an influence on idea communication.

H4: Information literacy significantly affects the idea communications in the Egyptian official tourism organizations.

Employee confidence can be increased by enabling them to comprehend complex information situations (Gerstner et al., 2013). As a result, in ambiguous and uncertain market conditions, employees are more likely to make risky decisions based on their assessment of incoming information streams. Which, as previous research has indicated, this is critical for putting ideas into action and achieving innovations. We conclude that information literacy influences idea implementation.

H5: Information literacy significantly affects the idea implementation in the Egyptian official tourism organizations.

Methodology
Instruments

Questions of the questionnaire were obtanied from a comprehensive literature review, which will be reported. It was comprised of closed questions that give respondents a determined set of alternatives from which to choose their answer. The questionnaire used in this study was consisted of three parts. Part A of the questionnaire addresses demographic information about respondents. The questions include gender, age, educational level, work experience and position. Part B measured the information literacy. Part C measured the four dimensions of innovation in Egyptian official tourism organization.

The information literacy was assessed through 6 items adopted from Wardhani et al. (2019), while employees' innovation was measured by 19 items developed by Lukas and Stephan (2017); De Jong (2007) and De Jong and Hartog (2010). They comprise 19 items for dimensions of employees' innovation, namely: idea exploration, idea generation, idea communication, and idea implementation.

A five-point Likert scale of agreement was used, with 1 stating "Strongly Disagree," 2 stating "Disagree," 3 stating "Neutral," 4 stating "Agree," and 5 stating "Strongly Agree." A Likert scale is a "measure of a set of attitudes about a specific topic" (Bryman, 2008: 146).

Population and Sampling Techniques

The study sample was selected based on systematic random sampling from Egyptian official tourism organizations employees and managers. Three hundred and twenty-eight valid questionnaires were collected from three hundred and fifty questionnaires distributed. Sixteen questionnaires were exempted from the analysis, because they did not complete most sections in the questionnaires and eight questionnaires were classified as outliers. All these respondents were excluded from the study.

Data Analysis

This study's data analysis was divided into several steps.

- Reliability: Cronbach alpha was used to assess the reliability of the study instrument.

- Descriptive analyses were carried out to investigate the frequency distribution of responses to the relevant questions, as well as the standard deviation and mean.

- Frequencies, percentages, means and standard deviation: to describe the characteristics of the sample, and to determine the responses of the sample members towards all the axes of the study tool.

- Path analysis: the path analysis aims to provide estimates of the importance of casual links between study variables through path diagrams. Path diagrams are illustrations that are drawn with arrows from the variables towards other variables to indicate the casual relationship between these variables (Stage et al., 2004). Path analysis consists of simple or multiple regression models. Therefore, it is possible to determine the casual pathway of the variables through it and also determining the mediation type for one of the variables in the model. Path analysis differs from conventional regression. Path analysis is more effective, more flexible, and can be modified according to the researcher's desire.

RESULTS
Reliability Test

A high Cronbach's Alpha value reflects the reliability of scale and indicates cohesiveness among scale items. According to Zaki and Al-Romeedy (2019), a high Cronbach's Alpha is an indirect indicator of convergent validity. However, on the contrary, the validity needed to be confirmed by CFA. Table (2) indicates values of Cronbach's Alpha for all constructs. On the basis of the data showed in the table, there is sufficient proof to suggest that the reliability of the constructs was acceptable given that the Cronbach's Alpha value is > .60 (Zaki et al., 2022; Hair et al., 2021).

Table (2) Reliability levels of instrument – Cronbach's Alpha

Variables	Cronbach's Alpha	No. of items
Information literacy	0.893	6
The employees' innovation	0.919	19
Idea exploration	0.826	5
Idea generation	0.850	4
Idea communication/ championing	0.864	`4
Idea implementation	0.854	6

It is concluded from this finding that the scale has significant levels of internal consistency and are considered to be very reliable, where Cronbach's Alpha values are > .826. Thus, all of the constructs and variables used for this study are based on well-established instruments with highly reliable scores, and each construct's internal consistency is substantiated to be very good.

Demographic and other work-related information

This study's sample characteristics include five major items. Table (3) shows the results of the demographic variables analysis. The frequency and percentage for each variable are listed in the table according to the survey categories.

Table (3) Demographic and work information

Demographic and work information		Freq.	%
Gender	Male	175	57.6%
	Female	129	42.4%
Age	From 21 years to 30 years	59	19.4%
	From 31 years to 40 years	153	50.3%
	Over 40 years	92	30.3%
Educational Level	High school	49	16.1%
	University education	213	70.1%
	Postgraduate studies	42	13.8%
Work experience	From 1 year to 5 years	54	17.8%
	From 6 years to 10 years	98	32.2%
	From 11 years to 15 yeas	102	33.6%
	More than 15 years	50	16.4%
Position	Managerial level	23	7.6%
	Employee level	281	92.4%

Table (3) indicates that out of 304 respondents, 129 (42.4%) were female and 175 (57.6%) were male. Regarding the age of respondents, the age segments from 21 to 30 years had the greatest number of respondents by 59 respondents (19.4%), followed by the age segments over 40 years by 92 respondents (30.3%), and finally, and the age segments from 31 to 40 years by 153 respondents (50.3%). Additionally, the table reveals that the majority of respondents (213 respondents) were university educated by (70.1%), followed by who have high school education by 49 respondents (16.1%), and finally who have postgraduate by 42 respondents (13.8%).

Regarding the years of work experience, the majority of respondents have from 11 to 15 years job experience by 33.6% (102 respondents), followed by who have from 6 to 10 years job experience by 32.2% (98 respondents), followed by who have from 1 to 5 years of experience by 17.8% (54 respondents), and finally who have over 15 years by 16.4% (50 respondents). As for the position of respondents, there are 281 respondents who are working at the employee level by 92.4%, where there are 23 respondents who are working at the managerial level.

Descriptive statistics

Table (4) descriptive analysis of information literacy

Items		1	2	3	4	5	Mean	SD
I am able to identify information needed	Freq.	21	38	55	122	68	3.59	1.166
	%	6.9	12.5	18.1	40.1	22.4		
I can choose trusted sources of information	Freq.	9	14	36	159	86	3.98	.924
	%	3	4.6	11.8	52.3	28.3		
I can quickly get the information needed on the media	Freq.	21	31	39	142	71	3.69	1.141
	%	6.9	10.2	12.8	46.7	23.4		
I am able to distinguish official sites or personal sites	Freq.	11	18	52	147	76	3.85	.982
	%	3.6	5.9	17.1	48.4	25		
I can assess whether an online resource (e.g. web page, blog, wiki, video, podcast, academic journal article) or person is credible and trustworthy	Freq.	5	27	56	145	71	3.82	.945
	%	1.6	8.9	18.4	47.7	23.4		
I am able to share information with others	Freq.	9	18	49	138	90	3.93	.979
	%	3	5.9	16.1	45.4	29.6		
Information literacy							**3.81**	**.829**

Table (4) indicates results of descriptive analysis for the information literacy. The results depicted that there is a high level of information literacy, as total mean was 3.81 and standard deviation was .829. The results in this table show that the statement number 1 "I can choose trusted sources of information" ranked the first, as meanwas3.98 and standard deviationwas.924. While the statement number 2 "I am able to identify information needed" came as the lowest statement in the rank, as meanwas3.59and standard deviation was1.166. Which means that the employees of the Egyptian official tourism organizations in Egypt have a significant level of information literacy and they are able to identify, get, use and share information, and they are also strongly able to choose trusted sources of information.

Descriptive analysis of employees' innovation
Idea exploration/opportunity recognition

Table (5) descriptive analysis of idea exploration

Items		1	2	3	4	5	Mean	SD
I pay attention to issues that are not part of my daily work	Freq.	10	13	45	143	93	3.97	.961
	%	3.3	4.3	14.8	47	30.6		
I wonder how things can be improved	Freq.	10	12	61	136	85	3.90	.963
	%	3.3	3.9	20.1	44.7	28		
I search out new working methods, techniques or instruments	Freq.	9	23	50	136	86	3.88	1.002
	%	3	7.6	16.4	44.7	28.3		
I try to get new ideas from colleagues or business partners	Freq.	4	13	38	164	85	4.03	.834
	%	1.3	4.3	12.5	53.9	28		
I am interested in how things are done elsewhere in order to try to implement the best ones	Freq.	4	17	49	154	80	3.95	.876
	%	1.3	5.6	16.1	50.7	26.3		
Idea exploration							**3.95**	**.713**

Table (5) indicates results of descriptive analysis for the idea exploration dimension. The results depicted that there is a high level of the attitude of Idea exploration, as total mean was 3.95 and standard deviation was .713. The results in this table show that the statement number 4 "I try to get new ideas from colleagues or business partners" ranked the first, as mean was4.03and standard deviation was.834. While the statement number 3 "I search out new working methods, techniques or instruments" came as the lowest statement in the rank,

as mean was3.88and standard deviation was1.002. Which means that the employees of the Egyptian official tourism organizations in Egypt have a high level of idea exploration abilities, and they give attention to explore new ideas, and they are strongly try to get new ideas to develop work methods.

Idea generation

Table (6) descriptive analysis of idea generation

Items		1	2	3	4	5	Mean	SD
When something does not function well at work, I try to generate/find new solutions	Freq.	6	11	47	164	76	3.96	.853
	%	2	3.6	15.5	53.9	25		
I prefer work that requires original thinking	Freq.	6	22	48	153	75	3.88	.928
	%	2	7.2	15.8	50.3	24.7		
I try new ways of doing things at work	Freq.	6	12	49	151	86	3.98	.884
	%	2	3.9	16.1	49.7	28.3		
I try to find new approaches to execute tasks	Freq.	10	22	40	151	81	3.89	.987
	%	3.3	7.2	13.2	49.7	26.6		
Idea generation							**3.93**	**.759**

Table (6) indicates results of descriptive analysis for the idea generation dimension. The results depicted that there is a high level of the attitude of Idea generation, as total mean was 3.93 and standard deviation was .759. The results in this table show that the statement number 3 "I try new ways of doing things at work" ranked the first, as mean was3.98and standard deviation was.884. While the statement number 2 "I prefer work that requires original thinking" came as the lowest statement in the rank, as mean was3.88 and standard deviation was.928. Which means that the employees of the Egyptian official tourism organizations in Egypt have a high level of idea generation abilities, they prefer original thinking, and they always try to find new approaches and solutions to perform tasks, ideas and they are always try new ways of doing things at work.

Idea communication/ championing

Table (7) descriptive analysis of idea communication/ championing

Items		1	2	3	4	5	Mean	SD
I encourage key organization members enthusiastic for innovative ideas	Freq.	13	10	59	143	79	3.87	.978
	%	4.3	3.3	19.4	47	26		
When I have a new idea, I try to persuade/convince my colleagues	Freq.	5	13	44	164	78	3.98	.850
	%	1.6	4.3	14.5	53.9	25.7		
When I introduce something new, I try to involve people who are able to collaborate on it/to push it through	Freq.	12	22	58	134	78	3.80	1.028
	%	3.9	7.2	19.1	44.1	25.7		
When I have a new idea, I try to get support for it from management	Freq.	6	19	59	132	88	3.91	.952
	%	2	6.3	19.4	43.4	28.9		
Idea communication/ championing							**3.89**	**.804**

Table (7) indicates results of descriptive analysis for the idea communication/ championing dimension. The results depicted that there is a high level of the attitude of Idea communication/ championing, as total mean was 3.89 and standard deviation was .804. The results in this table show that the statement number 2 "When I have a new idea, I try to persuade/convince my colleagues" ranked the first, as mean was3.98 and standard deviation was.850. While the statement number 3 "When I introduce something new, I try to involve people who are able to collaborate on it/to push it through" came as the lowest statement in

the rank, as mean was3.80and standard deviation was1.028. Which means that the employees of the Egyptian official tourism organizations in Egypt have a high level of idea communication/ championing skills, they seek to introduce something new at work, and they always try to get support for their new ideas, and also, they are great in persuading their colleagues with their own new ideas.

Idea implementation

Table (8) descriptive analysis of idea implementation

Items		1	2	3	4	5	Mean	SD
I systematically introduce innovative ideas into work practices	Freq.	7	17	61	129	90	3.91	.961
	%	2.3	5.6	20.1	42.4	29.6		
I contribute to the implementation of new ideas	Freq.	5	14	54	135	96	4.00	.910
	%	1.6	4.6	17.8	44.4	31.6		
I put effort in the development of new things	Freq.	16	27	60	129	72	3.70	1.086
	%	5.3	8.9	19.7	42.4	23.7		
I develop suitable plans and schedules for the implementation of new ideas	Freq.	9	28	54	139	74	3.79	1.008
	%	3	9.2	17.8	45.7	24.3		
For the implementation of new ideas, I search for new technologies, processes or procedures	Freq.	2	12	49	163	78	4.00	.798
	%	.7	3.9	16.1	53.6	25.7		
I am able to persistently overcome obstacles when implementing an idea	Freq.	6	19	42	156	81	3.94	.912
	%	2	6.3	13.8	51.3	26.6		
Idea implementation							**3.89**	**.722**

Table (8) indicates results of descriptive analysis for the idea implementation dimension. The results depicted that there is a high level of the attitude of Idea implementation, as total mean was 3.89 and standard deviation was .722. The results in this table show that the statement number 5 "For the implementation of new ideas, I search for new technologies, processes or procedures" ranked the first, as mean was 4.00 and standard deviation was.798. While the statement number 3 "I put effort in the development of new things" came as the lowest statement in the rank, as mean was3.70 and standard deviation was1.086. Which means that the employees of the Egyptian official tourism organizations in Egypt have a high level of idea implementation skills, they put effort, contribute and develop plans for the implementation of new ideas at work, and they are always try to find out the best technologies, processes and procedures to implement new ideas.

Test of Hypothesis
H1: Information literacy affects the employees' innovation in Egyptian official tourism organizations.
Table (9) shows the direct and indirect effect of information literacy on employees' innovation.

Table (9) Results of path analysis from information literacy to employees' innovation

Path	Estimate	S.E.	C.R	P Value	Result
Information literacy → Employees' innovation	.947	.053	17.868	.000	Supported

Table (9) depicts that the value of the standard estimate from information literacy to employees' innovation is 0.947, which is significant (p-value < .05), and this means that information literacy positively affects 94.7% of employees' innovation. The standard error is 0.053. The C.R. value is 17.868. So, H1 is supported.
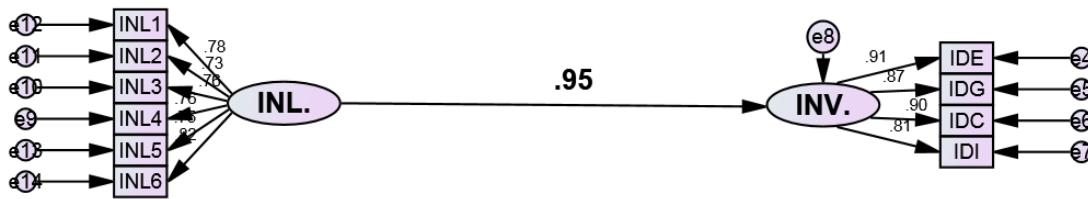
Figure (1) path analysis from information literacy to employees' innovation

H2: Information literacy significantly affects the idea exploration in Egyptian official tourism organizations.

Table (10) illustrates the direct and indirect effect of Information literacy on idea exploration.

Table (10) Results of path analysis from Information literacy to idea exploration

Path	Estimate	S.E.	C.R	P Value	Result
Information literacy → idea exploration	.981	.077	12.740	.000	Supported

Table (10) reveals that the value of the standard estimate from Information literacy to idea exploration is 0.981, which is significant (p-value < .05), and this means that Information literacy positively affects 98.1% of idea exploration. The standard error is 0.077. The C.R. value is 12.740. So, H2 is supported.
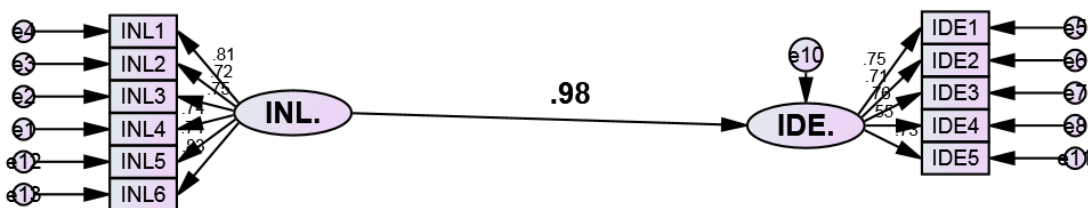

Figure (2) path analysis from Information literacy to idea exploration

H3: Information literacy significantly affects the idea generation in Egyptian official tourism organizations.

Table (11) indicates the direct and indirect effect of Information literacy on idea generation.

Table (11) Results of path analysis from Information literacy to idea generation

Path	Estimate	S.E.	C.R	P Value	Result
Information literacy → idea generation	.863	.063	13.698	.000	Supported

Table (11) depicts that the value of the standard estimate from Information literacy to idea generation is 0.863, which is significant (p-value < .05), and this means that Information literacy positively affects 86.3% of idea generation. The standard error is 0.063. The C.R. value is 13.698. So, H3 is supported.
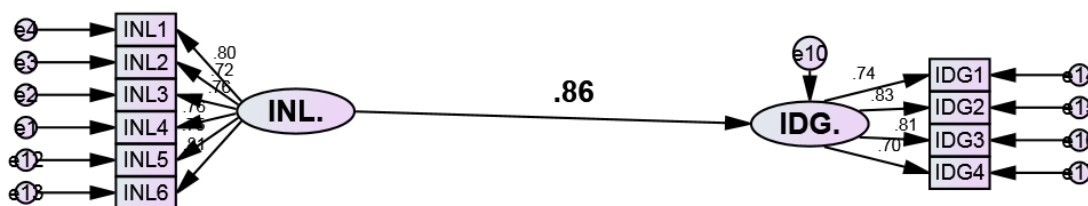

Figure (3) path analysis from Information literacy to idea generation

H4: Information literacy significantly affects the idea communication/championing in Egyptian official tourism organizations.
Table (12) reveals the direct and indirect effect of Information literacy on idea communication/championing.

Table (12) Results of path analysis from Information literacy to idea communication/championing

Path	Estimate	S.E.	C.R	P Value	Result
Information literacy → idea communication/championing	.886	.074	11.973	.000	Supported

Table (12) demonstrates that the value of the standard estimate from Information literacy to idea communication/championing is 0.886, which is significant (p-value < .05), and this means that Information literacy positively affects 88.6% of idea communication/championing. The standard error is 0.074. The C.R. value is 11.973. So, H4 is supported.
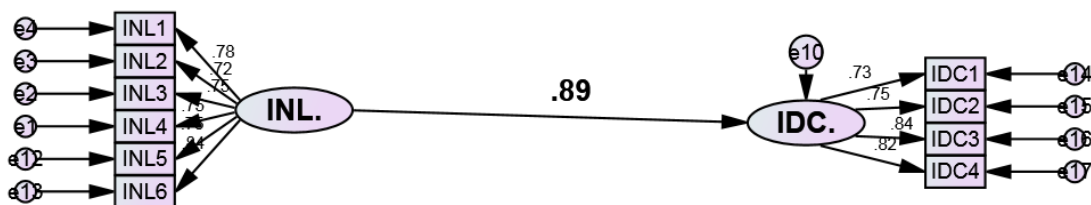

Figure (4) path analysis from Information literacy to idea communication/championing

H5: Information literacy significantly affects the idea implementation in Egyptian official tourism organizations.
Table (13) highlights the direct and indirect effect of Information literacy on idea implementation.

Table (13) Results of path analysis from Information literacy to idea implementation

Path	Estimate	S.E.	C.R	P Value	Result
Information literacy → idea implementation	.826	.072	11.472	.000	Supported

Table (13) shows that the value of the standard estimate from Information literacy to idea implementation is 0.826, which is significant (p-value < .05), and this means that Information literacy positively affects 82.6% of idea implementation. The standard error is 0.072. The C.R. value is 11.472. So, H5 is supported.
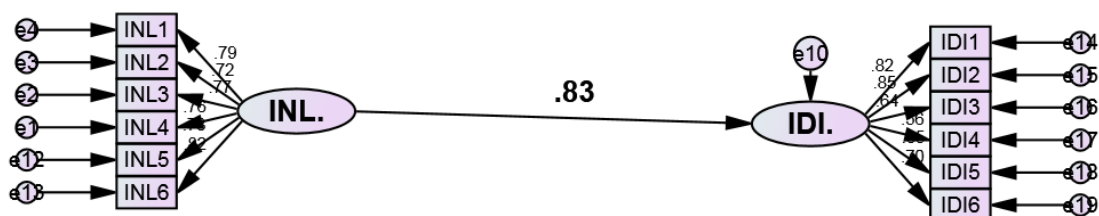

Figure (5) path analysis from Information literacy to idea implementation.

Discussion

The purpose of this study was to explore the influence of information literacy on employees' innovation in the Egyptian official tourism organizations. To achieve this goal, an integrating model indicating the effect of information literacy on employees' innovation was developed and tested based on employees of the Ministry of Tourism and Antiquities and the Egyptian Tourism Promotion Board. The results support the proposed model and prove that there is a significant and positive effect of information literacy on employees' innovation in the Egyptian official tourism organizations. This result is in line with Allison et al. (2013), Gilbert (2017), and Goldstein & Whitworth (2017), who concluded that there is a positive effect of information literacy on employees' innovation. The results also highlight that the information literate employees have more ability to explore, generate, communicate and implement innovative ideas, which means that they have a higher level of innovation in comparison with other employees in the Egyptian official tourism organizations. Finally, the results show that employees of the official tourism organizations in Egypt have a good level of information literacy which reflects on their good innovation level.

Theoretical and practical implications

The study's result hold important implications, theoretically, information literacy was found to be relevant in the official tourism organizations in Egypt. Practically, the results hold important implications for the Egyptian official tourism organizations' employees. Information literacy was discovered to be an effective tool helps employees get better use of information at work, identify information needed, and evaluate information and different information sources. Hence, the Egyptian official tourism organizations management should continue to enhance their employees' information literacy, and should pay attention to building a strong training system for all employees in different demonstrative levels to train them on how to find, evaluate, and use information at work. That would help reach better performance level and let them have bigger chance to think innovatively and search for new ideas to solve work problems. There is also a need to develop more effective innovation system followed by innovation assessment tests to measure their organizations' efforts in fostering their employees' innovative behavior. Finally, the study recommends the necessity of preparing a guide for information literacy skills required for work and also the necessity of attracting information literate candidates who have the skills that match their guide. Also, the official tourism organizations in Egypt should consider the adoption to information literacy skills as a part of their organizational culture which everyone should emphasize to foster innovation.

Limitations and future studies

While the study offers valuable information, there are a number of limitations to this study. First, the study sample was drawn from employees of Ministry of Tourism and Antiquities and the Egyptian Tourism Promotion Board. As a result, its recommended that future research expand the area of the research and the population by engaging the private sector organizations. Second, this research explored the effect of information literacy on employees' innovation. Future research is suggested to investigate the effect of information literacy on the organizational outcomes such as organizational reputation, sustainable performance, and other outcomes that may affect the employees' continuity. Since this study is applied to the official tourism organizations in Egypt, the future research could be applied to other countries and a comparative study could be conducted.

List of References:

- Ahmad. F., Widén, G. & Huvila, I. (2020). The impact of workplace information literacy on organizational innovation: An empirical study. *International Journal of Information Management*, 51, 1-24.
- Al-Romeedy, B. & Mohamed, A. (2022). Does Strategic Renewal Affect the Organizational Reputation of Travel Agents Through Organizational Identification?. *International Journal of Tourism and Hospitality Management*, 5(1), 1-22.
- Al-Romeedy, B. & Mohamed, A. (2022). The Impact of Organizational Learning on Organizational Success in EgyptAir: Organizational Power as a Moderator. *International Journal of Tourism and Hospitality Management*, 5(2), 1.18.
- Al-Romeedy, B. & Talhi, F. (2019). Are The Egyptian Travel Agencies Learning Organization?. *Strategy and Development Review, 9*(16), 64-87.
- Al-Romeedy, B. (2019). Green human resource management in Egyptian travel agencies: constraints of implementation and requirements for success. *Journal of Human Resources in Hospitality & Tourism, 18*(4), 529-548.
- Al-Romeedy, B. (2019). Strategic Agility as a Competitive Advantage in Airlines - Case Study: Egypt Air. *Journal of the Faculty of Tourism and Hotels-University of Sadat City, 3*(1), 1-15.
- Al-Romeedy, B. (2019). The role of job rotation in enhancing employee performance in the Egyptian travel agents: the mediating role of organizational behavior. *Tourism Review, 74*(4), 1003-1020.
- Al-Romeedy, B. S. (2019). Green human resource management in Egyptian travel agencies: constraints of implementation and requirements for success. *Journal of Human Resources in Hospitality & Tourism*, 18(4), 529-548.
- Al-Romeedy, B., & Ozbek, O. (2022). The effect of authentic leadership on counterproductive work behaviors in Egyptian and Turkish travel agents: Workplace incivility as a mediator. *African Journal of Hospitality, Tourism and Leisure*, 11(2), 409-425.
- Altinay, L. & Paraskevas, A. (2008). Planning Research in Hospitality and Tourism. Oxford: Butterworth- Heinemann.
- Amabile, T. (1988). A model of creativity and innovation in organizations. *Research in organizational behavior, 10*, 123-167.
- Bani-Melhem, S., Zeffane, R. & Albaity, M. (2018). Determinants of employees' innovative behavior. *International Journal of Contemporary Hospitality Management, 30*, 1601-1620.
- Basadur, M. (2004). Leading others to think innovatively together: Creative leadership. *Leadership Quarterly, 15*(1), 103-121.
- Behrens, S. (1994). A conceptual analysis and historical overview of information literacy. *College & Research Libraries, 55*(4), 309-322.
- Bruce, C. (1999). Workplace experiences of information literacy. *International Journal of Information Management*, 19, 33-47.
- Bruce, C. (2000). Information literacy programs and research: An international review. *Australian Library Journal*, 49(3), 209-218.
- Bryman A (2008) Social Research Methods, 3rd edn. Oxford: Oxford University Press.
- Cheuk, B. (2008). Delivering business value through information literacy in the workplace. *Libri*, 58(3), 137-143.

- Cheuk, B. (2017). The hidden value of information literacy in the workplace context: how to unlock and create value. In M. Forster (Ed.), Information Literacy in the Workplace (pp. 131-148). London, United Kingdom: Facet.
- Damanpour, F. (2017). Organizational Innovation. In R. J. Aldag (Ed.), Oxford Research Encyclopedia of Business and Management: Oxford, United Kingdom: Oxford University Press.
- De Jong J & Hartog D (2005) Measuring innovative work behavior. *Journal of creativity and innovation management*, 19(1): 23-36
- De Jong p (2007) Individual innovation: The connection between leadership and employees' innovative work. PHD thesis, University of Amsterdam.
- De Meulemeester, A., Buysse, H., & Peleman, R. (2018). Development and validation of an information literacy self-efficacy scale for medical students. *Journal of Information Literacy*, 12(1), 27-47.
- Dean, D., & Webb, C. (2011). Recovering from information overload. *The McKinsey Quarterly*, 2011(1), 80.
- Deltor, B. (2010). Information management. *International Journal of Information Management*, 30(2), 103-108.
- Elbaz, A., Soliman, M., Al-Alawi, A., Al-Romeedy, B., & Mekawy, M. (2022). Customer responses to airline companies' service failure and recovery strategies: The moderating role of service failure habit. *Tourism Review*. https://doi.org/10.1108/TR-03-2022-0108
- Elliot-White M, Walton M & Finn M (2000) Tourism and Leisure Research Methods. Pearson Education, Harlow, 1-81.
- Faleye, O., Kovacs, T., & Venkateswaran, A. (2014). Do Better-Connected CEOs Innovate More? 49(5-6), 1201-1225.
- Farahat, E., Mohamed, M., & Al-Romeedy, B. (2022). Artificial intelligence applications and its impact on the competitiveness of the Egyptian tourist destination. *Research Journal of the Faculty of Tourism and Hotels Mansoura University, 11(2), 57-93*.
- Forster, M. (2017). Information Literacy's role in workplace competence, 'best practice' and the ethics of professional obligation. In M. Forster (Ed.), Information Literacy in the Workplace (pp. 85-96). London: Facet Publishing.
- Gaafar, H., Elzek, Y., & Al-Romeedy, B. (2021). The Effect of Green Human Resource Management on Green Organizational Behaviors: Evidence from Egyptian Travel Agencies. *African Journal of Hospitality, Tourism and Leisure, 10*(4), 1339-1356.
- Gaglio, C., & Katz, J. (2001). The Psychological Basis of Opportunity Identification: Entrepreneurial Alertness. *An International Journal*, 16(2), 95-111.
- García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of Business Research*, 65(7), 1040-1050.
- George, N. M., Parida, V., Lahti, T., & Wincent, J. (2016). A systematic literature review of entrepreneurial opportunity recognition: insights on influencing factors. *International Entrepreneurship and Management Journal*, 12(2), 309-350.
- Gerstner, W.-C., König, A., Enders, A., & Hambrick, D. C. (2013). CEO Narcissism, Audience Engagement, and Organizational Adoption of Technological Discontinuities. *Administrative Science Quarterly*, 58(2), 257-291.

- Gilbert, S. (2017). Information literacy skills in the workplace: Examining early career advertising professionals. *Journal of Business & Finance Librarianship*, 22(2), 111-134.
- Goldstein, S., & Whitworth, A. (2017). Determining the value of Information Literacy for employers. In M. Forster (Ed.), Information Literacy in the Workplace (pp. 67-84). London, United Kingdom: Facet.
- Gu, H., Duverger, P. & Yu, L. (2017). Can innovative behavior be led by management? A study from the lodging business. *Tourism Management,* 63, 144-157.
- Hair Jr., Hult, G., Ringle, C., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Inskip, C. (2014). Information literacy is for life, not just for a good degree: a literature review. Charted Institute of Library and Information Professionals (CILIP). Retrieved from www.cilip.org.uk/sites/default/files/documents/IL%20in%20the%20workplace%20literature%20re view%20Dr%20C%20Inskip%20June%202014.%20doc.pdf
- Kanter, R. (1988). When a thousand flowers bloom: structural, collective and social conditions for innovation in organization. *Research in Organizational behavior*,10, 169-211.
- Khairat, GH., & Al-Romeedy, B. (2016). Applying the BCG Matrix to Analyze Egypt's Tourism Competitiveness Position. *Minia Journal of Tourism and Hospitality Research, 1*(2), 1-21.
- Kuckertz, A., Kollmann, T., Krell, P., & Stöckmann, C. (2017). Understanding, differentiating, and measuring opportunity recognition and opportunity exploitation. *International Journal of Entrepreneurial Behavior & Research,* 23(1), 78-97.
- Kurbanoglu, S., Akkoyunlu, B., & Umay, A. (2006). Developing the information literacy self-efficacy scale. *Journal of Documentation*, 62(6), 730-743.
- Lloyd, A. (2010). Information literacy landscapes information literacy in education, workplace and everyday contexts. Oxford, UK: Chando
- Lukes M & Stephan U (2017) Measuring employee innovation: A review of existing scales and the development of the innovative behavior and innovation support inventories across cultures. *International Journal of Entrepreneurial Behavior & Research,* 23(1), 136-158.
- Mohamed, M., Farahat, E., & Al-Romeedy, B. (2022). The Mediating Role of Marketing Effectiveness in the Relationship between Artificial Intelligence and Destination Competitiveness. *Minia Journal of Tourism and Hospitality Research*, 14(1), 113-129.
- O'Leary, Z. (2010). Doing your Research Project. Los Angeles, CA: Sage Publications Ltd.
- Ozgen, E., & Baron, R. A. (2007). Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums. *Journal of Business Venturing*, 22(2), 174192.
- Pilav-Velic, A., Cerne, M., Trkman, P., Wonf, S. & Abaz, A. (2021). Digital or Innovative: Understanding Digital Literacy Practice – innovative work behavior. *South East European Journal of Economics and Business,* 16(1), 107-119.
- Scott, S. & Bruce, R. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal,* 37(3), 580-607.
- Shane, S. (1994). Are champions different from non-champions? *Journal of Business Venturing*, 9(5), 397-421.

- Shrestha, b. (2018). Information Literacy at the Workplace, Digital literacy skills required by employees at the workplace. Master thesis, Faculty of Social Sciences, Business and Economics, Åbo Akademi University, Finland.
- Søby, M. (2013). Learning to be: Developing and understanding digital competence. *Nordic Journal of Digital Literacy,* 8(3), 134-138.
- Talhi, F., & Al-Romeedy, B. (2022). Evaluating the degree of adoption of talent management in Egyptian and Algerian travel agents: A comparative study. *Journal of Economic Integration***,** 10(1), 125-140.
- Tang, T. (2016). Making innovation happen through building social capital and scanning environment. *International Journal of Hospitality Management*, 56, 56-65.
- Van de Ven, A. (1986). Central problems in the management of innovation, *Management Science*, 32, 590-607.
- Veal A (2006) Research Methods for Leisure and Tourism. 3rd edn, Prentice Hall, London.
- Wardhani, D., Hesti, S. & Dwityas, N. (2019). Digital Literacy: A Survey Level Digital Literacy Competence among University Students in Jakarta. *International Journal of English, Literature and Social Science,* 4(4), 1131-1135.
- Wong, Y., Lee, C., & Chang, S. (2017). CEO Overconfidence and Ambidextrous Innovation*. Journal of Leadership & Organizational Studies*, 24(3), 414-430.
- Zaki, H. & Al-Romeedy (2019). The Effect of High-Performance Work Practices on the Creative Performance and Talented Employee Retention: The Mediating Role of Job Embeddedness. *Journal of the Faculty of Tourism and Hotels, Alexandria University, 16*(1), 48-68.
- Zaki, H., Al-Romeedy, B., & Ali, S. (2022). Predictors and outcomes of women empowerment in travel agents: Perceived fairness as a mediator. *International Journal of Tourism and Hospitality Management*, 5(2), 1-27.
- Zhang, X., Majid, S., & Foo, S. (2010). Environmental scanning: An application of information literacy skills at the workplace. *Journal of Information Science*, 36(6), 719-732.
- Zhu, W., Wang, G., & He, H. (2016). The Rise of CEO Transformational Leadership in Dynamic Environments. Paper presented at the Academy of Management Proceedings.