

## RESERCH OBSTACLES IN TOURISM: A STUDY APPLIED TO EGYPTIAN UNIVERSITIES

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### ABSTRACT

Research has a key role in sustainable and comprehensive development for any country. The primary body producing research in Egypt is higher education institutions (i.e. universities). It is claimed that the academic research contribution to tourism industry development is limited. This study aims to investigate the challenges of university research. It examines the effect of research challenges on the tourism industry development. Employing structural equation modeling for analysis purposes of 151 questionnaire forms collected from academics, the findings revealed that lack of clear university research policies, weak financial support, university research environment, researchers-related factors, research output marketing challenges, and field-related challenges are negatively affecting the tourism sector development. This study is useful for research policy-makers to set up research priorities to meet the societal needs.

Keywords- Academic research, Challenges, Egypt, Tourism.

### INTRODUCTION

At its various levels, research exists as one of the most outstanding factors contributing to the comprehensive development process of industry. In the rapidly changing world, societies aspire to provide rising generations with the knowledge necessary for solving problems and dealing with present and future challenges. Because of their crucial impacts, education and research can be considered the society's most critical investment in human resources. Higher education and research hold a key role in promoting comprehensive development and rapid transformation necessary for nations facing the consequences of globalization. There is a dire need in the Arab world for a complete re-examination of higher education, and research policy in order to work towards enhancing their quality to meet needs of the modern society. In the Arab world, research is mostly linked to higher education institutions (i.e., universities). It is believed that higher education and research constitute the best and the most appropriate model with a primary function of producing and providing advanced scientific knowledge enables progress and builds a better future (Bin Tareef, 2009).

Furthermore, research is an essential component for any country to achieve sustainable and global development. It is also essential for social mobility, the achievement of harmony, justice, comprehensive peace, and most importantly the development of human resources (Karimian, Sabbaghian, Salehi, & Sedghpour2012). Academic research should aim to educate well-aware, autonomous, and responsible citizens committed to national and universal principles, capable of dealing with the challenges of the century and of lifelong learning. It is strongly linked to universities in Egypt where universities are one of the main and popular bodies conducting and producing research. As a result of this linkage between university and research, research was poor in Egypt until 1907 as universities did not exist before that time in Egypt. The establishment of Cairo University in 1908 was the beginning of escalating the number of universities and students joining these institutions (Bond, Maram, Soliman, & Khattab, 2013). Number of universities in Egypt has increased from one public university in 1908 to 27 public universities at present. In addition, 19 private universities, and a small number of public research centers have been established (Ministry of Higher Education, 2014).

Despite the increasing number of universities in Egypt and considering them the main body producing academic research, the Central Auditing Organization, the formal authority of auditing in Egypt, has criticized Egyptian universities for their relatively low output of scientific research compared to universities in other countries (OECD & World Bank, 2010; World Economic Forum, 2011). The global competitiveness report issued by the World Economic Forum in 2011 has ranked Egypt the 113<sup>th</sup> out of 142 countries on the quality of scientific research and 83<sup>rd</sup> on its capacity for innovation (Bond, et al., 2013). This simply leads to the fact that

research in Egypt occupies the tail position of global rankings. Therefore, this study investigates the challenges facing the quality of scientific research produced by universities. It examines the determinants of research produced in tourism and hospitality sector and its contribution to solving the developmental problems of the sector. There are very few studies, if any, looking at the challenges of tourism and hospitality research and its contribution to the sector development (Rosen College of Hospitality Management, 2013). This study is very useful for policy-makers seeking the effective contribution of academic research in developing tourism field. In the following sections, the study discusses the challenges of tourism research, its contribution to the field development, research framework and hypotheses development, as well as research methodology, findings and discussion.

## LITERATURE REVIEW

### *1.1. Brief Overview of Academic Research in Egypt*

There is a belief that the poor Arabic economic performance is a result of the lack of focus on knowledge and research as one of the main development pillars (El Baradei & El Baradei, 2004). The community of scientific research in Egypt is suffering a climate of frustrations, which squandered several chances for contribution to the development of the country. There is a lack of coordination between the institutions of scientific research and development authorities in Egypt. In addition, Egypt lacks the appropriate mechanisms for marketing the product of research centers and transfer of research to the application stage (Belal & Springuel, 2006).

Generally, the funding of the research system in Egypt is provided primarily by the Ministry of Finance based on planning documents developed by the Ministry of Planning in consultation with the Ministry of State for Scientific Research. The funding for university research is very low, limiting the universities' ability to play an important role in the generation and dissemination of knowledge. At 0.2%, of GDP, Egypt spends ten times less than the best OECD performers, and is only at half the average level of expenditures in the Arab region (OECD & World Bank, 2010).

As for well-educated researchers, the country supports the mobility of academic staff. Mobility not only provides participating individuals with an international experience and contacts with peers abroad, but eventually will be translated into research activities back home. In the case of Egypt the efforts being made on mobility appear not to be driven by strategy, at either the system or institutional level (OECD & World Bank, 2010). In addition, a small percentage of university postgraduate students has the opportunity to read for their PhD abroad being fully-funded by the government. However, Egypt has been steadily losing scientists. Two thirds of the postgraduates studying overseas in the late 1990 and early 2000 did not return home (Bond, et al., 2013). It is estimated that there are more than 6500 Egyptian PhD holders working as faculty members and researchers in universities in Europe, North America and Australia (OECD & World Bank, 2010). This is due to factors hindering research such as limited national funding, increasing cost of applied research, inadequate networking, inadequate coordination between different research organizations, poor dissemination and use of research findings, in addition to better career for them abroad.

### *1.2. Challenges of Tourism and Hospitality Research, and Research Hypotheses Development*

Unfortunately, tourism research did not provide an interactive international platform for academics and industry practitioners from diverse backgrounds and interests to meet critical issues that will affect the future direction of tourism research and practice. Also, there is a lack in promoting mutual dialog, interaction and understanding of various stakeholders of tourism research outputs, including academic researchers and scholars, industry professionals, and government officials (Rosen College of Hospitality Management, 2013). In addition, many tourism researchers have been deeply criticized for a disappointment to advance research addressing fundamental social and political questions, preferring to focus instead on small-scale, technically-based problem-solving research (Corbyn, 2008; Tuchman, 2009).

There are 8 faculties of tourism and hotels belong to public universities in Egypt in addition to 2 faculties belong to private universities and many private tourism and hotel institutes (Ministry of Higher Education, 2014). Despite having this number of faculties in Egypt, very few studies targeted the academic researchers to clarify the perceived challenges of them to produce high quality research solving the obstacles to industry development. Filling this gap, this study has examined and classified the challenges of research in tourism field

to five main categories: university research environment, financial factors to support research, university research policies, research marketing, and researchers' related factors.

### *1.2.1. University Research Environment*

University research environment refers to the university and faculty's support provided to researchers to help them produce high quality research. This support could include the clear policy of research, setting up research priorities, and procedures of educating and improving the quality of researchers and post-graduate students. The research environment in universities significantly affects staff members and postgraduate students, the main categories producing academic research.

As for staff members, although more than one third of the total number of faculty members employed in Egyptian public universities is professors or associate professors, their research capacity is low as a result of being engaged in teaching, in addition to their need to be well-prepared and qualified continuously to do high quality research. The low-level skills of research and teaching duties of staff members have also affected postgraduate students, where supervisors do not have enough time to guide their research students and help them overcome any research obstacles. This eventually has led to the fact that universities do not have a meaningful role to play in the research and development due to the lack of standards and criteria for measuring performance and contribution to relevant fields (OECD & World Bank, 2010). Based upon the above argument, the first hypothesis of the study was developed as follows:

H1: University research factors have a negative effect on the contribution of academic research in solving tourism sector problems.

### *1.2.2. Financial Support*

Financial challenges refer to the financial allocations to support scientific research, research excellence, scholars and incentives, and the different requirements for research such as laboratories, equipment and periodicals. Farajane (2000) reported that the expenditure of Arab states on research is almost the lowest in the world. The governments in most Arab countries serve as the primary or sole source of research funding. One reason of low quality research is the lack of financial incentives for university staff members (OECD & World Bank, 2010). In addition, the financial allocations for attending international conferences or publishing in international periodicals are at minimum level.

On the other hand, the governmental funding allocation for scientific research has never exceeded 0.5% of the GDP. Researchers, particularly in humanities and social sciences have been suffering from severe shortage and even lack of any funding allocated to conduct research. A revolutionary change has taken place in 2014, where it has been decided to allocate 1% of the GDP for scientific research (Egyptian Constitution, 2014). As claimed earlier by OECD & World Bank (2010), at 0.2%, of GDP, Egypt's expenditure on scientific research is very low. Based upon the above argument, the second hypothesis of the study was developed as follows:

H2: financial support has a negative effect on the contribution of academic research in solving tourism sector problems.

### *1.2.3. Researchers-related Factors*

In a study conducted by Al-Furaih and Al-Shayji (2005) in Kuwait to examine obstacles to scientific research encountered by faculty members in research sponsored projects, the results indicated that the major obstacles were inherent in the excessive number of procedures that reduce their incentives to apply for funding. Additional challenges include the inadequacy of qualified research assistants, and the preoccupation of the faculty members in administrative duties and teaching assignments.

Furthermore, potential researchers in universities lack the facilities and adequate funding and incentives to engage in research activities (OECD & World Bank, 2010). Other factors include inadequate networking and coordination between different research organizations to support researchers (Bond, et al., 2013). A further challenge of research is the lack of motivation of staff members to do research except for promotion purposes (Karimian, et al., 2012). In addition, academic staff members at universities frequently and even regularly manage their research productivity independently without or may be with limited support and guidance from institutional administrators (Bowen, 2005). Based upon the above discussion, the third hypothesis of the study is:

H3: Researchers-related factors are negatively effecting the contribution of academic research to solving tourism sector problems

#### 1.2.4. Research Policies

In a study by Bin Tareef (2009), the results revealed that there is a lack of strategic planning for research. In addition, there is an absence of clear scientific policies and strategies. Unclear policies linked to national priorities have led to research output that is not linked to industry development. One key challenge for research priorities in Egypt is the need to have a research model that is responsive to societal needs and is carried out by multidisciplinary teams of researchers (OECD & World Bank, 2010).

The separation of public research institutions from the university and the lack of strong links and co-operation between the two bodies hinder the ability of universities to effectively provide training for adequate number of masters, doctoral students and post-doctoral staff members who will be the infrastructure of research development in the future (OECD & World Bank, 2010). A clear policy for protecting the copyrights of researchers is still missing in universities resulting in the spread of plagiarism concerns (Bin Tareef, 2009). The key factor in the absence of research policies is the lack of a strategic plan for research within university (Karimian, et al., 2012). Build upon the mentioned challenges, the fourth hypothesis of the study was formulated as follows:

H4: A lack of clear research policies is negatively effecting the contribution of academic research to solving tourism sector problems

#### 1.2.5. Research Marketing

Djeflat (2009) claimed that the lack of a clear vision of universities in promoting scientific and technological researches is a key factor limiting the contribution of research to industry development. Belal and Springuel (2006) added that one serious challenge for scientific research is promotion, particularly publication of results in scientific periodicals. The fact that USA, the UK, Australia, New Zealand and Canada accommodate over three-quarters of tourism and tourism related journals and their editors (Lew, Hall, & Williams, 2008) have resulted in the fact that journals output is dominated by institutions in the same countries (Jogaratnam, Chon, McCleary, Mena, & Yoo, 2005).

Mobility of staff members, attending international conferences and workshops, and participating in international research projects are various mechanisms of promoting research output. However, the fact that universities have limited funding to support these activities limits their ability to interact with industry stakeholders seeking solutions for their work problems. The absence of a strategy to publish conference papers and research articles on an international-scale decreases the opportunity of research contribution to industry and does not motivate researchers to produce high quality research. Therefore, the fifth hypothesis of the study is:

H5: A lack of marketing activities of academic research output is negatively effecting the contribution of academic research to solving tourism sector problems.

#### 1.2.6. Field-related Challenges

Tourism sector is similar to other fields in Egypt in which industry is not actively cooperating with academic institutions. In addition, many universities in the Arab world operate in seclusion from their surroundings, and unable to open up and interact with society (Abdul-Haqq, 2002). The tourism and hospitality sector is fragmented and the response to academic research is weak. The chronic gap between the industry and academia is not limited to the Arabic world (Abou-Shouk, Abdelhakim, & Hewedi, 2014).

Some challenges relate to the tourism field are the difficulty of getting reliable information from the industry, the lack of response of industry to academic calls of participation in conferences and workshops. Even the requests of academic community to industry, to provide their real problems to enable researchers study and solve these problems, have had a very weak response. Therefore, the sixth hypothesis of the study was developed as follows:

H6: Field-related challenges are negatively effecting the contribution of academic research to solving tourism sector problems

#### 1.2.7. Research Contribution to Tourism Sector Development

The fact that many universities in the Arab world operate in seclusion from their surroundings has kept academia removed from reality and out of touch with actual dimensions of society's problems (Abdul-Haqq, 2002). This removal leads to weak contribution of academic research to industry development. Add to this, low-quality research and unclear goals of the field's research (Al-Nashif, 2001) resulted in lack of contribution to industry development. The gap between the university's interests and society's concerns is another challenge for research contribution to industry development (Al-Yusuf, 2000).

Furthermore, Murphy (1996) quoted that low research capacity, tension between academics and practitioners, and lack of impact are most common challenges of the weak impact of research on society development. Hillage *et al.* (1998) added that research does attempt to tackle issues that are relevant to policy and practice although it is often inadequate and lacks quality and impact on solving industry problems. Despite the weak contribution to the field, Ren *et al.* (2010) concluded that in spite of the challenges facing tourism research, the field has much to build on and to be hopeful about. This requires tourism scholars to have the self-assurance to reach out to new coalitions, alliances and agendas. Therefore, it is hypothesized that:

H7: Weak contribution of academic research in solving sector problems is negatively affecting the sector development.

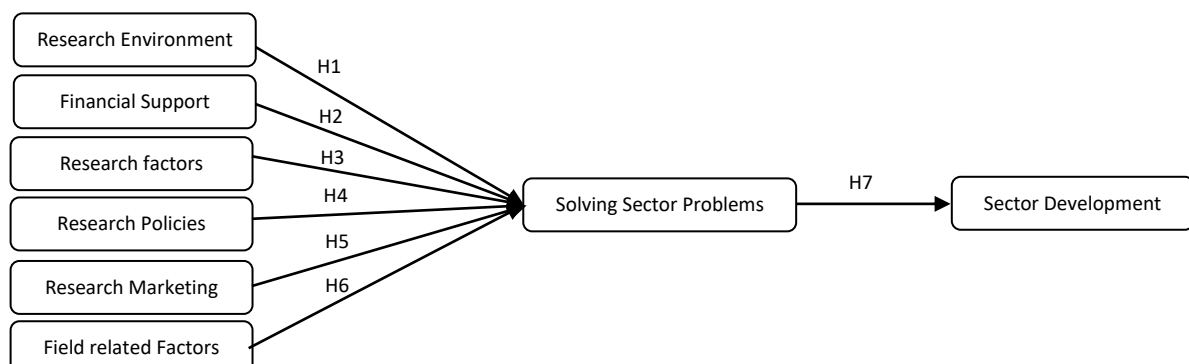
## RESEARCH FRAMEWORK

Building upon the research challenges cited in literature review, the conceptual framework conceptualizes the causal relationships among research challenges on the one side, and the development of tourism and hospitality sector on the other. This causal relationship is mediated by the contribution of tourism and hospitality research to solving the problems of the sector. The conceptual framework includes six independent variables (challenges) that affect the contribution of tourism and hospitality research to solving sector problems (mediator). Furthermore, the contribution to solving sector problems and its effect on the development of the sector (dependent variable) is another assumed causal relationship. From Figure 1, seven hypotheses were developed to measure the cause-effect among constructs. The first of the sixth hypotheses (H1) measures the effect of university-related factors on solving sector problems. From H2 to H6, hypotheses measure the effect of financial support challenges, research-related factors, research policies, research marketing activities, and tourism field related factors on the contribution of research to solving tourism and hospitality sector problems respectively. The seventh hypothesis investigates the relationship between solving sector problems and its contribution to sector development.

## RESEARCH METHODOLOGY

The deductive approach employing quantitative method was used in this study to test the hypothesized model of challenges. A questionnaire was used for data collection purposes. The form was developed based on literature review. Forty four items were employed to measure the causal relationships between factors related to researchers, research policies, marketing, university environment, and tourism field on the one hand, and the contribution of

**Figure 1**  
**Hypothesized Research Model**





these factors to development of tourism and hospitality sector on the other. This relationship is mediated by the contribution of tourism and hospitality research in solving the problems of the sector.

From the 44 items, the initial questionnaire form included 4 items to measure researcher related factors: researchers have sufficient education and training to do better research, researchers have enough time to do good research, researchers have high self-esteem to do research, and getting promoted is a secondary motive for researchers to do research. 9 items were used to measure the factors relate to research policies: there is a clear research policy of your university, faculties have a clear research policy, the faculty research policy is linked to society problems, there are declared procedures to do/ join research teams in university, there is a strategy to protect copyrights of researchers, faculties declare their annually research plan, junior researchers are trained to do research in university, specific criteria of supervising junior researchers are declared, and faculties have specific procedures to help researchers overcome research obstacles.

In addition, 6 items were used to measure the factors relate to the university environment: supervisors have enough time allocated to directing their research students, junior researchers are freely choosing their research strategy, supervisors employ up-to-date researches to help their students, there are clear simple procedures of doing research in university, emergent research topics are discussed in faculties' scientific seminars, and faculties are practically helping researchers to overcome any research obstacles. 8 items were used to measure the factors relate to marketing tourism and hospitality research: university markets industry-beneficial research, there is enough information to help researchers publish their research in tourism periodicals, faculties of tourism and hotels have their own periodicals to publish tourism research, faculties have clear procedures for researchers to present in their conferences, faculties market good research papers presented in their conferences, faculties have a clear policy to market their research projects, faculties have a recommended list of periodicals and journals for publishing research, and there is a kind of coordination between faculties and publishers to publish research papers.

Furthermore, 9 items were used to measure the financial factors to support research: university funds good research papers/ projects, in general, university is financially supporting research, university funds conference attendants inside/ outside Egypt, university contributes to scholarships funding of researchers, university provide incentives to encourage researchers, university provides sufficient facilities (laboratories, materials..etc) to support research, buying references and other sources of research is cheaper in Egypt, faculties have libraries with relevant references for research, and libraries' procedures to obtain scientific resources (books, journal articles...etc) are simple.

Additionally, 6 items were used to measure the factors relate to research in tourism and hospitality field: public relevant authorities cooperate with researchers providing needed data (reports, statistics..etc), private relevant enterprises cooperate with researchers providing needed data, accurate updated statistics of tourism and hospitality sectors are available, it is easy to get publications of other universities and research centers, there is an accurate updated research database for tourism researches, and quality procedures are followed in tourism research. One item was used to measure the mediating variable: contribution of tourism and hospitality research in solving the sector problems, and another was used to measure the outcome variable: contribution of tourism and hospitality research in developing the sector. The questionnaire form comprised a series of Likert-type (1-5 disagree/agree) statements to measure the above-mentioned dimensions of the study.

The initial form was validated by a panel of academics and comments given by the panel were considered in the final form. Later, the form was piloted on 50 respondents to check its construct validity. Corrected item-total correlation statistics were obtained and based on the recommendations of Netemeyer, Bearden, and Sharma (2003) that items below 0.35 should be excluded from the form, 3 items were excluded from the dimension of research policies: faculties have a clear research policy, there are declared procedures to do/ join research teams in university, and specific criteria of supervising junior researchers are declared. Another 3 items were excluded from marketing dimension: faculties have clear procedures for researchers to present in their conferences, faculties have a clear policy to market their research projects, and there is a kind of coordination between faculties and publishers to publish research papers. In addition, three items were excluded from financial support dimension: university contributes to scholarships funding of researchers, university provide incentives to encourage researchers, and libraries' procedures to obtain scientific resources (books, journal articles...etc) are simple. The final form retained 35 out of 44 items to measure the 8 dimensions of the study. Reliability tests of

the amended constructs revealed reliable findings. Employing structural equation modelling, the advanced multivariate technique, to measure complicated causal relationships among constructs of the study makes it a highly appropriate analytical approach for this research (Olsson, Foss, Troye, & Howell, 2000). WarpPLS version (4) was used to conduct the structural equation modelling analysis.

As for the sample of the study, the questionnaire form was sent to postgraduate students and staff members in 7 public faculties of tourism and Hotels in Egypt using simple random sample technique. 151 responses were collected, valid and free of missing data, for data analysis purposes. Measurement and structural models were obtained and validated based on the fit indices cited by Kock (2013). To assess model fit, indices include average path coefficient (APC), average R-squared (ARS), average adjusted R-squared (AARS), average block variance inflation factor (AVIF), and average full collinearity VIF (AFVIF). APC, ARS and AARS should have P values equal to or lower than 0.05 while AVIF and AFVIF values should be equal to or lower than 3.3, particularly in models where most of the variables are measured through two or more indicators. Composite reliability statistics and Cronbach's alpha should be 0.7 or above to verify the reliability of the measurement model (Hair, Anderson, Tatham, & Black, 1998). Furthermore, average variance extracted (AVE) should be equal to or higher than 0.50 to verify the convergent validity of the model (Fornell & Larcker, 1981).

## RESEARCH FINDINGS

### 2.1. Descriptive Statistics

Descriptive statistics depict that 75.5% of respondents are males and 24.5% of them are females, 43.7% of respondents are between 31 and 40 years old, 29.8% of them ranged from 25 to 30 years, 8.6% of respondents fall between 18 and 24 years, and the rest is aged above 40 years. 41.1% of respondents have PhD qualification, 37.7% of them are reading for PhD, 16.6% are reading for MSc. and 4.6 have MSc. 79.5% of respondents are working in the public sector, 15.2% in private sector, and 5.3% are self-employed.

Looking at the mean values, it is revealed that the respondents disagree with research related factors (mean value of 1.83), research policies (mean= 1.29), and tourism field related factors (mean= 2.43). However, respondents have neutral opinions towards university research environment (mean=2.56), research marketing practices (mean= 2.70), and financial support (mean= 2.92). Although respondents believe that doing research helps to some extent to solve the sector problems (mean= 3.88), they think that that extent to which research solves the problems of the sector does not sufficiently develop the sector (mean= 2.66).

### 2.2. Measurement Model

The measurement model measures the relationships between the observed variables (indicators) and the unobserved variables (constructs) (Hox, 2010). Table 1 depicts the structured loadings of indicators, Cronbach's alpha, composite reliability, and AVE of constructs.

**Table 1**  
**The Measurement Model**

Constructs (reflective)	Loading	Effect Size	AVE	SQRT AVE	CA	CR
<b>University Research Environment</b>						
Supervisors have enough time to directing their research	0.802	0.209	0.513	0.716	0.805	0.862
Junior researchers are freely choosing their research	0.650	0.137				
Supervisors employ up-to-date researches to help their	0.850	0.235				
There are clear procedures of doing research in university	0.623	0.126				
Emergent research topics are discussed in faculties'	0.615	0.123				
Faculties are practically helping researchers to overcome	0.723	0.170				
<b>Financial Support</b>						
University funds good research papers/ projects	0.799	0.177	0.602	0.776	0.865	0.900
In general, university is financially supporting research	0.833	0.192				
University often funding local/ international conferences'	0.792	0.174				
University provides sufficient facilities to support research	0.718	0.143				
It is cheap to buy references and other sources of research	0.842	0.196				
Faculties have libraries with relevant references for research	0.653	0.118				
<b>Researcher-related Factors</b>						
Researchers have sufficient education and training to do	0.678	0.206	0.559	0.748	0.753	0.835
Researchers have enough time to do good research	0.760	0.258				
Researchers have high self-esteem to do research	0.725	0.235				
Getting promoted is not the main motive for researchers to	0.821	0.302				
<b>Research Policies</b>						
There is a clear research policy of university	0.775	0.190	0.527	0.726	0.814	0.867
The research policy is linked to society problems	0.873	0.241				
There is a strategy to protect copyrights of researchers	0.715	0.162				
Faculties declare their annually research plan	0.549	0.095				
Junior researchers are trained to do research in university	0.760	0.183				
Faculties have specific procedures to help overcome	0.638	0.129				
<b>Research Marketing</b>						
University markets industry-beneficial research	0.752	0.199	0.568	0.754	0.803	0.865
There is enough information to help researchers publish	0.532	0.100				
Faculties of tourism and hospitality have their own	0.789	0.219				
Faculties market good research papers presented in their	0.853	0.256				
Faculties have a recommended list of journals for	0.801	0.226				
<b>Tourism Field-related Factors</b>						
Public relevant authorities cooperate with researchers to	0.907	0.251	0.547	0.739	0.821	0.874
Private relevant enterprises cooperate with researchers to	0.839	0.214				
Accurate and updated statistics of tourism sector are	0.782	0.187				
It is easy to get publications of other universities and	0.759	0.175				
There is an accurate updated research database for tourism	0.619	0.117				
Quality procedures are followed in tourism research	0.429	0.056				

Note: AVE: Average Variance Extracted, SQRT AVE: Square Root AVE, CA: Cronbach's Alpha, CR: Composite Reliability

Looking at Table 1, it is revealed that the measurement is valid where statistics of AVEs are greater than 0.50 verifying the convergent validity and square root AVE (SQRT AVE) are greater than correlations among constructs evidencing the discriminant validity. Furthermore, the measurement model is reliable where Cronbach's alpha and composite reliability statistics are greater than 0.70. Medium effect sizes of indicators in the model are revealed that significantly contributing to their constructs.

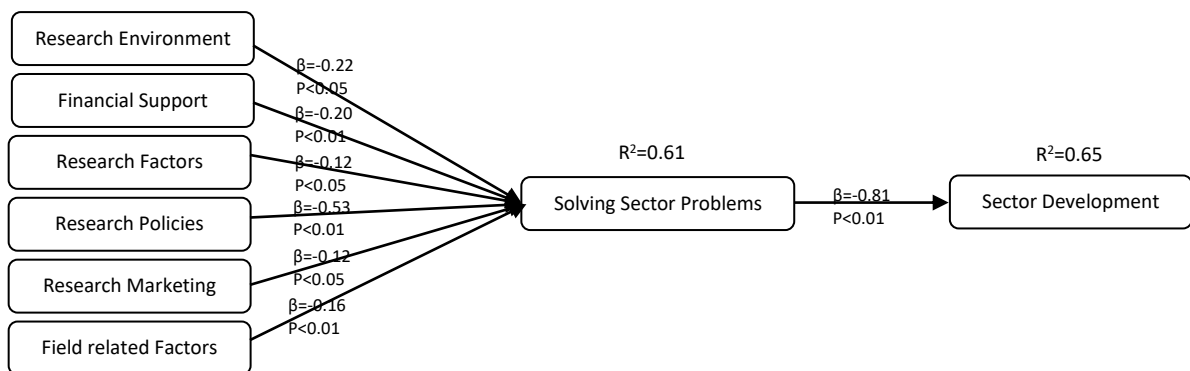


2.3. Structural Model

The structural model measures the causal relationships among constructs. For the model fit indices,  $APC=0.309$ ,  $P<0.001$ ,  $ARS=0.631$ ,  $P<0.001$ ,  $AARS=0.621$ ,  $P<0.001$ ,  $AVIF=1.572$ ,  $AFVIF=1.677$ , and large Tenenhaus  $GoF=0.647$ , which all falls within target values. It is revealed that university research environment is negatively affecting the research contribution to the sector ( $\beta_{Env \rightarrow Solv}=-0.22$  and  $P<0.01$ ) (H1), financial support is negatively affecting the contribution of research to the sector ( $\beta_{Fin \rightarrow Solv}=-0.20$  and  $P<0.01$ )(H2), researcher-related factors are negatively affecting the contribution of research in solving the sector problems ( $\beta_{Res \rightarrow Solv}=-0.12$  and  $P<0.05$ )(H3), research policies are negatively affecting the contribution of research to the sector problem-solving ( $\beta_{Pol \rightarrow Solv}=-0.53$  and  $P<0.01$ ) (H4), marketing practices are negatively affecting the research contribution to the sector ( $\beta_{Mar \rightarrow Solv}=-0.12$  and  $P<0.05$ )(H5), and field-related factors are negatively affecting research contribution to solve tourism sector problems ( $\beta_{Res \rightarrow Solv}=-0.16$  and  $P<0.01$ ) (H6) (Figure 2).

In sum, the lack of qualified researchers, lack of clear research policies, unsuitable research environment, weak marketing activities of research, weak financial support, and some factors relating to the field have a negative effect on the research contribution to solving the tourism sector problems. These factors explain 61% of weak contribution of research to tourism sector problem-solving. In turn, the lack of contribution to solve sector problems is negatively affecting the development of the sector ( $\beta_{Sol \rightarrow Dev}=-0.81$  and  $P<0.01$ ) (H7), failing to solve sector problems explains 65% of weak research contribution to the tourism sector development. Therefore, statistically, the research hypotheses are supported.

Figure 2  
The Structural Research Model



2.4. Discussion of Findings

Critically analyzing the revealed findings, it is clear that the absence of clear research policies is the highest factor affecting the contribution of research to the sector problem-solving. This implies that the universities have tourism and hospitality faculties lack a clear research policy by which a road map of research priorities is identified considering the sector problems. This absence of policy might be due to lack of the link between universities and industry where the real problems of the industry are not recognized by academics and there is no real contribution of academia to the industry challenges. Failing to have an identified research plan, annually declared, makes researchers randomly selecting research topics that might not be relevant to the sector or studied theoretically far away from the sector realities. Furthermore, having a research policy that does not link to the society problems makes it irrelevant leaving aside the real problems challenging the field. However, having a clear research policy linked to society and sector challenges without well-educated and trained researchers leads to no real contribution of research to the sector. The fact that researchers are not well-trained to do research is evident in Egypt. Junior researchers lack guidance and support during their early stages in research. In addition, the failure to protect the copyrights of researchers in Egypt and the rules enabling supervisors to use their students' work discourage junior researchers' creativity. Failing to have specific procedures to overcome research obstacles leads to low-quality research produced. These procedures could include the follow up with Msc. and PhD researchers, coordinating data collection process with relevant bodies, providing materials needed for their research and educate them on publishing concerns revealed into weak researchers and irrelevant contribution of their research. These findings are in line with Bin Tareef (2009) who reported that clear scientific research policies and strategies in universities are absent, and OECD & World Bank

(2010) who mentioned that research output is not linked to industry development, and (Karimian, et al., 2012) who concluded that the key challenge for research priorities is the lack of response to societal needs.

Research environment is the second factor affecting research contribution to tourism and hospitality sector development. It is the university atmosphere that enables researchers to do research. In that environment, the fact that researchers, particularly staff members, have a lot of burdens teaching students. Teaching is the top priority of staff members. Aside from teaching, staff members have the responsibility of supervising post-graduate students which needs time and effort. The fact that staff members have enough time to do research is a myth. Therefore, this is another reason of why junior researchers lack the sufficient time, and support of supervisors resulting in not well-educated researchers. What is more, employing the updated researches of supervisors to educate and guide their students is lacking. Even in faculties' seminars, discussion of emergent research topics and advances in the field is absent. Lacking a clear research policy leads to unplanned environment to assign articulate roles for supervisors and researchers to do research. In addition, faculties do not have much to do if students struggle in collecting data, conducting interviews with senior managers, or providing enough facilities and materials to do their experimental research. Therefore, it is factual to claim that the university environment does not support the research process and their top priority is teaching process, particularly with free university education to students funded by the government. This finding is consistent with OECD and World Bank (2010) citing that universities do not have a meaningful role to play in the research and development.

Financial support is a crucial factor predicting the contribution of research to sector development. Where universities are funded by the government, a certain percentage of their budget is spent on research. The priority is given to have prepared facilities for researchers (i.e. laboratories, materials, and libraries with relevant recent sources of knowledge). Although having a budget assigned to buy new and recent references, it is expensive for researchers to buy references if the university library does not have it. Sometimes, the lack of materials required for scientific purposes is another reason for low-quality research. Despite of the recent start of universities to fund good research papers/ projects, this is still too limited and follows long series of procedures to get the grant. Rewarding good research is still a limited culture that needs to expand in the Egyptian universities. Additionally, according to regulations, university funds conference fees and travel tickets only and researchers pays for accommodation and living costs. For international conferences, university funds fees and tickets once every two years. In a stage that junior researchers need to exchange knowledge and experiences with international peers, it is difficult for them to do so without significant contribution from universities. Furthermore, funding training courses for junior researchers is limited leading to unqualified researchers at the end. To sum up lack of financial support is critically affecting the quality of research and researchers and this in turn affecting the contribution to the sector development. This finding is concurrent with Farajane (2000) that the expenditure of Arab countries on research is almost the lowest in the world, and OECD and World Bank (2010) reporting that low-quality research is a result of low financial support.

Field-related factors have an effect on research contribution to sector development. This construct implies the chronic lack of cooperation and appreciation of industry for academics. Most professional managers believe that academia is totally separate from reality; they do not pay attention to research and researchers. More often, they do not welcome researchers for interviews or filling their questionnaires and so on. Moving to public sector authorities that have updated reports and statistics on the sector, most often, it is difficult for researchers to get these relevant materials for their research which leads to research so far behind reality. Even having an accurate and updated database of theses, conference proceedings, and journal articles is lacking in the Egyptian universities. In addition, where the research process is fragmented among universities, industry, and public bodies, it is hard to have certain quality procedures followed, and the end result is a research output that is too far behind the realities of the sector and lacks contribution to the field. This finding is in line with Abdul-Haqq (2002) and Abou-Shouk et al. (2014) who asserted that the gap between academia and industry is one main reason that universities work far from their surroundings and industry does not support universities providing researchers with real problems, enough, accurate, and updated information to work on and solve these problems, and the result is weak contribution to the field.

One of the most important factors in research contribution to the field is marketing research output. Most academic institutions could have good research and could be useful to industry if researches are promoted. This could motivate researchers to innovate. This puts the responsibility on academic institutions that do not have

good marketing practices for their resources of research that could be transformed to be a source of revenue for them. Unfortunately universities do not have good and wide marketing channels to market their research products. Encouraging researchers to publish their theses, research projects or research papers in international periodicals is still limited. Therefore, good suggestions and recommendations of researchers for society and industry problems might remain on library shelves only. Providing outlets to market research could be done in two ways. The first is a faculty can have its own periodical to publish local research. The second is holding conferences and inviting industry professionals and issuing a proceeding with the presented papers. Although these are good practices of marketing but neither are marketed. Therefore, the problem persists and industry-beneficial research is still lacking. Even in conferences, although academics invite professionals, the latter rarely responds claiming they are busy having more important concerns. Another good practice of marketing research is recommending a list of journals for researchers to publish their work in. This is still not practiced in the field of tourism and hospitality in Egypt, reflecting a shortage in marketing practices of research in academic institutions in Egypt. This finding is in line with Djeflat (2009) and Belal and Springuel (2006) claiming that universities lack a clear vision of promoting scientific researches output.

Researchers are the core component in the research process. Some factors adversely affect their role in producing better research. Lack of well-educated and trained researchers is the main barrier to research contribution to the field. Weak researchers are the outcome of a mixture of the above mentioned factors. Another reason is the burdens of teaching and having no enough time to do research. Researchers are not self-motivated to do research. One main reason for doing research is to get promoted. Publishing local papers and/or attending conferences improve chances of promotion. This is another reason why researchers do not have to publish internationally although internationally published papers carry more weight in competition for promotion. Lack of encouragement for researchers to form or join research teams and the long time and effort involved in international publications are additional reasons for the low-quality research that in turn does not contribute to managing and solving the problems facing the industry. In the end, this leads to very weak contribution to development in the field and strengthen the belief of industry professionals that academics are far behind the real challenges of the field.

### CONCLUSION AND IMPLICATIONS

This study aimed at investigating the factors affecting the contribution of research to the development of tourism sector. These factors include research policies, research environment, marketing practices, financial support, field and researchers-related factors. Theoretically, this study contributes to the extant knowledge and it is one of very few studies investigating the challenges of tourism research contribution to industry development in the Egyptian context. It incorporates different constructs to build the challenging model in tourism sector in a developing country, Egypt. It touches very critical factors and introduces a model that explains and answers the question of why educational research does not significantly contribute to tourism sector development.

Practically, this study provides education policy-makers with important insights to develop the research contribution to industry. The fact that research should respond to society needs should be the priority of university research. Promoting research output useful to industry should be stressed in the university research policy. Encouraging researchers and rewarding them for international publications should be provided. The need of academics to establish links with industry is a must. Industry professionals on the other side have to report their challenges to academics and try their solutions, discuss their suggestions, and evaluate their impact on the sector development.

This study has a number of recommendations to academics and industry. As for academics, the university should have a clear research policy considering the national priorities and address the societal needs. Incentives should be provided to encourage researchers to do good research; rewarding those publishing internationally in journals with impact factor should be the prevailed culture in the universities. Promoting the research output is necessary to activate the effect of research on sector development. Expanding the ability to staff mobility internationally is necessary for gaining knowledge and exchanging experiences and is a good introduction of international cooperation among researchers (i.e. research teams, research projects...etc). Universities should introduce the service of consultancies to industry; this could be useful to learn about the sector challenges. Excellence research centers could be a good service to introduce to industry. Evaluating the effect of university research on industry development should be done annually, and having a strategic plan for enhancing research quality should be set.

As for tourism industry, there is a need to cooperate with academic side, attending their conferences, seminars, and workshops. Professionals should help academics to learn about their challenges and help them solving it. Bridging the gap between academia and industry is useful for both parties. Supporting good research production could be a social responsibility towards junior researchers.

This study has a number of limitations; first it takes the academic side and investigates their challenges and lack of contribution of their research to industry development. It limits the research to educational research done in universities. Industry professionals should be involved as well and a discussion of their beliefs towards the weak contribution of research to the field should be introduced. This study is limited to tourism and hospitality research and is not generalized to all sectors and academic disciplines in Egypt. Limiting this study to quantitative methods is another limitation as more expansion and interpretation can be obtained from qualitative research.

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