UTS UNIVERSITY OF TECHNOLOGY SYDNEY

The Effect of Organizational, Individual, and Technology Factors on Saudi Arabian Higher Education Creative Environment

by Mamdouh Salem A Qahl

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DOCTOR OF PHILOSOPHY

under the supervision of
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Certificate of Original Authorship

I, Mamdouh Salem A Qahl declare that this thesis, is submitted in fulfilment of the requirements for the award of Doctor of Philosophy PhD, in the School of Computer Science/Faculty of Engineering and Information Technology at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis. This document has not been submitted for qualifications at any other academic institution.

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Dedication

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List of Publications

Following is an up-to-date list of the published and under review research publications.

Papers presented at conferences and published in journals with high impact factors:

- Qahl, M., Sohaib, O., Hawryszkiewycz, I. (2023), 'Unlocking the key Determinants of Successful Implementation of Creative Ideas in Higher Education Institutions', Journal of Information Technology Education: Innovations in Practice (JITE:IIP). [Under Review].
- Qahl, M., Hawryszkiewycz, I., Binsawad, M. and Rehman, J. (2019) 'Factors Affecting the Saudi Arabian Higher Education Creative Environment', Australasian Conference on Information System (ACIS) 2019, Perth Australia.

Abstract

Creativity and innovation are essential pillars for higher education institutions (HEIs). The two terms are interconnected, where creativity is referring to finding better ideas to do the work, while innovation is referring to how to do and implement these creative ideas. Choosing the optimal creative process and the organizational support needed to develop it is an important goal of achieving a creative and inventive environment. Universities are knowledge-based institutions that are at the forefront of research and scientific innovations. For the success of the creative environment to ensure the improvement of higher education institutions, information technology as social networking sites plays a crucial part in the creative process within universities. The Saudi government is trying to improve its higher education system by encouraging creative environments to support socio-economic development and achieve a transformation from an oil-based to a knowledge-based economy. However, assessing the creativity and innovation of higher education institutions in Saudi Arabia has not been well recognized. This research explores the influence of organizational-level and individual-level of creativity and innovation, and the technology acceptance model toward higher education creative environment that consist of (research creativity and teaching creativity). The study's conceptual model was developed using current theories and a thorough review of the literature and it integrates the key conceptions from the organizational-level and individual-level of creativity and innovation from the componential theory of creativity and innovation in organizations and the technology acceptance model. This study used mixed methods (quantitative and qualitative). The first stage of the research study was the quantitative method that used a survey instrument to collect data from the study sample on the influencing factors used in the research framework. The data of the respondents was analyzed by applying a disjoint two-stage approach with PLS-SEM path modelling. The second stage of the research methodology is a method of qualitative research carried out using a case study approach. The qualitative research method was employed to validate the quantitative findings and provide more insight into the factors' relationships. This study provides 14 hypotheses from which H2, H4, H6, H7 and H9 were not supported. The findings indicated that, for the organizational factors, Organizational Encouragement, Freedom, and Challenging Work indicate a positive relationship with the higher education creative environment. However, realistic work pressure, lack of organizational impediments, managerial encouragement, and work group support are not

important to influence the higher education creative environment in the Saudi context. In addition to this, individual factors (skills in creative thinking and expertise) positively impact the higher education creative environment. However, the impact of intrinsic motivation is insignificant in the higher education creative environment. Finally, technology factors such as social networking sites' adoption intention, social networking sites' perceived usefulness, and social networking sites' perceived ease of use have the potential to determine the higher education creative environment. The qualitative data provided mixed findings that mostly match the quantitative findings. However, some of these findings do not match the quantitative findings, but they do support the hypotheses proposed in the research. Finally, the study comes to a close with a summary of current research and practices. This study adds to the theoretical and scientific literature by providing a model of creativity and innovation in Saudi Arabian higher education institutions. The model suggests an optimal combination of organizational, individual, and technology factors that contribute to the development of the Higher Education Creative Environment in Saudi HEIs via creativity in teaching and research as well as an innovative culture. This study has clear practical implications, as it encourages the top leadership in Saudi higher education institutions to reevaluate the way they view creativity and innovation within their institutions, with the ultimate goal of fostering an environment where both research and teaching are infused with a thriving culture of creativity.

Keywords:

organizational innovation, individual creativity, social networking sites, technology acceptance, Saudi Arabian higher educational institutions.

Key Terms and Their Definitions

Term	Acronym	Definition
Resources	**KSS**	"everything that the organization has available to aid work in a domain targeted for innovation".
Realistic Work Pressure	**RWP**	"the Absence of extreme time pressure, unrealistic expectations for productivity, and distractions from creative work".
Organizational Encouragement	**OE**	"An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision".
Lack of organizational impediments	**LOI**	"An organizational culture that does not impede creativity through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an overemphasis on the status quo".
Freedom	**FRDM**	"Deciding what work to do or how to do it; a sense of control over one's work".
Managerial encouragement	**ME**	"A boss" or supervisor "who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group".
Work Group Support	**WGS**	" A diversely skilled work group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing".
Challenging Work	**CW**	"A sense of having to work hard on challenging tasks and important projects".
Intrinsic Motivation	**IMOT**	"It refers to the passion and desire of someone to work on a specific task that is interesting, challenging and exciting for him".
Skills in Creative Thinking	**SCT**	"an individual's cognitive ability that drives innovative and creative thinking".
Expertise	**EXP**	"Expertise can be considered as skills of performing a specific task in the most effective and creative manner".

Social Networking Sites' Adoption Intention	**SNSAI**	"refers to the possibility of users continuing to use different social media tools and recommending them to colleagues".
Social Networking Sites' Perceived Usefulness	**SNSPU**	"refers to Users' subjective cognition that social media tools are more effective and beneficial in enhancing communication, creative work, study, and other tasks".
Social Networking Sites' Perceived Ease of Use	**SNSPEU**	"refers to Users' subjective cognition that social media tools can help them satisfy their needs".
Research Creativity	**RC**	The ability of academic staff to produce new and useful research ideas or solutions that Advancing science in the area of their interest.
Teaching Creativity	**TC**	The ability of academic staff to develop new and potentially valuable teaching ideas, services, practices or procedures that are of direct or indirect benefit to their higher education institutions.
Higher Education Creative Environment	**HECE**	A creative faculty, center, department or unit, where a great deal of research and teaching creativity is called for and where people believe that they actually produce creative work in their research and teaching.
Exploratory Factor Analysis	**EFA**	"Factor analysis technique providing an appropriate number for each factor of the constructs of the proposed model".
Confirmatory Factor Analysis	**CFA**	"Factor analysis type confirming identified structures of the factor as well as further strengthening the validation of every construct and its factors in social research".
Research and Development	**R&D**	"Business activities investigated by an organization in order to develop innovations or procedures".
Structural Equation Modelling	**SEM**	"A 2nd generation multi-variate statistical analyses technique, the SEM is used for effectively measuring and testing the reliability of linkage between structural model variables".
VIF		Variance Inflation Factor
SPSS		"Statistical Package for Social Sciences".
UTS		University of Technology, Sydney
APA		American Psychological Association

Composite Reliability	**CR**	It indicates the consistency of the items measuring the latent construct.
KEYS		Climate For Creativity
UK		United Kingdom
US		United States

Table of Contents

List of Figures

List of Tables