Faculty's Usage of Academic Support ICT Services at Kuwait University

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ABSTRACT
This study aimed to identify the degree of usage by Kuwait University (KU) faculty members of the academic support information and communication technology (ICT) tools, services, systems, and resources provided by KU. The study comprised an exploratory descriptive research design, using a survey questionnaire technique. A total of 304 faculty members willingly participated in the study. Regardless of two decades of massive investment to situate ICT tools, services, systems, and resources as a pivotal tenet of KU's teaching, learning, research, and administration practices, the findings revealed that formal academic usage of these ICT services and resources by KU faculty is only "average" (overall mean score is 3.48 ($SD = 0.937$) on a 6-point rating scale). This implies that the potential benefits of these academic support ICT systems and services have not yet been attained, in terms of serving KU's strategic objectives. Lack of technical support, awareness of availability, time, knowledge/training, and impracticality (e.g., difficulty accessing ICT services and resources due to slow speed connection, or too much maintenance, etc.) were among the key factors that led KU faculty members either to not use at all or to infrequently use academic support ICT services and resources provided by KU. In light of these findings, a number of important implications are provided to help increase the extent of ICT tools and resource usage by KU faculty members. Other academic institutions can use this study as a reference to evaluate their faculty members' ICT use.
Keywords: academic support ICT services/resources/tools/systems; usage; university faculty members; higher education.

1. INTRODUCTION
Scholarly studies on the effect of ICT have been growing significantly over the past three decades and undoubtedly offer evidence that the use/integration of ICT tools and services has a meaningful influence on organizations' effectiveness and efficiency worldwide (Safar, 2012a, 2012b), including PK-12 education and post-secondary higher education institutions. These entities are envisioned as dynamic communities for teaching and learning in this knowledge-based digital era, and they are meant to prepare learners for their future lives, thus contributing to producing an informed (i.e., knowledgeable) and engaged digital citizenry (Safar, 2018a).

KU acts in accordance with its commitment to the national developmental strategic plan (i.e., "Kuwait Vision 2035" or "New Kuwait") for reforming the country toward becoming an active and effective knowledge-based society. ICT tools and services play a momentous role in the developmental efforts by opening up new prospects for the formation and exchange of knowledge, for education and training, and for the promotion of imagination, creativity, innovation, and thinking, as well as for cultural growth and intercultural dialogue (Safar, 2018a). Therefore, KU endorses/embraces many ICT-mediated initiatives/programs and supports the widespread integration of ICT tools and services into the organization in all areas including administrative, financial, and academic. Indeed, KU provides rich ICT resources and services for its faculty members, academic support staff, employees, and students (Ashkanani, 2017; Kuwait University, 2018). These include, but are not limited to, the following ICT integrated systems: (1) e-mail; (2) Office 365; (3) Blackboard e-learning; (4) TRACK e-training; (5) library information resources; (6) faculty portal; (7) academic staff evaluation; (8) research projects and awards, also known as the research sector online forms system; (9) distance learning; (10) student bookshop; (11) human resources management (HRM), also known as the employee self-service system; (12) custody of materials; (13) password management; (14) academic aptitude tests registration; (15) student admission; (16) student portal, also known as the student registration or student information system; and (17) wireless fidelity (Wi-Fi) network.

KU administration encourages its faculty members and academic support staff to continuously integrate these academic support ICT services and resources into all disciplinary areas in various educational settings to empower the processes of teaching and learning, as well as to enhance the university's educational performance (Ashkanani, 2017; Safar, 2012a, 2012b). Although a massive amount of funds has been made readily available, over two decades, for the implementation of these ICT tools and services at KU, academic and scientific research efforts are limited—mainly regarding the extent of usage of these academic support ICT tools, resources, and services by KU stakeholders (Safar, 2018b). Therefore, such studies are important because they may contribute to the development of the academic support ICT services provided by KU and help ensure KU provides the best possible academic support services and resources in the future. Other institutions in the global academic community can use this study as a reference/guide that inspires them to start evaluating their stakeholders' ICT use in order to achieve the proclaimed objectives behind their implementation and increase the effectiveness and efficiencies of their usage—that is, to generate a high return on investment (ROI) rate from academic usage perspectives which implies that the potential benefits of these academic support ICT systems and services are attained, in terms of serving the academic institutions' strategic objectives.

1.1 Study Objectives

This study aimed to identify the degree of usage by KU faculty members of academic support ICT services and resources provided by KU. To attain this objective, faculty members' views and perceptions were measured, based on the following research questions:

1. What is the extent of usage by KU faculty members of the academic support ICT services and resources provided by KU?
2. Which factors hinder the use of academic support ICT services and tools by KU faculty members?
3. Does the socio-demographic profile (e.g., gender, type of college, type of major, type of class, academic rank/position, teaching experience, and ICT efficacy level) of KU faculty members affect their degree of use of academic support ICT services and resources?

2. BACKGROUND

2.1 KU at a Glance

KU was founded in 1966 and is a large public research university with extensive faculties and disciplines (i.e., academic departments and programs) located in different geographical areas in the State of Kuwait. KU's humanities and social sciences faculties include the Colleges of Arts, Business Administration, Education, Sharia and Islamic Studies, Social Sciences, and Law. Its scientific faculties consist of the Colleges of Science, Architecture, Life Sciences, Computing Sciences and Engineering, Medicine, Allied Health Science, Pharmacy, Dentistry, Public Health, and Engineering and Petroleum (Kuwait University, 2018). As of the fall semester of the 2018-2019 academic year, KU has a total of 1,601 faculty members, 757 academic support staff, 4,058 employees, and 38,298 students (i.e., undergraduates 35,841; graduates 2,457) (Office of the Vice President for Planning, 2018). KU encourages, supports, and facilitates the integration of ICT tools and services/resources within the organization for teaching, learning, training and professional development, researching, and administration purposes (Kuwait University, 2018).

2.2 KU E-mail Service

This service provides KU faculty members, academic support staff, employees, and students with a communication and collaboration tool, currently embedded through Microsoft Office 365 using Outlook application.

2.3 KU Microsoft Office 365 Service

Through Office 365 service, KU stakeholders are granted free access to a collection of productivity applications/tools and services that enable them to create, communicate, collaborate, and even share their work effectively in real-time without boundaries—without worrying about lost formatting. The service has many powerful tools that are accessible anytime and from anywhere using favorite digital devices such as PCs, tablets, and smartphones. It includes the following Office Online applications: Word, PowerPoint, Excel, Outlook, OneNote (a digital notebook that is used to capture and organize all your class materials in one place), Sway (a presentation tool used to engage and communicate visually in new ways by creating interactive lessons that spark students' creativity and innovation), Class Notebook (a tool that enables you to individualize learning by bringing learners together in effective collaborative workspaces, group works, or providing them with individual support in private notebooks within the application), Teams (a digital hub that integrates conversations, content, and apps together in one place to be more collaborative and engaged; this app enables educators to create collaborative classrooms, connect in professional learning communities, and communicate with school staff),

OneDrive (a personal cloud storage service with a capacity of one TB), SharePoint (a tool for creating Websites), and Forms (a tool that enables surveys, quizzes, and polls to be easily created). This service also provides the additional benefit of allowing KU stakeholders to download and install certain Office applications (Word, PowerPoint, Excel, OneNote, and Outlook) on up to five PCs (e.g., desktop computers and laptops) and five digital devices (e.g., tablets and smartphones) for free.

2.4 KU Blackboard E-learning Service
This service provides an e-learning management system (LMS) or content management system (CMS), namely Blackboard, for administering e-learning at KU and which can be used by KU faculty members, academic support staff, employees, and students for e-teaching, e-learning, and e-training purposes.

2.5 KU TRACK E-training Service
This service enables KU stakeholders to enroll in e-training courses, offered by Track Learning Solutions, from a library containing SkillSoft full courseware catered specifically for Kuwait University. The training courses are accessible anytime and from anywhere using PCs, tablets, and smartphones. The available topics for the English courses, of which there are approximately 3000, include Desktop Apps courseware, Information Technology general courseware, Information Technology Certifications courseware, Business Skills courseware, and Business Certifications courseware, along with around 60 Arabic soft skills courses (TRACK Learning Solutions, 2019).

2.6 KU Library Information Resources Service
This online service provides KU stakeholders with access (i.e., either within KU campuses or remotely, off campus) to a high quality print and electronic collection of multi-disciplinary information resources in different languages (e.g., Arabic, English, and French) and formats in order to assist in the educational process and the academic programs and scientific research studies that are conducted at KU. Examples include library catalogs, databases, books, periodicals/journals, manuscripts, dissertations and theses, and audio-visual materials, which can be accessed, viewed, saved/downloaded, printed, and shared by KU stakeholders anytime and anywhere using PCs, tablets, and smartphones.

2.7 KU Faculty Portal Service
This online service enables KU faculty members and academic support staff to view the course timetable (i.e., schedule) for the current and upcoming semesters. The system also allows them to submit grades, view the results of students' evaluations, change their KU login passwords, and edit (i.e., add/change) their personal contact emails.

2.8 KU Academic Staff Evaluation Service
This online system administers the Academic Staff Evaluation service provided by the Center of Evaluation and Measurement (CEM) at KU. It enables KU students to access the academic staff evaluation form for each of their registered classes in a specific time period, announced by CEM every semester, using PCs, tablets, and smartphones from anywhere and anytime during that specified period. The results of these students' evaluations can be viewed later by KU faculty members and academic support staff through the online system, also anytime and anywhere using PCs, tablets, and smartphones

2.9 KU Research Projects and Awards Service
This service is also known as the research sector online forms system. The online system administers the workflow of KU stakeholder proposals for KU grants that are offered to subsidize a variety of research projects and to develop specialized and advanced research units and laboratories within KU in order to revolutionize the lab culture. The system also enables KU stakeholders to fill out the forms and submit the specific documents required for KU awards.

2.10 KU Distance Learning Service
This service enables KU faculty members and academic support staff to have access to e-learning facilities at KU (Ashkanani, 2017); either the two fully equipped smart classrooms or computer labs, which are located within KU E-Learning Center, or the 16 smart lecture halls, which are located throughout KU faculties/colleges across KU campuses.

2.11 KU Student Bookshop Service
This specific service allows KU faculty members and academic support staff to fill out an online order form requesting all the textbooks required for their academic courses. The online system also enables KU

stakeholders to view the availability of all textbooks in the KU Student Bookshop, which can either be searched for by a specific college or department or by a faculty member or academic support staff.

2.12 KU Human Resources Management (HRM) Service

This service is also known as the employee self-service system. It enables KU faculty members, academic support staff, and employees to do the following: (1) access their personal information and edit/update their emails, phone numbers, and contact addresses only; (2) view their pay slips (i.e., which include their financial and payroll information); (3) fill out the "Return from Leave" form (i.e., for KU faculty members and academic support staff only); (4) apply for leaves, permissions, forgotten fingerprint, and exit visa request/s, which they can also monitor to see if they are completed or pending, and they can trace the approval history for any request (i.e., for KU employees only); (5) view summary reports of their attendance/fingerprint logs (i.e., showing their absence summary, late minutes, and deductions), permissions (i.e., including the number of permissions and duration in hours per month), and leaves (i.e., indicating the type of leave and the total number of days); and (6) sending notifications to KU stakeholders. This online service can be accessed anytime and from anywhere using PCs, tablets, and smartphones.

2.13 KU Custody of Materials Service

This online service enables KU faculty members, academic support staff, and employees to check out all the equipment and materials that are officially registered in/under their custody.

2.14 KU Password Management Service

This online system enables KU users, who have forgotten their passwords or who have triggered an intruder lockout or who periodically change their passwords as a precautionary measure for security reasons, to reset or change their university account (i.e., login ID) password, without calling or visiting an IT help desk for assistance.

2.15 KU Academic Aptitude Tests Registration Service

This service enables prospective KU undergraduate students to register for the academic aptitude tests (e.g., English language test, Arabic language test, French language test, chemistry test, and mathematics test) required for the admission to certain faculties at KU. Students can also access their results in these placement tests online.

2.16 KU Student Admission Service

This service administers the admission process at KU. It allows undergraduate students to apply for study at KU. They can fill out the application form and submit all of the required documentations through the online system. Notifications and admission letters will be sent to the applicants upon final admission approval.

2.17 KU Student Portal Service

This online system is also known as the student registration system or student information system. It provides KU students with several academic services that can be accessed anytime and from anywhere using PCs, tablets, and smartphones, and these are: (1) registration services, such as students' ability to register for (i.e., enroll in) their designated classes for the upcoming semesters, view their wish lists, schedules, major sheets, and calendars, as well as reserve an appointment with a registration counsel, all done using the student registration system; (2) grading services, such as students' ability to view their official grades, as well as their capability of using a "What-if-Grade" service; (3) transfer services, such as students' ability to request transfer to other departments or colleges at KU, as well as their capability of using the "What-if-Transfer" service; (4) requests and forms services, such as students' ability to request student clearness, transcripts, and "to whom it may concern" letters/certificates; (5) evaluation services, such as students' ability to assess their course/s by filling out the evaluation questionnaire designated for each class in which they are enrolled; (6) financial aid services, such as students' ability to apply for social welfare and student funds; and (7) other services, such as students' ability to view KU's course schedule, course catalog, and the help guides for registration, wish list, and transfer. The system also enables KU students to access their profiles, and update some of their personal information such as their emails, phone numbers, and contact addresses. They can also change their portal login password, if needed, through the system. Finally, this online service gives KU students direct access to other ICT academic support services provided by KU, such as: (1) email service (i.e., Outlook application within Office 365 suite), e-learning service (i.e., Blackboard system), and e-training service (i.e., TRACK system).

2.18 KU Wireless Fidelity (Wi-Fi) Network Service

This service gives KU faculty members, academic support staff, employees, and students access to a free Wi-Fi high-speed broadband Internet connection throughout KU facilities, buildings, and campuses.

3. METHODS AND MATERIALS

3.1 Research Design

This study used an exploratory descriptive research design centered primarily on a quantitative approach, which deployed a survey questionnaire technique, a convenience sampling method, and descriptive and inferential statistics. This research model is considered one of the most appropriate research methods for a research study of this nature (Creswell, 2014; Healey, 2016; Levin, Fox, & Forde, 2013).

3.2 Instrument

An online survey questionnaire was developed, comprising two main sections. The first section asked about participants' socio-demographic profile such as their gender, rank, experience, type of courses, college, major, type of class, ICT efficacy level, ICT usage, and ICT ownership. The second section sought information to answer the research questions of this study. A total of 27 items (questions/statements) were included in this section. The questionnaire contained the following types of question: (1) multiple choice single answer questions; (2) checkbox multiple answer questions; (3) rating scale questions using a 6-point Likert scale (i.e., 1 = never, 2 = very rarely, 3 = rarely, 4 = occasionally, 5 = frequently, and 6 = very frequently); and (4) open-ended questions.

The study instrument was carefully constructed after reviewing previous research studies. It was then submitted for review to a panel of experts in the field and was later pilot tested with a selection of KU faculty members who were not part of the study's sample. The tool was carefully assessed by the experts based on its validity and reliability, and it achieved a 0.819 Cronbach's alpha (α) coefficient value (considered "good" in most social sciences and humanities research studies) (Levin et al., 2013).

3.3 Sample

A stratified sample of 304 faculty members from KU's colleges were voluntarily and randomly scrutinized and surveyed for this study in the spring semester of the 2018/2019 academic year. The sample represented various ethnic and academic backgrounds.

3.4 Data Collection

The data were collected over a three-month period during the spring semester of the 2018/2019 academic year from all KU colleges using an anonymous questionnaire that was administered through an online survey tool to all KU faculty members via a link in an e-mail (or other social networking services) asking for voluntary participation and completion of the survey. Participants were instructed to respond to the questionnaire truthfully and honestly. They were guaranteed that their responses would remain confidential and would only be used for statistical analysis purposes.

3.5 Methods of Analysis

Several means of statistical analysis were employed to analyze the collected data. The descriptive analysis techniques used were frequency, percentage, mean, and standard deviation. The inferential statistics methods utilized were one-way analysis of variance (ANOVA), Dunnett's C multiple comparisons test, Scheffe's multiple comparisons test, and the independent-samples t-test. These statistical procedures met the basic parametric assumptions required for their application. When performing inferential tests, an alpha level of 0.05 was selected.

4. RESULTS AND DISCUSSION

The socio-demographic profile of the respondents will first be depicted and the results will then be presented and discussed thoroughly, based on the research questions. Each research question will be portrayed separately.

4.1 Demographic Profile of Respondents

Table 1 outlines the demographic profile of KU faculty members who voluntarily participated in this study.

Table 1:*Frequencies and Percentages of Participants' Demographic Information*

Variable	Category	*N*	*%*
Gender	Male	216	71.1
	Female	88	28.9
Academic Rank/Position	Assistant professor	173	56.9
	Associate professor	82	27.0
	Professor	49	16.1

Years of Experience	< 5 years	85	28.0
	5 to < 10 years	69	22.7
	10 to < 20 years	80	26.3
	> 20 years	70	23.0
Type of Courses	Undergraduate	151	49.7
	Graduate	5	1.6
	Both	148	48.7
Type of College	Humanities & social sciences faculties	144	47.4
	Scientific faculties	160	52.6
Type of Major	Arts majors	120	39.5
	Scientific majors	184	60.5
Type of Class	Traditional	137	45.1
	Blended	167	54.9
ICT Efficacy Level	Low/Beginner	26	8.6
	Moderate/Intermediate	177	58.2
	High/Expert	101	33.2
ICT Daily Usage	1 to < 3 hours	103	33.9
	3 to < 6 hours	140	46.1
	> 6 hours	61	20.1
ICT Ownership	Desktop PC	279	91.8
	Laptop PC	267	87.8
	Tablet	117	38.5
	Smartphone	304	100.0
	PDA	24	7.9
	e-Reader	57	18.8

4.2 Extent of Use of ICT Services and Resources
RQ-1 tackled the extent of KU faculty members' use of the academic support ICT services and resources provided by KU. A total of 14 survey items addressed RQ-1.

RQ-1. What is the extent of usage by KU faculty members of the academic support ICT services and resources provided by KU?

First, the results revealed that the overall average use by KU faculty members of the academic support ICT services and resources provided by KU is considered "average" as their secured overall mean score is 3.48 (*SD* = 0.937) on a 6-point rating scale. Other studies have reported similar findings; for example, Al-Senaidi's (2009) study at Sultan Qaboos University (SQU) exploring the ICT use of 300 faculty members found that they used ICT tools and resources "sometimes," signifying that they do not frequently use ICT services and resources in their instructional processes, to perform professional tasks for their work, research, and study. Another study by Selwyn (2007) demonstrated the limited formal academic use of ICT tools and services in the higher education community by university faculty and students; specifically, the study described ICT use as limited, linear, and rigid. However, different findings were also reported by studies such as Thanuskodi (2011) to measure the use of ICT services and resources among faculty members of self-financing engineering colleges in India. The findings of Thanuskodi's study revealed that faculty members are heavily dependent on e-resources for their work, research, and study; and their attitudes towards e-resources seem very positive.

Second, the findings of this study also asserted that among the 14 academic support ICT services and resources provided to faculty members by KU, "e-mail" is the most frequently used (*M* = 5.42, *SD* = 1.078), followed by "faculty portal" (*M* = 4.94, *SD* = 1.146), "Microsoft Office 365" (*M* = 4.48, *SD* = 1.798), and "academic staff evaluation" (*M* = 4.27, *SD* = 1.586). The results also indicated that "library information resources" (*M* = 3.93, *SD* = 1.628) and "Wi-Fi network" (*M* = 3.92, *SD* = 1.817) services are occasionally used by KU faculty members. As for "Blackboard e-learning" system, KU faculty members rarely use it (*M* = 2.95, *SD* = 1.942) and this was also the case for "HRM" (*M* = 2.90, *SD* = 1.675) and "student bookshop" (*M* = 2.81, *SD* = 1.675) services. The least used services comprised "TRACK e-training" system (*M* = 2.06, *SD* = 1.547) and "distance learning" service (*M* = 1.89, *SD* = 1.458), which were very rarely used by KU faculty members. Some previous studies have reported different results; for example, in her study, Buarki (2016) indicated that faculty members

at the College of Basic Education (CBE) in the State of Kuwait, which is maintained under the supervision of the Public Authority for Applied Education and Training (PAAET), have mostly used ICT for "searching and accessing research," while the least common use was "web-based class management tools (i.e., Blackboard or Moodle)." Tables 2-3 provide detailed information about the descriptive statistics results.

Table 2: *Descriptive Statistics of Usage of Academic Support ICT Services and Resources by KU Faculty Members, in Descending Order*

Rank	ICT Service/System	N	Min.	Max.	M	Std. Deviation
1	E-mail	304	1	6	5.42	1.078
2	Faculty Portal	304	1	6	4.94	1.146
3	Microsoft Office 365	304	1	6	4.48	1.798
4	Academic Staff Evaluation	304	1	6	4.27	1.586
5	Library Information Resources	304	1	6	3.93	1.628
6	Wireless Fidelity (Wi-Fi) Network	304	1	6	3.92	1.817
7	Research Projects and Awards	304	1	6	3.54	1.696
8	Password Management	304	1	6	3.28	1.564
9	Blackboard E-learning	304	1	6	2.95	1.942
10	Human Resources Management (HRM)	304	1	6	2.90	1.675
11	Student Bookshop	304	1	6	2.81	1.675
12	Custody of Materials	304	1	6	2.29	1.574
13	TRACK E-training	304	1	6	2.06	1.547
14	Distance Learning	304	1	6	1.89	1.458

Table 3: *Descriptive Statistics regarding Usage of the Academic Support ICT Services and Resources by KU Faculty Members, in Descending Order*

Rank	ICT Service/System	Never		Very Rarely		Rarely		Occasionally		Frequently		Very Frequently		M	Std. Deviation
		N	$\%$	N	$\%$	N	$\%$	N	$\%$	N	$\%$	N	$\%$		
1	E-mail	3	1.0	10	3.3	8	2.6	25	8.2	46	15.1	212	69.7	5.42	1.078
2	Faculty Portal	6	2.0	9	3.0	12	3.9	59	19.4	103	33.9	115	37.8	4.94	1.146
3	Microsoft Office 365	41	13.5	20	6.6	15	4.9	36	11.8	61	20.1	131	43.1	4.48	1.798
4	Academic Staff Evaluation	25	8.2	30	9.9	25	8.2	67	22.0	71	23.4	86	28.3	4.27	1.586
5	Library Information Resources	44	14.5	24	7.9	25	8.2	79	26.0	80	26.3	52	17.1	3.93	1.628
6	Wireless Fidelity (Wi-Fi) Network	52	17.1	27	8.9	42	13.8	33	10.9	72	23.7	78	25.7	3.92	1.817
7	Research Projects and Awards	56	18.4	41	13.5	38	12.5	62	20.4	66	21.7	41	13.5	3.54	1.696
8	Password Management	44	14.5	73	24.0	47	15.5	65	21.4	45	14.8	30	9.9	3.28	1.564
9	Blackboard E-learning	124	40.8	27	8.9	27	8.9	38	12.5	42	13.8	46	15.1	2.95	1.942
10	Human Resources Management (HRM)	97	31.9	43	14.1	40	13.2	63	20.7	38	12.5	23	7.6	2.90	1.675

11	Student Bookshop	100	32.9	54	17.8	37	12.2	50	16.4	42	13.8	21	6.9	2.81	1.675
12	Custody of Materials	146	48.0	52	17.1	34	11.2	27	8.9	33	10.9	12	3.9	2.29	1.574
13	TRACK E-training	182	59.9	33	10.9	27	8.9	25	8.2	25	8.2	12	3.9	2.06	1.547
14	Distance Learning	199	65.5	31	10.2	24	7.9	19	6.3	21	6.9	10	3.3	1.89	1.458

Note. Never = Not at all or do not use, Very Rarely = Once a month, Rarely = 2-3 times a month, Occasionally (sometimes) = 2-3 times a week, Frequently (often) = 1-2 times a day, Very Frequently (most often) = More than 2 times a day, *N* = 304, Minimum = 1, and Maximum = 6.

4.3 Reasons for not Using ICT Services and Resources
RQ-2 tackled the reasons why KU faculty members do not use some academic support ICT services and resources provided by KU. A total of 13 items in the questionnaire addressed RQ-2.

RQ-2. What factors hinder the use of the academic support ICT services and tools by KU faculty members?

The findings presented in Table 4 disclose detailed information regarding the key reasons why KU faculty members have not used at all or have not frequently used various academic support ICT services and resources provided by KU.

Table 4: *Descriptive Statistics of KU Faculty Members' Factors for not Using the Academic Support ICT Services and Resources, in Descending Order*

Rank	Reason	*N*	%
1	Lack of technical support	111	36.5
2	Unawareness of their availability	104	34.2
3	Lack of time	99	32.6
4	Lack of knowledge/training	96	31.6
5	Impracticality (e.g., difficulty accessing ICT services and resources due to slow connection speed, too much maintenance, etc.)	95	31.3
6	Not having received instructions to do so	79	26.0
7	Lack of academic support	76	25.0
8	Lack of interest/enjoyment	67	22.0
9	Requirement of extra effort	60	19.7
10	Health concerns (e.g., radiation, eye fatigue, and tiredness)	55	18.1
11	Lack of confidence in using ICT tools, services, and resources	29	9.5

Some research studies have reported similar results; for example, Ibrahim (2004) discovered that the United Arab Emirates University (UAEU) faculty members' frequency of use of electronic resources was low due to lack of time, lack of awareness, language barrier, and ineffective communication channels. Al-Ansari's (2006) study revealed that lack of time and access are the major obstacles to KU faculty members' Internet use. Similarly, Al-Senaidi (2009) and Al-Senaidi, Lin, and Poirot (2009) revealed some of the factors that affected the adoption and use of ICT tools and resources by SQU faculty members, including lack of institutional support, lack of time, lack of equipment, lack of confidence and skills to use ICT services and resources, as well as disbelief regarding the benefits of ICT. Moreover, Ashkanani (2017) reported that lack of efficient training affected KU instructors' use of the e-learning system at KU, while Al-Ansari (2006), Thanuskodi (2011), and Buarki (2016) found that the extent of use of ICT tools and resources by faculty members was negatively affected by slow speed Internet and Wi-Fi connectivity campus-wide as well as the slow speed off-campus accessibility due to the technical features/specifications of these services and resources, or due to too much maintenance, making them impractical for use.

4.4 Statistically Significant Differences among Faculty Members
RQ-3 addressed whether or not there are significant differences among KU faculty members' responses to the questionnaire.

RQ-3. Would the socio-demographic profile (e.g., gender, type of college, type of major, type of class, academic rank/position, teaching experience, and ICT efficacy level) of KU faculty members affect their degree of use of academic support ICT services and resources?

The results demonstrated that the socio-demographic profile of KU faculty members did, to some extent, influence their use of academic support ICT services and resources. The findings revealed several significant differences among the subgroups with respect to types of college, major, class, academic rank/position, and ICT efficacy level. The participants from scientific faculties, holding scientific majors, using a blended teaching and learning strategy, with higher academic rank, and advanced ICT efficacy level had a greater tendency to use the academic support ICT services and resources. These differences can be interpreted logically owing to the nature and characteristics (i.e., personal and occupational) of such participants, who are more likely to use ICT services, tools, systems, and resources than others. On the other hand, no such significant differences were found among KU faculty members with respect to gender (i.e., similar to Al-Senaidi et al., 2009) and years of teaching experience. Some research studies have reported similar results; for example, Buarki (2016) asserted that there is a statistically significant and strong association between "frequency of ICT use" and "ICT skills level." Tables 5-11 provide detailed information regarding these significant differences.

Table 5: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "Gender" Differences*

ICT Service/System	Category	N	M	Std. Deviation	t	df	Sig. (2-tailed)
E-mail	Male	216	5.36	1.140	-1.725	302	0.086
	Female	88	5.59	0.892			
Microsoft Office 365	Male	216	4.37	1.830	-1.695	302	0.091
	Female	88	4.75	1.697			
Blackboard E-learning	Male	216	2.82	1.911	-1.787	302	0.075
	Female	88	3.26	1.991			
TRACK E-training	Male	216	2.04	1.562	-0.309	302	0.757
	Female	88	2.10	1.516			
Library Information Resources	Male	216	3.88	1.599	-0.938	302	0.349
	Female	88	4.07	1.701			
Faculty Portal	Male	216	4.89	1.172	-1.160	302	0.247
	Female	88	5.06	1.076			
Academic Staff Evaluation	Male	216	4.25	1.537	-0.476	302	0.635
	Female	88	4.34	1.708			
Research Projects and Awards	Male	216	3.53	1.670	-0.114	302	0.910
	Female	88	3.56	1.767			
Distance Learning	Male	216	1.83	1.389	-1.114	302	0.266
	Female	88	2.03	1.615			
Student Bookshop	Male	216	2.75	1.646	-1.019	302	0.309
	Female	88	2.97	1.745			
Human Resources Management (HRM)	Male	216	2.93	1.680	0.347	302	0.729
	Female	88	2.85	1.672			

Custody of Materials	Male	216	2.34	1.586	0.864	302	0.388
	Female	88	2.17	1.548			
Password Management	Male	216	3.23	1.519	-0.864	302	0.388
	Female	88	3.40	1.672			
Wireless Fidelity (Wi-Fi) Network	Male	216	3.92	1.856	-0.066	302	0.948
	Female	88	3.93	1.727			

Table 6: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "Type of College" Differences*

ICT Service/System	Category	*N*	*M*	Std. Deviation	*t*	*df*	Sig. (2-tailed)
E-mail	HSS faculties	144	5.19	1.200	-3.709	302	0.000**
	Scientific faculties	160	5.64	0.908			
Microsoft Office 365	HSS faculties	144	3.90	1.952	-5.534	302	0.000**
	Scientific faculties	160	4.99	1.473			
Blackboard E-learning	HSS faculties	144	2.71	1.797	-2.076	302	0.039*
	Scientific faculties	160	3.17	2.044			
TRACK E-training	HSS faculties	144	1.74	1.278	-3.441	302	0.001**
	Scientific faculties	160	2.34	1.708			
Library Information Resources	HSS faculties	144	3.72	1.619	-2.132	302	0.034*
	Scientific faculties	160	4.12	1.619			
Faculty Portal	HSS faculties	144	4.83	1.134	-1.507	302	0.133
	Scientific faculties	160	5.03	1.152			
Academic Staff Evaluation	HSS faculties	144	4.01	1.637	-2.806	302	0.005**
	Scientific faculties	160	4.51	1.505			
Research Projects and Awards	HSS faculties	144	3.23	1.646	-3.068	302	0.002**
	Scientific faculties	160	3.82	1.697			
Distance Learning	HSS faculties	144	1.58	1.180	-3.522	302	0.000**
	Scientific faculties	160	2.16	1.625			
Student Bookshop	HSS faculties	144	2.89	1.730	0.754	302	0.452
	Scientific faculties	160	2.74	1.626			
Human Resources Management (HRM)	HSS faculties	144	2.72	1.633	-1.877	302	0.061
	Scientific faculties	160	3.08	1.699			
Custody of Materials	HSS faculties	144	1.89	1.359	-4.368	302	0.000**
	Scientific faculties	160	2.66	1.667			
Password Management	HSS faculties	144	3.06	1.568	-2.353	302	0.019*
	Scientific faculties	160	3.48	1.538			
Wireless Fidelity (Wi-Fi) Network	HSS faculties	144	3.55	1.847	-3.451	302	0.001**
	Scientific faculties	160	4.26	1.727			

Note. HSS = Humanities and social sciences, * = The mean difference is significant at the 0.05 level, and ** = The mean difference is significant at the 0.01 level.

Table 7: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "Type of Major" Differences*

ICT Service/System	Category	N	M	Std. Deviation	t	df	Sig. (2-tailed)
E-mail	Arts majors	120	5.13	1.223	-3.888	302	0.000**
	Scientific majors	184	5.61	0.928			
Microsoft Office 365	Arts majors	120	3.73	2.008	-6.246	302	0.000**
	Scientific majors	184	4.97	1.456			
Blackboard E-learning	Arts majors	120	2.68	1.750	-2.009	302	0.045*
	Scientific majors	184	3.13	2.042			
TRACK E-training	Arts majors	120	1.73	1.250	-3.085	302	0.002**
	Scientific majors	184	2.28	1.681			
Library Information Resources	Arts majors	120	3.73	1.640	-1.787	302	0.075
	Scientific majors	184	4.07	1.611			
Faculty Portal	Arts majors	120	4.78	1.146	-1.903	302	0.058
	Scientific majors	184	5.04	1.137			
Academic Staff Evaluation	Arts majors	120	4.08	1.622	-1.689	302	0.092
	Scientific majors	184	4.40	1.554			
Research Projects and Awards	Arts majors	120	3.22	1.631	-2.708	302	0.007**
	Scientific majors	184	3.75	1.709			
Distance Learning	Arts majors	120	1.52	1.145	-3.660	302	0.000**
	Scientific majors	184	2.13	1.587			
Student Bookshop	Arts majors	120	3.03	1.763	1.864	302	0.063
	Scientific majors	184	2.67	1.604			
Human Resources Management (HRM)	Arts majors	120	2.68	1.651	-1.939	302	0.053
	Scientific majors	184	3.05	1.678			
Custody of Materials	Arts majors	120	1.86	1.355	-3.980	302	0.000**
	Scientific majors	184	2.58	1.645			
Password Management	Arts majors	120	3.07	1.549	-1.896	302	0.059
	Scientific majors	184	3.41	1.562			
Wireless Fidelity (Wi-Fi) Network	Arts majors	120	3.56	1.869	-2.844	302	0.005**
	Scientific majors	184	4.16	1.747			

Note. * = The mean difference is significant at the 0.05 level, and ** = The mean difference is significant at the 0.01 level.

Table 8: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "Type of Class" Differences*

ICT Service/System	Category	N	M	Std. Deviation	t	df	Sig. (2-tailed)
E-mail	Traditional	137	5.09	1.300	-5.014	302	0.000**
	Blended	167	5.69	0.758			
Microsoft Office 365	Traditional	137	3.99	1.944	-4.449	302	0.000**
	Blended	167	4.88	1.563			
Blackboard E-learning	Traditional	137	2.41	1.829	-4.548	302	0.000**
	Blended	167	3.40	1.923			
TRACK E-training	Traditional	137	1.66	1.302	-4.139	302	0.000**
	Blended	167	2.38	1.656			
Library Information Resources	Traditional	137	3.67	1.672	-2.538	302	0.012*
	Blended	167	4.14	1.565			
Faculty Portal	Traditional	137	4.72	1.259	-3.000	302	0.003**
	Blended	167	5.11	1.014			
Academic Staff Evaluation	Traditional	137	3.90	1.624	-3.818	302	0.000**
	Blended	167	4.58	1.490			
Research Projects and Awards	Traditional	137	3.28	1.714	-2.461	302	0.014*
	Blended	167	3.75	1.655			
Distance Learning	Traditional	137	1.55	1.124	-3.685	302	0.000**
	Blended	167	2.16	1.637			
Student Bookshop	Traditional	137	2.50	1.535	-2.948	302	0.003**
	Blended	167	3.07	1.746			
Human Resources Management (HRM)	Traditional	137	2.48	1.515	-4.088	302	0.000**
	Blended	167	3.25	1.724			
Custody of Materials	Traditional	137	1.84	1.302	-4.703	302	0.000**
	Blended	167	2.66	1.681			
Password Management	Traditional	137	3.09	1.522	-1.914	302	0.057
	Blended	167	3.43	1.585			
Wireless Fidelity (Wi-Fi) Network	Traditional	137	3.50	1.815	-3.771	302	0.000**
	Blended	167	4.27	1.747			

Note. * = The mean difference is significant at the 0.05 level, and ** = The mean difference is significant at the 0.01 level.

Table 9: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "Academic Rank" Differences*

ICT Service/System		Sum of Squares	df	Mean Square	F	Sig.
E-mail	Between Groups	2.746	2	1.373	1.182	0.308
	Within Groups	349.514	301	1.161		
	Total	352.260	303			
Microsoft Office 365	Between Groups	2.443	2	1.221	0.376	0.687
	Within Groups	977.396	301	3.247		
	Total	979.839	303			
Blackboard E-learning	Between Groups	1.457	2	0.729	0.192	0.825
	Within Groups	1140.803	301	3.790		
	Total	1142.260	303			
TRACK E-training	Between Groups	17.690	2	8.845	3.764	0.024*
	Within Groups	707.245	301	2.350		
	Total	724.934	303			
Library Information Resources	Between Groups	6.016	2	3.008	1.135	0.323
	Within Groups	797.534	301	2.650		
	Total	803.549	303			
Faculty Portal	Between Groups	3.319	2	1.660	1.266	0.283
	Within Groups	394.493	301	1.311		
	Total	397.813	303			
Academic Staff Evaluation	Between Groups	6.223	2	3.112	1.239	0.291
	Within Groups	756.115	301	2.512		
	Total	762.339	303			
Research Projects and Awards	Between Groups	26.934	2	13.467	4.799	0.009**
	Within Groups	844.592	301	2.806		
	Total	871.526	303			
Distance Learning	Between Groups	19.203	2	9.602	4.624	0.011*
	Within Groups	624.994	301	2.076		
	Total	644.197	303			
Student Bookshop	Between Groups	5.747	2	2.873	1.024	0.360
	Within Groups	844.566	301	2.806		
	Total	850.313	303			
Human Resources Management	Between Groups	12.478	2	6.239	2.242	0.108

		Sum of Squares	df	Mean Square	F	Sig.
(HRM)	Within Groups	837.756	301	2.783		
	Total	850.234	303			
Custody of Materials	Between Groups	11.547	2	5.773	2.350	0.097
	Within Groups	739.397	301	2.456		
	Total	750.944	303			
Password Management	Between Groups	7.012	2	3.506	1.438	0.239
	Within Groups	733.778	301	2.438		
	Total	740.789	303			
Wireless Fidelity (Wi-Fi) Network	Between Groups	14.408	2	7.204	2.200	0.113
	Within Groups	985.697	301	3.275		
	Total	1000.105	303			

Note. * = The mean difference is significant at the 0.05 level, and ** = The mean difference is significant at the 0.01 level.

Table 10: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "Years of Experience" Differences*

ICT Service/System		Sum of Squares	df	Mean Square	F	Sig.
E-mail	Between Groups	4.671	3	1.557	1.344	0.260
	Within Groups	347.589	300	1.159		
	Total	352.260	303			
Microsoft Office 365	Between Groups	20.893	3	6.964	2.179	0.091
	Within Groups	958.946	300	3.196		
	Total	979.839	303			
Blackboard E-learning	Between Groups	5.918	3	1.973	0.521	0.668
	Within Groups	1136.342	300	3.788		
	Total	1142.260	303			
TRACK E-training	Between Groups	4.987	3	1.662	0.693	0.557
	Within Groups	719.947	300	2.400		
	Total	724.934	303			
Library Information Resources	Between Groups	10.582	3	3.527	1.334	0.263
	Within Groups	792.968	300	2.643		
	Total	803.549	303			
Faculty Portal	Between Groups	3.097	3	1.032	0.785	0.503
	Within Groups	394.716	300	1.316		
	Total	397.813	303			

		Sum of Squares	df	Mean Square	F	Sig.
Academic Staff Evaluation	Between Groups	2.415	3	0.805	0.318	0.812
	Within Groups	759.923	300	2.533		
	Total	762.339	303			
Research Projects and Awards	Between Groups	2.647	3	0.882	0.305	0.822
	Within Groups	868.879	300	2.896		
	Total	871.526	303			
Distance Learning	Between Groups	16.063	3	5.354	2.557	0.055
	Within Groups	628.134	300	2.094		
	Total	644.197	303			
Student Bookshop	Between Groups	1.290	3	0.430	0.152	0.928
	Within Groups	849.023	300	2.830		
	Total	850.312	303			
Human Resources Management (HRM)	Between Groups	4.013	3	1.338	0.474	0.700
	Within Groups	846.220	300	2.821		
	Total	850.234	303			
Custody of Materials	Between Groups	1.612	3	0.537	0.215	0.886
	Within Groups	749.332	300	2.498		
	Total	750.944	303			
Password Management	Between Groups	9.535	3	3.178	1.304	0.273
	Within Groups	731.254	300	2.438		
	Total	740.789	303			
Wireless Fidelity (Wi-Fi) Network	Between Groups	15.291	3	5.097	1.553	0.201
	Within Groups	984.815	300	3.283		
	Total	1000.105	303			

Table 11: *Inferential Statistics of KU Faculty Members' Responses to RQ-1 for "ICT Efficacy Level" Differences*

ICT Service/System		Sum of Squares	df	Mean Square	F	Sig.
E-mail	Between Groups	17.230	2	8.615	7.740	0.001**
	Within Groups	335.030	301	1.113		
	Total	352.260	303			
Microsoft Office 365	Between Groups	73.419	2	36.709	12.190	0.000**
	Within Groups	906.420	301	3.011		
	Total	979.839	303			

Blackboard E-learning	Between Groups	11.667	2	5.834	1.553	0.213
	Within Groups	1130.592	301	3.756		
	Total	1142.260	303			
TRACK E-training	Between Groups	12.488	2	6.244	2.638	0.073
	Within Groups	712.446	301	2.367		
	Total	724.934	303			
Library Information Resources	Between Groups	14.983	2	7.491	2.860	0.059
	Within Groups	788.567	301	2.620		
	Total	803.549	303			
Faculty Portal	Between Groups	13.797	2	6.899	5.407	0.005**
	Within Groups	384.015	301	1.276		
	Total	397.813	303			
Academic Staff Evaluation	Between Groups	6.088	2	3.044	1.212	0.299
	Within Groups	756.251	301	2.512		
	Total	762.339	303			
Research Projects and Awards	Between Groups	12.307	2	6.153	2.156	0.118
	Within Groups	859.220	301	2.855		
	Total	871.526	303			
Distance Learning	Between Groups	22.513	2	11.256	5.450	0.005**
	Within Groups	621.684	301	2.065		
	Total	644.197	303			
Student Bookshop	Between Groups	1.616	2	0.808	0.286	0.751
	Within Groups	848.697	301	2.820		
	Total	850.313	303			
Human Resources Management (HRM)	Between Groups	27.391	2	13.695	5.010	0.007**
	Within Groups	822.843	301	2.734		
	Total	850.234	303			
Custody of Materials	Between Groups	44.767	2	22.384	9.541	0.000**
	Within Groups	706.177	301	2.346		
	Total	750.944	303			
Password Management	Between Groups	6.923	2	3.462	1.420	0.243
	Within Groups	733.866	301	2.438		
	Total	740.789	303			

Wireless Fidelity (Wi-Fi) Network	Between Groups	49.845	2	24.923	7.894	0.000**
	Within Groups	950.260	301	3.157		
	Total	1000.105	303			

Note. ** = The mean difference is significant at the 0.01 level.

5. CONCLUSION AND RECOMMENDATIONS

Academic support ICT tools and services have made extraordinary advances in the academic world; these technologies have affected and changed the manner in which academics work (i.e., how they think, teach, learn, study, communicate, collaborate, interact, administer, publish, preserve, exchange, read, write, and research information differently) (Rafiq & Warraich, 2016; Rao, Tripathi, & Kumar, 2016; Raynard, 2017; Safar, 2018b; Safar & Alkhezzi, 2013; Safar, Jafer, & Alqadiri, 2014). An enormous amount of funding has been made readily available, over two decades, for the employment of these ICT tools, resources, and services at KU; however, research studies covering the extent of usage of these technologies by KU's stakeholders are limited (Safar, 2018b). Regardless of two decades of massive investment to situate ICT tools, services, systems, and resources as a pivotal tenet of KU's teaching, learning, research, and administration practices, the findings revealed that formal academic usage of these ICT services and resources by KU faculty is only "average" (overall mean score is 3.48 (*SD* = 0.937) on a 6-point rating scale). This implies that the potential benefits of these academic support ICT systems and services have not yet been attained, in terms of serving KU's strategic objectives. The results of this study clearly reveal that the academic support ICT tools, resources, and services at KU do not yet fit flawlessly into the established chain of education workflow for KU faculty members. Yet, if we are eager to achieve the proclaimed objectives behind the implementation of these academic support ICT tools, resources, and services at KU, reconsideration is highly required prior to completing their execution. Thus, we make the following recommendations to encourage and increase the effectiveness and efficiencies of KU faculty members' usage and satisfaction of the academic support ICT tools, resources, and services:

1. Instigate a better and well-planned/defined media awareness/publicity campaign on a large scale within KU for its faculty members.
2. Develop innovative practices and partnership with KU faculty members by providing them with more, and ongoing, training sessions/courses—administered either by instructional technologists or experienced and proficient faculty members—on how to efficiently and effectively integrate the academic support ICT tools, resources, and services within academic life.
3. Take the following dimensions into consideration, and invest more efforts in them, when implementing the academic support ICT tools, resources, and services at KU: (a) academic support, (b) technical support, (c) usability, (d) suitability, (e) applicability, (f) compatibility, (g) interactivity, (h) media richness, (i) ICT efficacy level, (j) ICT ownership, (k) teaching experience, (l) type of class (i.e., whether traditional or online or blended), (m) users' preference, (n) assessment/evaluation and selection, (o) return on investment (i.e., cost/benefit), and (p) technology (Safar, 2018b). These abovementioned points emerge as key requisites for effective service delivery and enhancement of the academic support ICT tools, resources, and services within KU.
4. Provide scalable broadband high-speed Internet access within all KU campuses to sustain the implementation of the academic support ICT tools, resources, and services that are replacing the traditional means.
5. Numerous variables can foresee KU faculty members' behavioral intentions to use the academic support ICT tools, resources, and services; for example, personal innovativeness, motivation, ICT competences and skills, and challenges/barriers (Safar, 2018b). Thus, more research studies (quantitative and qualitative) should be conducted in the near future covering these and other related aspects for a wide range of participants with different academic backgrounds from all KU colleges to validate and extend the findings.
6. Try to resolve the issues/challenges that were reported by KU faculty members—which are deemed to be the foremost factors constraining KU faculty members' usage of the academic support ICT tools, resources, and services—in order to contribute to faculty members' successful use of these technologies and services to support their own academic lives/careers.
7.

5.1 Limitations of the Study

This research study has covered the extent of use, by KU's faculty members only, of academic support ICT services and resources provided by KU; additional studies should examine the viewpoints of academic support

staff, students, and employees. The physical infrastructure limitations of the KU campuses being based in different geographical locations may be considered a physical limitation when collecting data. This leads to another major study limitation, namely the small sample size, which can be overcome by using various ICT means for data collection purposes. More data need to be collected to impart credence and validation to the findings in the future.

5.2 Acknowledgements

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