CORA Cork Open Research Archive
Cartlann Taighde Oscailte Chorcaí

Title	Knowledge sharing of postgraduates online: The intention-behavior gap
Authors	Aldhmour, Fairouz M.;Doyle, Eleanor
Publication date	2023-03-01
Original Citation	Aldhmour, F. M. and Doyle, E. (2023) 'Knowledge sharing of postgraduates online: the intention-behavior gap', Information Sciences Letters, 12(2), pp. 717–733. Available at: https://doi.org/10.18576/isl/120215
Type of publication	Article (peer-reviewed)
Link to publisher's version	10.18576/isl/120215
Rights	© 2023 NSP Natural Sciences Publishing Cor.
Download date	2026-10-31 03:27:42
Item downloaded from	https://hdl.handle.net/10468/16050

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Information Sciences Letters

Volume 12
Issue 2 *Mar. 2023*

Article 15

2023

Knowledge Sharing of Postgraduates Online: The Intention-Behavior Gap

F. M. Aldhmour
Innovation & Technology Management Department, College of Graduate Studies, Arabian Gulf University, Manama, Bahrain\\ Management Information Systems Department, School of Business, Mutah University, Amman, Jordan, fairouz@Mutah.edu.Jo

E. Doyle
Department of Economics, Cork University Business School, University College Cork, Ireland, fairouz@Mutah.edu.Jo

Follow this and additional works at: https://digitalcommons.aaru.edu.jo/isl

Recommended Citation

M. Aldhmour, F. and Doyle, E. (2023) "Knowledge Sharing of Postgraduates Online: The Intention-Behavior Gap," *Information Sciences Letters*: Vol. 12 : Iss. 2 , PP -.
Available at: https://digitalcommons.aaru.edu.jo/isl/vol12/iss2/15

This Article is brought to you for free and open access by Arab Journals Platform. It has been accepted for inclusion in Information Sciences Letters by an authorized editor. The journal is hosted on Digital Commons, an Elsevier platform. For more information, please contact rakan@aaru.edu.jo, marah@aaru.edu.jo, u.murad@aaru.edu.jo.

Information Sciences Letters
An International Journal

http://dx.doi.org/10.18576/isl/120215

Knowledge Sharing of Postgraduates Online: The Intention-Behavior Gap

F. M. Aldhmour [1,2,*] *and E. Doyle* [3]

[1]Innovation & Technology Management Department, College of Graduate Studies, Arabian Gulf University, Manama, Bahrain
[2]Management Information Systems Department, School of Business, Mutah University, Amman, Jordan
[3]Department of Economics, Cork University Business School, University College Cork, Ireland

Received: 1 May. 2022, Revised: 7 Sep. 2022, Accepted: 27 Sep. 2022.
Published online: 1 Feb. 2023.

Abstract: Knowledge is recognized as a strategic asset and a critical factor for organizational development and competitive advantage in the knowledge economy. All modern organizations should incorporate knowledge management (KM) practices, particularly knowledge sharing behavior (KSB). This research investigates factors influencing KSB based on planned behavior theory and the technology acceptance model in higher education institutes (HEIs) in Jordan. A descriptive analysis approach was applied in the study. A questionnaire was designed and distributed to a sample of 500 respondents across the HEIs. The findings reveal that intentions positively influence MBA students' KSB but explain less than 50% of KSB; hence an intention-behavior gap is observed. Contextual factors are also identified as significant, namely accreditation and HEI culture. No significant effects of knowledge sharing attitude, subjective norms, perceived ease, course involvement and perceived usefulness are identified. Perceived risk impacted negatively on students' intentions and KSB. Complex cognitive and behavioral processes between individuals results in knowledge sharing. Combining theoretical foundations permits the identification of those features explaining either intention or behavior, or both. The extent of the intention-behavior gap indicates further research may focus on barriers to converting intentions into actual behavior to support knowledge sharing.

Keywords: Intention-Behavior Gap; Knowledge Sharing Behavior; Technology Acceptance; Theory of Planned Behavior.

1 Introduction

Knowledge management (KM) plays a critical role in higher education institutions (HEIs) and is a valuable tool to meet organizational goals [1, 2]. A primary KM process that impacts its success is knowledge sharing (KS). A rich literature on KS links individual-centric knowledge to group knowledge generation, identifying KS as vital to creating economic value for organizations [3-5]. KS is considered an important factor in both achieving organizational effectiveness and supporting high levels of individual innovation [6]. KS facilitates members of an organization to gather, create and utilize existing knowledge more rapidly and easily to increase their performance, as well as creating new ideas for innovating collectively [7, 8]. At the organizational level KS plays an important role in developing employee and organizational capabilities, as well as helping to create a competitive advantage and assisting organizational innovation [3, 9]. The majority of previous studies have investigated the behavior, attitudes, and intentions of academics toward knowledge sharing [10, 11]. Within these contexts, this research examines the KS intentions and behaviors of practitioner-students to increase understanding of drivers of KS from both input (intentional) and output (behavioral) perspectives.

Knowledge sharing behavior (KSB) enhances mutual learning, promotes best practices, reduces operational costs of redundant learning, creates new knowledge and greater organizational problem-

*Corresponding author e-mail: fairouz@mutah.edu.jo

© 2023 NSP
Natural Sciences Publishing Cor.

solving capacity, accelerates organizational innovation, and increases organizational productivity [12, 13]. KSB can be identified as the transfer of useful information and particular knowledge, know-how on working together, problem-solving, policy implementation or the development of new ideas, unique skills, and expertise between members across organization lines [14]. This aligns with the definition of KS as encompassing knowledge acquisition, documentation, transfer, construction, application, contribution, and gathering [15]. In brief, it is the degree to which each individual conducts knowledge sharing activities in ways that permit others to readily understand, absorb, and employ knowledge [16].

Thus, a major challenge in managing knowledge involves motivating individuals to share knowledge with others as some may dislike knowledge sharing – seeing it as problematic in retaining a competitive edge or advantage [17]. Hence KS can be difficult if individuals do not recognize that it confers benefits or if perceived benefits are lost to others [1, 18]. Of course, management support for knowledge sharing behavior (KSB) may be demonstrated by emphasizing 'lessons learned' from sharing instead of 'mistakes made' [19] or by providing support through bonuses and resources, so that elements of organizational culture may encourage KS [20]. Human resource practices and trust in supervisors can play pivotal roles in promoting KSB [21]. A role for broader contextual, or environmental, factors in individuals' KS intention and behavior is, therefore, also worthy of attention. [22] and [23] identified that sectoral and professional background, the status of respondents and varying geographies offered insights into the drivers of KS relevant to understanding and differentiating their impacts.

This study examines both KS intentions and behaviors to increase understanding of the drivers of KS from both input (intentional) and output (behavioral) perspectives. In line with Cheng [24] we appeal to two complementary theories: the Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM), often presented as competing theories [25]. Our research contributes to current understanding firstly by identifying elements from both TPB and TAM that explain not only KS intention (a mediating variable) but also the dependent variable of KS behavior. The specific context considered is online MBA (Master of Business Administration) programs across higher educational institutions (HEIs) in Jordan, which we use to measure students' intentions to share knowledge within their cohort and their subsequent reported KS behavior. Given the students' context, we chose also to include contextual variables relating to the institutional background of the HEIs. Identification of factors, suggested from the TPB and TAM, that explain KS in a focused online only environment can assist educators to design and implement targeted and effective strategies, representing one contribution of this study. In addition, we also highlight the intention-behavior gap (identified in [26]) and point to difficulties inherent in delivering on desired behavior – even when individuals intend to engage in a behavior and are committed to change. It is a well cited finding that most intentions to change behavior end in failure [27] and studies that focus only on explaining intentions tell a partial story. Our findings of a large gap points to challenges for educational, organizational, and ultimately innovation-based developments that rely on KS.

2 Theoretical Background: Knowledge, Knowledge Sharing, and the Theory of Planned Behavior

The Theory of Planned Behavior (TPB) [28] was developed from the Theory of Reasoned Action [29]. [30] outlined TPB as an extension of the theory of reasoned action which adds an additional construct, namely perceived behavioral control, or personal agency, to the TRA inclusions of individual attitude and subjective norm [31]. As [28] outlined, individual attitude relates to an individual's positive or negative feelings towards an intention or behavior, while subjective norms relate to an individual's perception of their peers' considerations of a specific intention or behavior

© 2023 NSP
Natural Sciences Publishing Cor.

and the individual's perceived need to conform. Perceived behavioral control encompasses the perceived ease, or difficulty, of performing a behavior, or intending to do so.

TPB aims to explain the factors influencing an individual's intention to perform a particular behavior. Thus, an individual's attitude towards an act, their subjective norms, and perceived control are indirectly linked to behavior: the link is made via individual intention (see Figure 1). Accordingly, the intention to share knowledge, the focus of this research, feeds into observed behavior.

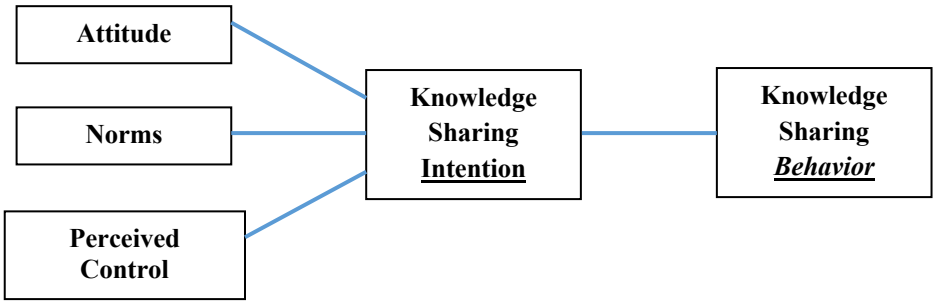


Fig. 1. Theory of Planned Knowledge Sharing Behavior

Subjective norms have been identified as important in KS. A positive organizational environment can affect the formation of subjective norms, which may in turn impact the individual's intention toward KS. For example, [32] found that managers' intention of encouragement was positively related to employees' knowledge sharing behaviors. Attitudes including job satisfaction and organizational commitment have been identified as fostering KS [33]. [34] extended the TPB approach to include both moral norms and descriptive norms that encompass beliefs, intentions, and behaviors. [35] confirmed that both past behavior and descriptive norms make distinct contributions to the prediction of intention. [36] identified that situation- and issue-specific motivations were direct constructs determining behavior and found they explained just less than half (49%) of variance in purchase intention (of green products). Similarly, [37] considered that TPB assisted in forecasting and recognizing environmental and individual factors affecting behavior.

A diverse range of factors have been identified as determinants of knowledge sharing, including cognitive factors, community technological factors, self-efficacy, topic richness, personalized recommendation, and social interactivity [38]. These features not only serve as influences on users' knowledge sharing and integration behavior, but also exert influences on knowledge quality. The essential factors on which KS relies have been identified as motivation and social environment [39]. KSB has also been influenced positively by factors such as the nature of knowledge, opportunities to share, and working culture [15]. [40] highlighted five separate aspects that support KS, namely interpersonal and team characteristics, cultural characteristics, individual characteristics, and motivations. Determinants of individuals' willingness to share knowledge include costs and benefits, incentive systems, extrinsic and intrinsic motivation, organization climate, and championing by management [41, 42]. Furthermore, [43] found the norm of reciprocity was positively associated with individuals' KS, although [42] identified a negative relationship.

Recent application of TPB to the education context has argued its usefulness in terms of how to better motivate and predict student classroom communication, where such research has tended to focus on perceptions of intention only, rather than on behavior [44]. There has been broad agreement that TPB offers a useful theoretical underpinning in developing tools for data collection [45].

Focusing on the organizational level, [46] referenced and validated a set of factors anticipated to

© 2023 NSP
Natural Sciences Publishing Cor.

affect knowledge sharing, including perceived consequences, effects, social factors and facilitating conditions. The analysis in [47] identified organizational memory playing an intermediary role in the impact of KS on empowerment of human resources, pointing to the importance of strong culture in generating effective KS.

This literature also includes a category of broad environmental factors affecting KS [40] such as organizational context (management support, rewards, motivations, organizational structure); interpersonal and team characteristics and processes (diversity, social networks, team development stage); and cultural characteristics (collectivism, in-group/out-group). Similarly, [20] claimed that KS behaviors are influenced by organizational culture (represented as trial and innovation, cooperation and trust, fairness, social network, open-minded participation); perceived behavior control (facilitating environment, self-efficacy); and KS attitude (self-worth, symbol of power, expected return).

Contextual features of relevance here include the quality of programs and institutions which our respondents experience. Accreditation processes emphasize excellence and are a preferred method in engaging in process improvement to achieve ongoing assurance of quality in provision and embedding such a quality mindset in educational institutions [48, 49]. For example, openness to external relationships and knowledge and integrating best practice from such external links is integral to accreditation, often requiring substantial organizational cultural change for some institutions [50].

More recently, KS development has exhibited substantial alteration through the introduction of Web 2.0 [51,52] that facilitates collaboration via technologically enabled social interactions. [38] demonstrated the synergistic influence between individuals and technology in knowledge co-creation, focusing on the importance of co-creation and content quality in online societies. For this reason, it is useful to extend the theoretical focus to include consideration of the Technology Acceptance Model (TAM) as knowledge sharing requires not only willingness and openness to sharing (related to intention), but also capacities for engaging in knowledge sharing activities via technologies.

2.1. Knowledge Sharing, Planned Behavior and Technology Acceptance

The essential determinants of technology acceptance within the TAM are two-fold: perceived usefulness or impact of the technology and its perceived ease of use ([53] focuses on information systems acceptance). Hence, if a user expects benefits from a technology – in terms of their individual performance – this enhances their likelihood of accepting it. The effort required to use the technology is the second important determinant of its acceptance. This implies that even where users expect to enjoy benefits from technology, if benefits are outweighed by the efforts required to employ it, the technology will not be adopted. In empirical measurement, the TAM has been extended to include subjective norms [54], but the role of attitude has been largely neglected.

Research that brings TPB and TAM together proposes a unified theory of acceptance and use of technology (UTAUT) [55] to fill this gap. Both usefulness and effort determinants were considered to contribute to an individual's attitude to using technology i.e., supporting or hindering their intention to use it, feeding ultimately into the actual use of a technology. [56] indicated that users' perceived value of a behavior was significantly affected by perceived benefits (positive) and risks (negative). Additional factors facilitating the use of technology focusing on social features were included in UTAUT to include social relations that support organized knowledge sharing.

Intentions to share knowledge evident, for example, in commitments to online education, presuppose certain capacities to exploit technology for the purposes of learning. Whether these are

© 2023 NSP
Natural Sciences Publishing Cor.

used for more general KS, however, is an open question. In light of these considerations our selected research model extends the standard TPB approach with relevant contextual features and elements of the TAM, as outlined in Figure 2. With reference to two important theories, TPB and TAM, our focus on knowledge sharing behavior identifies student intention as an essential determinant of students' actual behavior.

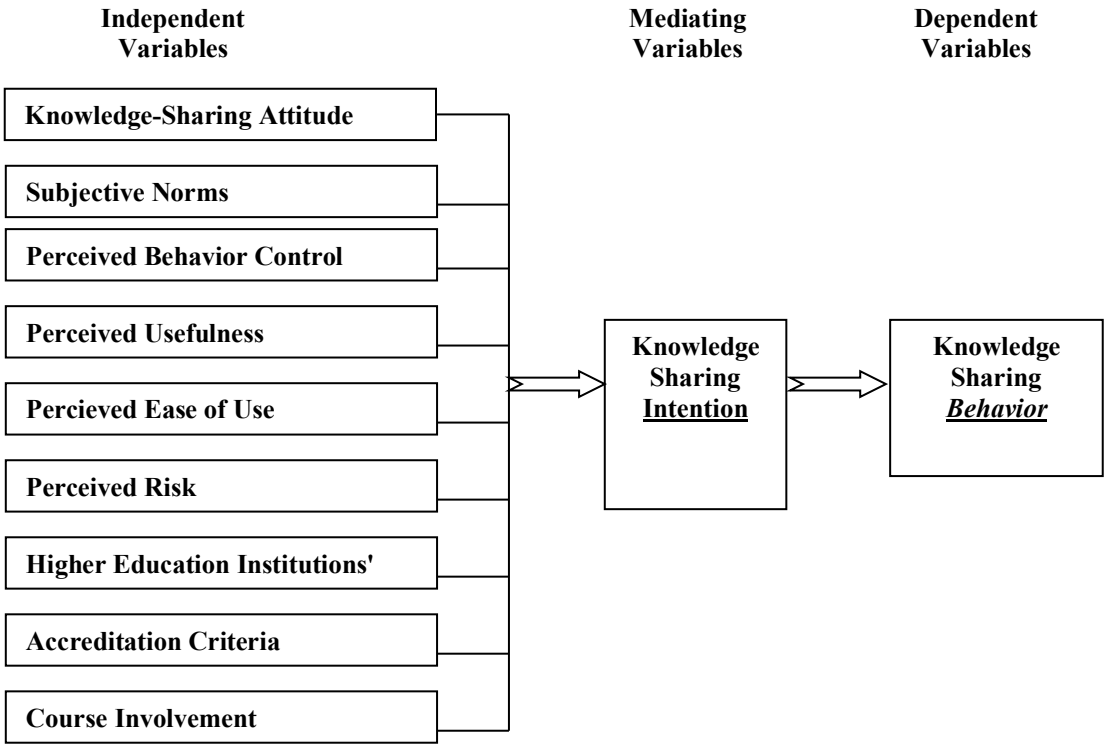


Fig. 2. Research Model: Knowledge Sharing Determinants informed by Theories of Planned Behavior and Technology Acceptance

3 Research Hypotheses, Design, and Methods

A set of hypotheses are considered here as the extent of statistically significant relationships are tested between each of the nine independent variables, our mediating variable – KS intention – and the dependent variable, KS behavior. Our focus is on improving understanding of the most important factors influencing KS intention and KS behavior, and how KS intention mediates between the explanatory variables and behavior. Such analyses serve to determine the validity of TPB, TAM and our selected context variables in KSB

A deductive approach was selected for this research because the data collected allow the researcher to answer the research questions, identify the main factors, and describe the influence of these factors influencing the behavior towards sharing knowledge. It also allows for testing the research hypotheses [57]. The design was quantitative because the data collected took a numerical form. That is, by employing a deductive approach with a quantitative data-collection method, the research focuses on measuring and analyzing the relationship between influencing factors and student intention to share knowledge. A survey strategy was implemented as it yields many advantages: it is flexible, useful for the discovery of new insights as well as for pointing out typical responses, can be applied to many people and provides data about the present, as well as what students are thinking, doing, and expecting [58].

In line with related literature, the scales employed in the survey of attitude towards KSB, perceived

© 2023 NSP
Natural Sciences Publishing Cor.

behavioral control, subjective norms and KS intention were adapted from [59-61] The self-efficacy scale used was adopted from [62].

The research population included all online, distance-learning MBA students in Jordan. The research proposal was reviewed by a university scientific committee which provided ethical approval. In view of time and cost constraints, as well as the unavailability of a complete list of students, convenience sampling was used to collect data. The appropriate sample size was selected to make generalizations with confidence about the constructs under investigation. For factor analysis, the minimum sample size should be at least five times as many observations as the number of variables to be analyzed [63]. In all, 44 separate question items are included for analysis in this study, hence a target of 220 usable questionnaires was required. Moreover, [64:198] recommend that "minimum sample size for quantitative consumer surveys are of the order of 300 to 500 respondents".

Through one of the author's close networks, contact was made with MBA online cohorts across universities in Jordan. Of 550 potential survey responses received 498 were reviewed as suitable (i.e., completed in full) and were deemed valid for inclusion in the analysis.

4 Data Analysis and Findings

Cronbach's Alpha is the most widely used measure of scale reliability. Higher coefficient alphas are associated with scales that have more items and higher inter-item correlations, and it has been suggested that an alpha coefficient of .70 or greater demonstrates sufficient reliability of a survey scale [65]. The measured alphas are provided in Table 1, indicating that all may be considered reliable.

Table 1: Cronbach's Alpha for the Scales

Dependent variables	No. of observations	No. of items	Cronbach's alpha
Knowledge Sharing Attitude	**492**	**4**	**0.737**
Subjective Norms	**492**	**4**	**0.734**
Perceived Behavior Control	**492**	**4**	**0.819**
Perceived Usefulness	**492**	**4**	**0.718**
Perceived Ease of Use	**492**	**4**	**0.768**
Perceived Risk	**492**	**4**	**0.764**
Knowledge Sharing Intention of Online	**492**	**4**	**0.810**
Higher Education Institutions' Culture	**492**	**4**	**0.747**
Accreditation Criteria	**492**	**4**	**0.802**
Course Involvement	**492**	**4**	**0.786**

Construct validity was examined by calculating the correlation of item-to-total, with results provided in Table 2. Correlations of item-to-total were measured between 0.543 and 0.909. Since all measures exceeded 0.5 and were statistically significant, the results confirmed that each dimension demonstrated properties of sound validity.

Table 2: Test of Construct Validity

Factor	Item	Sig. (2-tailed)	Correlation of item-to-total
Accreditation Criteria	**AC1**	**.000**	**.787****
	AC2	**.000**	**.848****
	AC3	**.000**	**.836****
	AC4	**.000**	**.708****
Knowledge Sharing Attitude	**KSA1**	**.000**	**.848****
	KSA2	**.000**	**.830****
	KSA3	**.000**	**.831****
	KSA4	**.000**	**.543****
Perceived Behavior	**PBC1**	**.000**	**.843****

© 2023 NSP
Natural Sciences Publishing Cor.

Control	**PBC2**	**.000**	**.817****
	PBC3	**.000**	**.811****
	PBC4	**.000**	**.751****
Course Involvement	**CI1**	**.000**	**.779****
	CI2	**.000**	**.834****
	CI3	**.000**	**.825****
	CI4	**.000**	**.703****
Higher Education Institutions' Culture	**HEIC1**	**.000**	**.871****
	HEIC2	**.000**	**.901****
	HEIC3	**.000**	**.865****
	HEIC4	**.000**	**.873****
Subjective Norms	**SN1**	**.000**	**.728****
	SN2	**.000**	**.811****
	SN3	**.000**	**.787****
	SN4	**.000**	**.718****
Perceived Risk	**PR1**	**.000**	**.719****
	PR2	**.000**	**.801****
	PR3	**.000**	**.909****
	PR4	**.000**	**.643****
Perceived Usefulness	**PU1**	**.000**	**.847****
	PU2	**.000**	**.739****
	PU3	**.000**	**.835****
	PU4	**.000**	**.585****
Perceived Ease of Use	**PEU1**	**.000**	**.773****
	PEU2	**.000**	**.773****
	PEU3	**.000**	**.789****
	PEU4	**.000**	**.782****
Knowledge Sharing Intention of Students	**KSIO1**	**.000**	**.780****
	KSIO2	**.000**	**.757****
	KSIO3	**.000**	**.837****
	KSIO4	**.000**	**.825****
Knowledge Sharing Behavior of Students	**KSBO1**	**.000**	**.700****
	KSBO2	**.000**	**.715****
	KSBO3	**.000**	**.806****
	KSBO4	**.000**	**.817****

**: Correlation is significant at the 0.01 level (2-tailed).

Skewness and kurtosis indicate the distribution of data and can detect non-normal distributions, which may invalidate findings. [66] argued that extreme non-normality is defined by skewness index values greater than 3.0 and kurtosis values greater than 21.0. Measures for data collected in this study are provided in Table 3. With measured values here for skewness between -2.20 and 0.337 and kurtosis from 1.207 to 5.082, a normal distribution of data is identified.

Table 3: Skewness and Kurtosis Coefficients

The variables	Skewness	kurtosis
Accreditation Criteria	**-1.956**	**3.377**
Knowledge Sharing Attitude	**-.782**	**-.404**
Perceived Behavior Control	**-1.966**	**3.311**
Course Involvement	**-1.199**	**4.377**
Higher Education Institutions' Culture	**-.474**	**-.791**
Subjective Norms	**-2.200**	**5.082**
Perceived Risk	**.337**	**-1.207**
Perceived Usefulness	**-1.448**	**1.288**
Perceived Ease of Use	**-1.501**	**1.960**
Knowledge Sharing Intention of Students	**-1.507**	**1.469**
Knowledge Sharing Behavior of Students	**-1.526**	**1.876**

© 2023 NSP
Natural Sciences Publishing Cor.

In addition, the variance inflation factor (VIF) was used to consider multicollinearity, i.e., correlation between the independent variables that, if serious, increases the variances of the coefficient estimates and may imply they are unstable. The results indicate that the data are within recommended guidelines (a maximum of 10 for the variance inflation factor and a minimum of 0.10 for the tolerance, following [67]; see Table 4.

Table 4: Tolerance, VIF Test

Dimensions	Tolerance	VIF (Variation Inflation Factor)
Accreditation Criteria	**.963**	**1.038**
Knowledge Sharing Attitude	**.625**	**1.601**
Perceived Behavior Control	**.847**	**1.180**
Course Involvement	**.991**	**1.009**
Higher Education Institutions' Culture	**.583**	**1.715**
Subjective Norms	**.953**	**1.049**
Perceived Risk	**.930**	**1.075**
Perceived Usefulness	**.909**	**1.101**
Perceived Ease of Use	**.948**	**1.055**
Subjective Norms	**.953**	**1.049**
Perceived Risk	**.930**	**1.075**
Perceived Usefulness	**.909**	**1.101**
Perceived Ease of Use	**.948**	**1.055**

The Durbin–Watson covariance of our model is 1.315, see Table 5.

Table 5: Analysis of Variances

Model		Sum of Squares	df	Mean Square	F	Sig.	R Square	R	Durbin-Watson
	Regression	**112,633**	**9**	**12,515**	**29,597**	**,000**	**,343**	**,597**	**1,315**
	Residual	**203,805**	**482**	**,423**					
	Total	**316,437**	**491**						

As a rule of thumb, the value of Durbin-Watson is close to 2 if the errors are uncorrelated, indicating no serious autocorrelation [68]. The measured R-square of 0.34 signifies that 34.3% of the variance in students' *intentions* towards knowledge sharing behavior is explained by changes in our variables of accreditation criteria, knowledge sharing attitude, perceived behavior control, course involvement, higher education institutions' culture, subjective norms, perceived risk, perceived usefulness, and perceived ease of use. The p-value of the model is 0.000 and it is < 0.05, indicating that our model is statistically significant. Details of the coefficient estimates from our multiple regression model are provided in Table 6, which includes our independent variables in the context of explaining students' KS intentions.

Analysis based on Table 6 allows us to consider the importance of TPB, TAM and the context for knowledge sharing intentions.

Table 6: Determinants of Knowledge Sharing Intentions

Determinants of Knowledge Sharing Intentions	Unstandardized Coefficients		Standardized Coefficients	T	Significance (2-tailed)
	B	**Std. Error**	**Beta**		
Constant	**0.199**	**0.416**		**0.479**	**0.632**
Knowledge Sharing Attitude	**0.430**	**0.046**	**0.044**	**0.945**	**0.345**
Subjective Norms	**0.740**	**0.045**	**0.062***	**1.658**	**0.098**
Perceived Behavior Control	**0.107**	**0.040**	**0.107*****	**2.695**	**0.007**
Perceived Usefulness	**0.036**	**0.035**	**0.039**	**1.012**	**0.312**
Perceived Ease of Use	**0.013**	**0.035**	**0.014**	**0.368**	**0.713**
Perceived Risk	**-0.115**	**0.032**	**-0.138*****	**-3.65**	**0.000**
Higher Ed. Institution's Culture	**0.282**	**0.049**	**0.275*****	**5.736**	**0.000**
Accreditation Criteria	**0.420**	**0.041**	**0.380*****	**10.198**	**0.000**

© 2023 NSP
Natural Sciences Publishing Cor.

Course Involvement	**0.022**	**0.064**	**0.013**	**0.344**	**0.991**

Note: *** denotes 1% significance; ** denotes 5% significance; * denotes 10% significance

From the theory of planned behavior, perceived behavior control was statistically significant (at 5% level) in explaining intentions to share knowledge. Subjective norms are significant (at 10% level), while knowledge sharing attitude is not significant.

Of the three variables relating to TAM, one was statistically significant. In this case perceived risk was highly significant (1%) while perceived usefulness and perceived ease of use were insignificant. The negative sign indicates, as would be expected, that perception of risk *reduces* intentions to share knowledge.

Of our added context variables, two were estimated as significant, both at 1%, and display the highest coefficients across the variables included in this analysis. Accreditation criteria and HEI culture have significant effects on students' knowledge sharing intentions, but course involvement was insignificant.

The next step in our analysis is to examine knowledge sharing behavior (KSB) and consider the effect of our mediating variable. We examined the determinants of KSB in an initial model that excludes intentions to share knowledge. In further estimation we included the mediating variable to consider any impacts on KSB. In Table 7 we provide the analysis of variance output from both estimates. We considered the differences in observed effects between the two models, identifying that the differences observed are unlikely to be due to random chance.

Table 7: Analysis of Variance

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**R Square**	**R**	**R Square Change**	**F Change**	**Durbin-Watson**
1	**Regression**	**151.49**	**9**	**16.832**	**81.84**	**0.00**	**0.60**	**0.78**	**-**	**-**	
	Residual	**99.12**	**482**	**0.206**							
	Total	**250.62**	**491**								
2	**Regression**	**187.47**	**10**	**18.746**	**142.77**	**0.00**	**0.75**	**0.87**	**0.15**	**273.97**	**1.73**
	Residual	**63.16**	**481**	**0.131**							
	Total	**250.62**	**491**								

Direct impacts of our selected independent variables on students' KSB are evident in Model 1 estimates (excluding the mediating variable). Approximately 60% of variance in KSB is explained by the independent variables (R-square 0.60). In Model 2, indirect effects of the independent variables are measured on KSB, mediated through intentions. A higher share of variance (75%) is explained by Model 2, evident in the R-square of 0.75.

The measured increase in explained variance indicates a contributing role for the mediating variable (intentions) in understanding knowledge sharing behavior. We examine both models in further detail in Table 8.

Table 8: Determinants of Knowledge Sharing Behavior: Unmediated (1) and Mediated (2) by Knowledge Sharing Intentions

KS Behavior		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig. (2-tailed)**
		B	**Std. Error**	**Beta**		
	Constant	**-.070**	**.290**		**-.240**	**.811**
	Knowledge Sharing Attitude	**.034**	**.032**	**.039**	**1.067**	**.286**
	Subjective Norms	**.032**	**.031**	**.030**	**1.022**	**.307**
	Perceived Behavior Control	**.087**	**.028**	**.099*** **	**3.166**	**.002**

© 2023 NSP
Natural Sciences Publishing Cor.

1	**Perceived Usefulness**	**.009**	**.025**	**.011**	**.355**	**.723**
	Perceived Ease of Use	**-,038**	**.025**	**-.046**	**-1.547**	**.123**
	Perceived Risk	**-.043**	**.022**	**-.059****	**-1.973**	**.049**
	Higher Ed. Institutions' Culture	**.363**	**.034**	**.397*****	**10.575**	**.000**
	Accreditation Criteria	**.535**	**.029**	**.543*****	**18.613**	**.000**
	Course Involvement	**.014**	**.045**	**.009**	**.309**	**.757**
2	**Constant**	**-.153**	**.232**		**-.660**	**.509**
	Knowledge Sharing Attitude	**.016**	**.025**	**.018**	**.623**	**.534**
	Subjective Norms	**.001**	**.025**	**.001**	**.030**	**.976**
	Perceived Behavior Control	**.044**	**.022**	**.050****	**1.996**	**.046**
	Perceived Usefulness	**-.006**	**.020**	**-.008**	**-.319**	**.750**
	Perceived Ease of Use	**.005**	**.018**	**.007**	**.279**	**.781**
	Perceived Risk	**-.044**	**.020**	**-.052****	**-2.213**	**.027**
	Higher Ed. Institutions' Culture	**.245**	**.028**	**.267*****	**8.621**	**.000**
	Accreditation Criteria	**.358**	**.025**	**.364*****	**14.154**	**.000**
	Course Involvement	**.005**	**.036**	**.003**	**.127**	**.899**
	Knowledge Sharing Intentions	**.420**	**.025**	**.472*****	**16.552**	**.000**

Note: *** denotes 1% significance; ** denotes 5% significance; * denotes 10% significance

There is much similarity between our results for determinants of intentions (Table 6) and determinants of Behavior (Model 1 in Table 8). All variables estimated with statistical significance in Table 6 (perceived behavior control, perceived risk, HEI culture, accreditation criteria), with the exception of subjective norms (significant at 10% in Table 6) are also identified as statistically significant in Table 8. In moving from intention to behavior, peers' expectations are no longer statistically significant, while others' expectations no longer matter. The relative size of coefficients on statistically significant variables is generally similar to those in Table 6. However, in the case of perceived risk as a determinant of KSB, the measured impact is considerably less than that measured for intentions (a reduction of approximately 60%).

These results indicate that perceived risks are a stronger negative determinant of intentions to share knowledge relative to actual knowledge sharing behavior (comparing coefficients of -1.38 in Table 6 to -0.06 in Table 8). Respondents' fears were greater in relation to their intentions, than their actual behavior.

The results of our second model provided in Table 8 indicate the impact of the mediating variable on KSB. Consistent with Model 1 (and Table 6), the set of statistically significant variables does not change with the inclusion of the mediating variable of knowledge sharing intentions. Not only is the effect of intentions significant, but its coefficient at 0.47 is larger than for any of the other significant variables. The size of the impacts of all remaining significant variables is lower in Model 2 relative to Model 1.

5 Discussion

Knowledge sharing activities are fundamental to organizational life, team performance and business development [69, 70]. Conditions that serve to improve these activities are important for supporting economic growth. Our investigation of knowledge sharing intentions and knowledge sharing behaviors among MBA students across Jordan generates several interesting findings in our consideration of elements from a set of different theoretical approaches.

The underlying research model developed, based on theories of planned behavior and technology acceptance, includes factors that impact on intentions for knowledge sharing and ultimately on knowledge sharing behaviors. Our findings indicate support for an integrative focus of research that includes both the Theory of Planned Behavior and the Theory of Technology Acceptance. A focus only on the Theory of Planned Behavior, and its component elements, would greatly limit

© 2023 NSP
Natural Sciences Publishing Cor.

understanding of KSB both directly and indirectly, i.e., mediated by intentions for knowledge sharing. By supplementing TPB with TAM we add to the understanding of the determinants of KSB. In the case of KS, because of its role in team success the limited evidence of the role of individual-level factors in our results for both KS intentions and behavior in educational settings is notable. Individual success in education would not be predicated on keeping knowledge at an individual level and in fact an emphasis in many online offerings highlight the benefits of teamwork, building group collaboration into the fabric of the offerings, simulating the modern working environment [71]. It may be the case across the groups included in our analyses that their ties with peer-group members are simply not sufficiently strong for the potential of others' attitudes to knowledge sharing to have any impact on individual responses to subjective norms to influence behavioral intention or behavior itself.

In our analyses of determinants of intentions for knowledge sharing, external (social) rather than individual behavioral or intrinsic factors were estimated to have greater impacts, relative to individual beliefs and attitudes (TPB and TAM determinants). From an organizational perspective, this finding is useful as individual attitudes and norms can be more difficult to change than tools and systems that support knowledge sharing, assuming necessary resourcing is available. However, such systems are not directly considered in our sample – cultural features and students' experience of accreditation requirements represent external validations that act to positively influence students' intentions and behavior around knowledge sharing.

Our measure of accreditation criteria has a robust effect on MBA students' intentions towards knowledge sharing behavior (Table 6: coefficient 0.38) and also, ultimately, on behavior (Table 8: coefficient 0.36). Accreditation criteria appear to serve as an important indicator of educational effectiveness and assurance of quality. The experiences of students are directly impacted by accreditation through, for example, assurances of learning processes that demand input from external stakeholders and students, sometimes jointly, on program impacts. As a measure it signals the extent to which students have trust in their distance learning MBA program and exerts positive influence on knowledge sharing intentions, leading in turn to substantial impacts for knowledge sharing behavior. Similarly, features of HEI culture exert positive, and similar, impacts on both intentions and KSB (0.28 in Table 6 and 0.27 in Table 8). These factors provide indications of the educational climate experienced by the respondents which is conducive to knowledge sharing. The factors influence KSB directly – but do not appear to generate indirect effects via subjective norms as found in Bock et al, [32].

In psychology research, studies indicate that intentions are "translated into action approximately one-half of the time" [72:511]. Our research aligns with such findings, although we note the weight in such research on psychological explanations that fail to account for system-wide or organizational explanations. In fact, the need to investigate *both* intention (evident in self-reported perceptions) and behavior is clear from the gap estimated that raises challenges around incentivizing and encouraging the sharing of knowledge for mutual and organizational benefit. A focus on psychological aspects only also limits an understanding of determinants of both intention and behavior.

Of note across the findings is the significance of the identified (expected) negative impact on the behavioral variable of perceived risk on both intentions and KSB. An expectation of potential 'costs' associated with knowledge sharing are reflected in our estimate of perceived risk. Perceived risk may include perceptions around electronic piracy and the spread of electronic crime, with such dangers negatively influencing students' intentions towards knowledge sharing intention and knowledge sharing behavior. Our findings indicate how this perception is reduced with experience of online education, which may indicate that experience can in and of itself mitigate some concerns

© 2023 NSP
Natural Sciences Publishing Cor.

about knowledge sharing, without eliminating them entirely. Designers and users of online education programs might need to explicitly address this issue with students and integrate measures that may further mitigate this fear factor for users. Although the coefficients are highly statistically significant, however, the impact of this variable remains relatively low across our estimations with a larger impact as a determinant of intentions, in comparison to behavior.

Our analyses support the rationale to separate out the impacts of intentions on behavior and to treat intentions as a mediating variable for behavior in relation to KSB. This aligns with the separation in economics of stated and revealed preferences where often individuals espouse a preference for one outcome (or product) but choose an alternative in their enacted behavior. Our estimates indicate that KSB would increase by 4.7% for every 10% increase in students' intentions to share knowledge, the strongest of all relationships observed (see Table 8). Insofar as KSB is concerned, therefore, individual intentions towards knowledge sharing are important as encompassed in this variable rather than via the six separate TPB and TAM variables.

The research results indicate that knowledge sharing intention positively influences MBA students to apply knowledge sharing behavior, because the intention is an important factor for knowledge sharing. These results confirm the argument that the students were aware of the use of information technology for knowledge sharing.

There is no significant effect of knowledge sharing attitude on MBA students' intentions towards knowledge sharing behavior. This result goes against the argument of [73]. The researcher justifies this result by arguing that it is difficult to understand the objectives and opportunities of knowledge sharing before the act of sharing knowledge, and educational institutions do not motivate students to think about knowledge sharing. This leads to students being unable to accurately determine their knowledge sharing attitude, and this ambiguity causes the lack of a significant effect of knowledge sharing attitude on knowledge sharing behavior.

Perceived behavior control negatively impacts MBA students' intentions towards knowledge sharing behavior. This result is in alignment with [74]. This fact occurs because students comprehend all internal and external constraints that can appear in distance learning, and can overcome these constraints with difficulty. As a result, perceived behavior control has a negative effect on the intentions towards knowledge sharing and knowledge sharing behavior.

Course involvement has no significant effect on MBA students' intentions towards knowledge sharing behavior. This result is different from the result referred to in [75]. This result is justified as distance learning is a new type of education in Jordan. It may be that the effect of course involvement on knowledge sharing will become apparent over the long term, but currently Jordanian universities have not had the experience to activate the positive role of this factor in knowledge sharing.

Higher Education Institutions' culture has a significant effect on MBA students' intentions towards knowledge sharing behavior because educational institutions encourage their students to share knowledge. These institutions believe that distance learning is an indicator of high education quality, and they use positive customs and values to reinforce MBA students' intentions towards knowledge sharing behavior. This result agrees with [76].

Subjective norms have no significant effect on MBA students' intentions towards knowledge sharing behavior. This result is different from [77]. The researcher sees that distance learning is a new type of education in Jordanian universities, and students do not have accurate subjective beliefs yet in relation to distance learning. This leads to subjective norms having no impact on knowledge sharing intentions. On the other hand, knowledge sharing intention is an important element of

© 2023 NSP
Natural Sciences Publishing Cor.

successful distance learning and it should not be influenced by subjective norms. Instead, it should be tracking objective norms.

Perceived usefulness has no significant effect on MBA students' intentions towards knowledge sharing behavior. This result goes against the argument of [78]. The researcher believes that students cannot know the real benefit of knowledge sharing in distance learning only after using distance learning, and after camper between benefits achieved through knowledge sharing in this type of education and benefits achieved through traditional education.

Perceived ease of use has no significant effect on MBA students' intentions towards knowledge sharing behavior and knowledge sharing behavior. This result disagrees with [78]. It is argued that MBA students' intentions towards knowledge sharing behavior are not linked to perceived ease of use because Jordanian students are used to using information and communications technology, and it can be argued that using distance learning for students is self-evident.

Our research identifies the gap between intention and behavior and further research is necessary to identify reasons for the failure to convert intentions into actions. Sharing understandings of the important role for KSB in organizational and economic outcomes might be required to address this gap and indicate how central knowledge sharing is for social impact. Further integrating shared and group activities into online education demands specific assessment approaches. Assessing both product (quantity and quality of individual contributions) and process (evaluating individual teamwork skills and interaction) elements does not come without challenges and a substantial literature engages with these [79 provides an overview].

In terms of the limitations of our study, the selected geography and sample point to potential issues of generalizability and difficulties in applying the findings to other contexts or cultures. In addition to the specific location of Jordan selected for the research, the context chosen for the study may indicate self-selection within our sample of online MBA students. These cohorts are likely to experience relative ease in virtual interactions, and ongoing commitment to and engagement in online infrastructural and educational support. Their preference to engage in online education would demand demonstrated capacities or abilities in technological ability that may well exceed those of samples from other organizations or more general contexts. While this raises generalizability concerns and points to the usefulness of conducting research in other locations and contexts, the similarity in the context of MBA students' experiences serve to increase our confidence in the reliability of the results generated. Comparisons of similar research in other contexts would be informative.

Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

References

[1] R. Fullwood, J. Rowley and R. Delbridge (2013). Knowledge sharing amongst academics in UK universities. *Journal of Knowledge Management.*, **17**(1), 123-136 (2013).

[2] Z. Hameed, I.U. Khan, Z. Sheikh, T. Islam, M. I. Rasheed and R. M. Naeem (2019). Organizational justice and knowledge sharing behavior: the role of psychological ownership and perceived organizational support. *Personnel Review.*, **48**(3), 748-773, DOI: 10.1108/PR-07-2017-0217 (2019).

[3] R. Donnelly (2019). Aligning knowledge sharing interventions with the promotion of firm success: the need for SHRM to balance tensions and challenges. *Journal of Business Research.*, **94**, 344-352 (2019).

[4] F. Aldhmour (2022). Continuous innovation in financial technology applications. *04-Information Sciences Letters*.. **11**(7), 1781- 1789. DOI:10.18576/isl/110534 (2022).

© 2023 NSP
Natural Sciences Publishing Cor.

[5] P. Hendriks (1999). Why share knowledge? The influence of ICT on the motivation of knowledge sharing. *Knowledge and Process Management*., **6**(2), 91-100 (1999).

[6] Y. Bavik, P. Ruodan Shao and L. Lam (2017). Ethical leadership and employee knowledge sharing: Exploring dual-mediation paths. *The Leadership Quarterly.*, **29**(2), 322-332. DOI: 10.1016/j.leaqua.2017.05.006 (2017).

[7] M. Balozi, S. Othman and M. Isa (2018). Mediating Effects of Subjective Norms on the Relationship between Career Advancement and Job Characteristics and Knowledge Sharing Behavior among Tanzanian Healthcare Professionals. *Gadjah Mada International Journal of Business.*, **20**(2), 187-203 (2018).

[8] F. Aldhmour and M. Eleyan (2012). Factors Influencing the Successful Adoption of Decision Support Systems: The Context of Aqaba Special Economic Zone Authority. *International Journal of Business and Management.*, **7**(2). DOI:10.5539/ijbm.v7n2p163 (2012).

[9] S. Baskaran (2018). Mediation Effect of Knowledge Management Enablers on the Relationship between Organizational Characteristics and Entrepreneurial Orientation. *Gadjah Mada International Journal of Business.*, **20**(1), 1-32 (2018).

[10] H. Alotaibi, R. Crowder and G. Wills (2014). *Investigating factors for e-knowledge sharing amongst academics staff*, in Granja, C. and Malzahn, D. (Eds), Proceedings of the 6th International Conference on Information, Process, and Knowledge Management., 58-61 (2014).

[11] T. Ramayah, J.A.L. Yeap and J. Ignatius (2014). Assessing knowledge sharing among academics: a validation of the Knowledge Sharing Behavior Scale (KSBS). *Evaluation Review*., **38**(2), 160-187. DOI: 10.1177/0193841X14539685 (2014).

[12] M. Oliveira, C. Curado and P. L. Henriques (2019). Knowledge sharing among scientists: a causal configuration analysis. *Journal of Business Research*., **101**, 777-782, doi: 10.1016/j. jbusres.2018.12.044 (2019).

[13] F. Ahmad (2017). Knowledge sharing networks: Language diversity, its causes, and consequences. *Knowledge and Process Management.*, **24**(2), 139-151, DOI: 10.1002/kmp.1539 (2017).

[14] A. Alkhwaldi and F. Aldhmour (2022). *Beyond the Bitcoin: Analysis of Challenges to Implement Blockchain in the Jordanian Public Sector*, in Convergence of Internet of Things and Blockchain Technologies, Springer, Cham, 207-220. DOI: 10.1007/978-3-030-76216-2_13 (2022).

[15] D. Ghabban, A. Selamat and R. Binti Ibrahim (2018). New model for encouraging academic staff in Saudi universities to use IT for knowledge sharing to improve scholarly publication performance. *Technology in Society*., **55**, 92-99. https://doi.org/10.1016/j.techsoc.2018.07.001 (2018)

[16] T.H. Davenport and L. Prusak (1998). *Working Knowledge: How Organizations Manage What They Know*., Harvard Business School Press, Boston (1998).

[17] T.M. Nguyen, P.T. Nham and V.N. Hoang (2019). The theory of planned behavior and knowledge sharing: A systematic review and meta-analytic structural equation modelling. *VINE Journal of Information and Knowledge Management Systems.*, **49**(1), 76-94 (2019).

[18] Y.S. Hung, A. Durcikova, H.M. Lai and M.W. Lin (2011). The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behavior. *International Journal Human-Computer Studies.,* **69**(6), 415–427 (2011).

[19] T.S.H. Teo (2005). Meeting the challenges of knowledge management at the Housing and Development Board. *Decision Support Systems.*, **41**(1), 147−159 (2005)

[20] W. Chen and H. Cheng (2011). Factors affecting the knowledge sharing attitude of hotel service personnel. *International Journal of Hospitality Management.*, **31**(2), 468-476 (2011).

[21] Y. Kim and J. Ko (2014). HR Practices and Knowledge Sharing Behavior: Focusing on the Moderating Effect of Trust in Supervisor. *Public Personnel Management.*, **43**(4), 586-607 (2014).

[22] C.L. Witherspoon et al., (2013). Antecedents of organizational knowledge sharing: a meta analysis and critique. *Journal of Knowledge Management.*, **17**(2), 250–277 (2013).

[23] N. Kumari and Y. Takahashi (2014). Meta-Analytic Review of the Antecedents of Knowledge Sharing: Focus on Public vs. Private Organizations and IT vs. Non-IT Facilitation. *International Business Research.*, **7**(12), 29-43 (2014).

[24] E.W.L. Cheng (2018). Choosing between the theory of planned behavior (TPB) and the technology acceptance model (TAM). *Education Technology for Research Development.,* **67**, 21-37 (2018).

[25] A. Yayla and Q. Hu (2007). *User acceptance of e-commerce technology: A meta-analytic comparison of competing models*, in Proceedings of the 15th European conference on information system (ECIS) September 10–14, Switzerland 179–190 (2007).

[26] P. Sheeran (2002). Intention-behavior relations: A Conceptual and Empirical Review. *European Review of Social Psychology.*, **12**(1), 1-36 (2002).

[27] P. Sheeran, T.L. Webb and P.M. Gollwitzer (2005). The Interplay Between Goal Intentions and Implementation Intentions.

© 2023 NSP
Natural Sciences Publishing Cor.

Personality and Social Psychology Bulletin., **31**, 87-98 (2005).

[28] I. Ajzen (1991). The Theory of Planned Behavior. *Journal of Organizational Behavior and Human Decision Processes.*, **50**(2), 179-211 (1991).

[29] M. Fishbein and I. Ajzen (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Addison-Wesley Publishing Company, Reading, MA. (1975).

[30] L.B. Trifiletti, A.C. Gielen, D.A. Sleet and K. Hopkins (2005). Behavioral and social sciences theories and models: are they used in unintentional injury prevention research? *Health Educ Res.,* **20**(3), 298–307 (2005).

[31] K. Glanz, B.K. Rimer and K. Viswanath (Eds.) (2008). *Health behavior and health education: Theory, research, and practice* (4th ed.). San Francisco, CA, US, Jossey-Bass (2008).

[32] G. Bock, R. Zmud and Y. Kim (2005). Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly.*, **29**(1), 87–111 (2005).

[33] C.P. Lin (2007). To share or not to share: Modeling knowledge sharing using exchange ideology as a moderator. *Personnel Review.*, **36**(3), 457- 475 (2007).

[34] N. Shobha, L. Ioni and W. Katherine (2019) Understanding drivers' altruistic driving decisions: A theoretically guided investigation. *Transportation Research Part F: Traffic Psychology and Behavior.*, **62**, 212-227 (2019).

[35] E.S. Forward (2009). The theory of planned behavior: The role of descriptive norms and past behavior in the prediction of drivers' intentions to violate. *Transportation Research Part F.,* **12**(3), 198-207 (2009).

[36] C. Dooyoung and J. Kim (2019). Influences of Environmental and Hedonic Motivations on Intention to Purchase Green Products: An Extension of the Theory of Planned Behavior. *Sustainable Production and Consumption.*, **18**, 145-155 (2019).

[37] H. Jafaralilou, I. Zareban, M. Hajaghazadeh, H. Matin and A. Didarloo (2019). The impact of theory-based educational intervention on improving helmet use behavior among workers of cement factory, Iran. *Journal of the Egyptian Public Health Association.*, **94**(1). 1-7 (2019).

[38] Y. Zhang, M. Zhang, N. Luo, Y. Wang and T. Niu (2019). Understanding the Formation Mechanism of High-Quality Knowledge in Social Question and Answer Communities: A Knowledge Co-Creation Perspective. *International Journal of Information Management.*, **48**, 72-84 (2019).

[39] S. Ryu, S. H. Ho and I. Han (2003). Knowledge sharing behavior of physicians in hospitals. *Expert Systems with Applications*, **25**(1), 113-122 (2003).

[40] S. Wang and R. Noe (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review.*, **20**, 115–131 (2010).

[41] H. M. Hsu, L. T. Ju, H. C. Yen and M. C. Chang. (2007). Knowledge sharing behavior in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. *International Journal Human-Computer Studies.*, **65**, 153–169 (2007).

[42] M.M. Wasko and S. Faraj (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly.*, **29**(1), 35–58 (2005).

[43] C.M. Chiu, M.H. Hsu and E.T.G. Wang (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems.,* **42**(3), 1872−1888 (2006).

[44] M.E. Burns, M.L. Houser and K. LeBlanc Farris (2018). Theory of planned behavior in the classroom: An examination of the instructor confirmation-interaction model. *Higher Educatio*n., **75**(6) 1091-1108 (2018).

[45] T. Anjum, S. Sharifi, N. Nazar and M. Farrukh (2018). Determinants of Entrepreneurial Intention In Perspective of Theory of Planned Behavior. *Management Theory and Studies for Rural Business and Infrastructure Development.*, **40**(4), 429–441 (2018).

[46] H.S. Jeon, G.Y. Kim and J. Koh (2011). Individual, social, and organizational contexts for active knowledge sharing in communities of practice. *Expert Systems with Applications.*, **38**(10), 12423-12431 (2011).

[47] D. Feiz, M. Soltani and H. Farsizadeh (2017). The effect of knowledge sharing on the psychological empowerment in higher education mediated by organizational memory. *Studies in Higher Education.,* **44**(1), 3-19 (2017).

[48] N. Ulker and A. Bakioglu (2019). An international research on the influence of accreditation on academic quality. *Studies in Higher Education.*, **44**(9), 1507-1518 (2019).

[49] J. Kohler (2003). Quality Assurance, Accreditation, and Recognition of Qualifications as Regulatory Mechanisms in the European Higher Education Area. *Higher Education in Europe.,* **28**(3), 317–30 (2003).

[50] J. Wilkerson (2017). Navigating similarities and differences in national and international accreditation standards. *Quality Assurance in Education.*, **25**(2), 126-145 (2017).

© 2023 NSP
Natural Sciences Publishing Cor.

[51] T. Guan, L. Wang, J. Jin, and X. Song (2018). Knowledge contribution behavior in online Q&A communities: An empirical investigation. *Computers in Human Behavior.*, **81**, 137–147 (2018).

[52] Z. Irani, A.M. Sharif, T. Papadopoulos and P.E.D. Love (2017). Social media and Web 2.0 for knowledge sharing in product design. *Production Planning and Control.*, **28**(13), 1047-1065 (2017).

[53] F.D. Davis (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly.,* **13**(3), 319-340 (1989).

[54] V. Venkatesh and F.D. Davis (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Case Studies. *Management Science.,* **46**(2), 186-204 (2000).

[55] V. Venkatesh, M.G. Morris, G.B. Davis and F.D. Davis (2003). User acceptance of information technology: Toward a unified view (PDF). *MIS Quarterly.,* **27**(3), 425-78 (2003).

[56] P. Eunil (2019). Social acceptance of green electricity: Evidence from the structural equation modeling method. *Journal of Cleaner Production.,* (**215**), 796-805 (2019).

[57] W. Zikmund (2003). *Business Research Methods*. 7th Edition, Thomson/ South-Western (2003).

[58] U. Sekaran (2003). *Research Methods for Business: A Skill Building Approach*. United States: John Wiley and Sons (2003).

[59] Lorz (2011). *The Impact of Entrepreneurship Education on Entrepreneurial Intention*. PhD Dissertation. 3966. University of St. Gallen, School of Management, Economics, Law, Social Sciences and International Affairs (2011).

[60] F. Linan and Y.W. Chen (2009). Development and cross‐cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*., **33**(3), 593–617 (2009).

[61] Shah and B.A. Soomro (2017). Investigating entrepreneurial intention among public sector university students of Pakistan *Education+Training.*, **59**(7/8), 841–855 (2017).

[62] R.Schwarzer and M. Jerusalem (1995). *Generalized self-efficacy scale*. In Measures in health psychology: A user's portfolio. Causal and control beliefs. J. Weinman, S. Wright and M. Johnston, Windsor, UK: NFER-NELSON, 35-37 (1995).

[63] F. Hair, C. Black, J. Babin and E. Anderson (2010). *Multivariate data analysis*. 7th Edition, Pearson, New York (2010).

[64] S. Crouch and M. Housden (2012). *Marketing Research for Managers*. London, Routledge (2012).

[65] A. Navarro, F. Losada, E. Ruzo and J.A. Dı´ez (2010). Implications of perceived competitive advantages, adaptation of marketing tactics and export commitment on export performance. *Journal of World Business.*, **45**, 49–58 (2010).

[66] Q. Cao and S. Dowlatshahi (2005). The impact of alignment between virtual enterprise and information technology on business performance in an agile manufacturing environment. *Journal of Operations Management.*, **23**, 531–550 (2005).

[67] L. Bryant-Kutcher, D.A. Jones and S.K. Widener (2006). Market Valuation of Intangible Resources: The Use of Strategic Human Capital. *Advances in Management Accounting*., **17**, 1-42 (2006).

[68] N. Carroll (2002). *Application of Segmented Regression Analysis to the Kaiser Permanente Colorado Critical Drug Interaction Program*. SAS and all other SAS Institute Inc, 1-8 (2002).

[69] I. Nonaka and H. Takeuchi (1995). *The Knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press, New York (1995).

[70] F. Aldhmour and R. Shannak (2009). The effective utilization of information and communication technology and its impact on competitive advantage. *European Journal of Scientific Research.*, **23**, 302- 314 (2009).

[71] C. Chapman, L. Ramondt, and G. Smiley (2005). Strong community, deep learning: Exploring the link. *Innovations in Education and Teaching International.*, **42**, 217-230 (2005).

[72] P. Sheeran and L. Webb (2016). The Intention-Behavior Gap. *Social and Personal Psychology Compass*, **10**(09), 503-518 (2016).

[73] Y. Jalili and S. Ghaleh (2021). Knowledge sharing and the theory of planned behavior: a meta-analysis review. *VINE Journal of Information and Knowledge Management Systems*, **51**(2), 236-258 https://doi.org/10.1108/VJIKMS-02-2019-0023 (2021)

[74] J.L. Jenkins, A. Durcikova, and J.F. Nunamaker Jr (2021). Mitigating the security intention-behavior gap: The moderating role of required effort on the intention-behavior relationship. *Journal of the Association for Information Systems.*, **22**(1), 246-272 DOI: 10.17705/1jais.00660 (2021).

[75] S. Bibi and A. Ali (2017). Knowledge sharing behavior of academics in higher education. *Journal of Applied Research in Higher Education.*, **9**(4), 550-564, https://doi.org/10.1108/JARHE-11-2016-0077 (2017).

[76] F. Ali, A. Gohneim and A. Al Roubaie (2014). *Knowledge Sharing Culture in Higher Education Institutions: Critical Literature Review*. European, Mediterranean & Middle Eastern Conference on Information Systems 2014 (EMCIS2014) October 27th – 28th 2014, Doha, Qatar, 1-19 (2014).

© 2023 NSP
Natural Sciences Publishing Cor.

[77] F. Abdelfattah, A.H. Mohamed, M. Bashir and A.M. Al Alawi (2020). *Determinants of knowledge sharing behaviour among students at higher educational institutions in Oman: a planned behaviour theoretical perspective of knowledge sharing*. Global Knowledge, Memory and Communication Emerald Publishing Limited, DOI: 10.1108/GKMC-07-2020-0104 (2020).

[78] H. Zhao (2022). The mechanism of knowledge seeking and sharing behaviors influenced by individual cognition and motivation of online health community users in China. *Transinformação.*, **34**, 1-16, https://doi.org/10.1590/2318-0889202234e210037 (2022).

[79] J. Forsell, K. F. Frykedal and E. Hammar Chiriac (2019). Group Work Assessment: Assessing Social Skills at Group Level. *Small Group Research.*, **51**(1), 87-124 (2019).

© 2023 NSP
Natural Sciences Publishing Cor.