

The role of Individualism–Collectivism in Enhancing Knowledge Sharing and Innovative Work Behavior: Evidence from Higher Education in Vietnam

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This study aimed to investigate the relationships between individualism-collectivism, knowledge sharing and the innovative work behavior of students in higher education in Vietnam. A quantitative study was conducted with 517 students in Vietnam selected using the convenience sampling technique. The collected data was then analyzed using covariance based structural equation modelling (CB-SEM) utilizing IBM AMOS 28 software. The results revealed that collectivists tend to share more and be more innovative than individualists. Specifically, horizontally individualistic students tend to transfer knowledge, whereas horizontally collectivistic students tend to transfer and acquire knowledge. Vertically individualistic students are not likely to share knowledge, while vertically collectivistic students tend to receive knowledge. Additionally, collectivists are prone to develop novel work behaviors. Additionally, the research findings indicate a strong and favorable correlation between students' information sharing and innovative work behaviors. The findings of this study contribute to knowledge sharing and innovative work behavior theory by establishing a link between individual personality, knowledge sharing, and innovative work behavior. '

Keywords: collectivism, individualism, innovative work behavior, knowledge sharing
Code: D23, J53, M12, M14, M53

1. Introduction

The fast-changing world requires people and organizations to have innovative capabilities to develop solutions to problems, make use of opportunities, and deal with challenges. Having innovation capability is important for organizations and individuals. An organization with innovation capability easily grasps a volatile environment, overcomes difficult challenges and uses opportunities. Innovation helps organizations improve productivity, quality, performance and competitive advantage (Darwish & Huber, 2003; Noordin & Mohtar, 2013; Salim & Sulaiman, 2011; Siau & Fruhling, 2007). Innovation capability helps individuals solve difficult problems, take advantage of opportunities, carry out effective activities and contribute to an 'organization's performance (Hj Musneh et al., 2021) and competitive advantage (Elidemir et al., 2020). The study of individual innovation is thus important, as it could help individuals develop innovation capability and contribute to improving organizational capacity. Students will enter the workforce in the future. Therefore, research on students' innovation capability is important to work.

Evaluation of innovative behavior or inventive work behavior is one of the ways used to assess innovation capabilities. Numerous scholars have examined the aspects that influence people's inventive behavior. Among them, the importance of knowledge sharing is underlined. ' (Asurakkody Ariyasinghe & Kim Hee, 2020; Jan et al., 2021; Sudibjo & Prameswari, 2021; Thi et al., 2019) along with factors such as job characteristics including job autonomy, job commitment, job insecurity, job design (Runhaar et al., 2013), self-leadership (Le Thi Thu Phuong et al., 2021), self-efficacy (s Bani Melhem, 2018; Chang, 2018; Hsiao et al., 2011; Jan et al., 2021; Newman et al., 2018; Salloum et al., 2019; Siau & Fruhling, 2007), workplace happiness, work satisfaction (Shaker Bani Melhem et al., 2018; A. F. Bawuro et al., 2018; Le Thi Thu Phuong et al., 2021), cognitive demand, job stress, institutional pressure (Shaker Bani Melhem et al., 2018; Eid & Agag, 2020; Lipych et al., 2018a; Martín et al., 2015), managerial and coworker support (A. F. Bawuro et al., 2018; Jan et al., 2021; Sudibjo & Prameswari, 2021), and innovation culture or the climate for innovation (Roffeei et al., 2017; Scott & Bruce, 1994; Sudibjo & Prameswari, 2021). Due to the importance of knowledge sharing, research has paid attention to how receiving and using knowledge helps people solve problems, increases individual working capabilities, enhances problem solving skills, and influences innovative behavior. Consequently, research on knowledge sharing and the relationship between knowledge sharing and innovative work behavior in higher education is important.

What factors can influence knowledge sharing and innovative work behavior in higher education? To date, several researchers have studied this issue. Some investigated the knowledge sharing of students (Baig & Waheed, 2016; Ghadirian et al., 2014; Haque et al., 2015; Nghia & Dong, 2021; Realo et al., 2002; Zia-ur-Rehman et al., 2011), and others examined the factors influencing 'students' innovative behavior (Asurakkody Ariyasinghe & Kim Hee, 2020; Chang, 2018; Martín et al., 2015; Roffeei et al., 2017). Some authors have mentioned cultural factors such as individualism-collectivism (Arpaci & Baloglu, 2016b; Nayel & Ali, 2021; Omojowolo & Olatokun, 2017). These authors have concluded that there are various factors impacting knowledge sharing and innovative work behavior. However, whether individualism-collectivism is associated with knowledge sharing and innovative work behavior in

higher education has not been discussed. Therefore, this study focuses on understanding the relationship between individualism-collectivism, knowledge sharing and innovative work behavior, and the relationship between knowledge sharing and innovative work behavior. A quantitative survey was carried out with a sample of 517 students in Vietnam, and SPSS version 28 and AMOS software were used to process the data. The research applies the structural equation model to examine hypotheses of the relationship between individualism-collectivism, knowledge sharing and innovative work behavior in higher education.

2. Literature Review

Theoretical Framework

The research applies diffusion of information theory (DOI) and organization learning theory (OLT) to develop the research framework. According to DOI, adoption rates are influenced by the qualities of new technologies. Relative benefit, compatibility, complexity, trialability, and observability are the five most crucial characteristics for adopting an innovation. In other words, an invention must appear superior to existing methods, be consistent with existing systems and culture, be simple to use, testable before regular usage, and visible in use by others. [Yuen et al. \(2021\)](#) explained that attributes of innovation explained almost half of the variance in adoption rates. Depending on the innovation, some features may be more significant than others. In a meta-analysis of data on innovative features, [Al-Rahmi et al. \(2019\)](#) found that relative advantage, complexity, and compatibility best predicted adoption. According to research, relative benefit and compatibility are two of the most important predictors of adoption ([Al-Rahmi et al., 2021](#)). Other researchers found comparable business and information science ([Yuen et al., 2021](#)). Their impact on school counselors is unknown.

Further, DOI claims that information is gained mostly through one-way communication ([Al-Rahmi et al., 2021](#)). A communication channel is the way messages are passed between people ([Yuen et al., 2021](#)). Interpersonal communication (e.g., face-to-face communication) and interactive communication channels are the three types of communication channels available (e.g., Instant Messenger or weblogs). The three communication routes might vary in importance depending on the dispersion stage. However, information that persuades a potential adopter to adopt is more likely to come via human communication ([Al-Rahmi et al., 2021](#)). A third DOI premise is that people accept innovations for social, personal, or psychological reasons ([Marak et al., 2019](#)). Opinion leadership, social networks, and community traits are some social circumstances that might influence diffusion ([Yuen et al., 2021](#)).

Similarly, according to organizational learning theory, organizations create, transfer, and retain knowledge ([Zhang & Zhu, 2019](#)). While strategic alliances are commonly used to transmit information across firms, knowledge can also be shared within large multi-unit organizations. Furthermore, the danger of opportunism and unintended knowledge leakage is substantially smaller than inter-organizational knowledge transmission ([Zhou et al., 2021](#)). With less need for knowledge security ([Zhang & Zhu, 2019](#)), knowledge can be exchanged more freely and efficiently within organizations, leading to better learning outcomes. [Cousins \(2018\)](#) distinguishes five types of organizational learning: congenital, experiencing, vicarious, grafting, and searching. Prior research on the impact of knowledge transfer on innovation results has

mostly focused on vicarious learning. G. Hofstede and M. H. Bond (1984) . A business unit that receives and uses knowledge from other business units is more likely to be innovative (Cousins, 2018; Zhang & Zhu, 2019). Experiential learning could be added to the vicarious learning that occurs during inflows. Learning gained by direct experience or self-evaluation is experiential (Lipych et al., 2018b). When knowledge travels from A to B, and experiential learning process begins: A reflects on its knowledge and receives feedback from B about its utility.

Innovative Behavior

Innovative behavior is mainly in discussion for almost three decades (Sameer, 2018). In both documents and conversation, "innovative behavior" and "innovative work behavior" could be used interchangeably. According to Janssen (2000), innovative work behavior is defined as "the intentional creation, introduction and application of new ideas within a work role, group or organization, to benefit role performance, the group, or the organization". Employees' innovative work behavior is a critical factor, as it helps organizations adapt to the changing environment and to maintain competitive strength (Choi et al., 2016). Niesen et al. (2018) considered innovative behavior as the "generation and implementation of new ideas at work" to benefit the group and/or organization and divided the process of innovation into two phases: creating ideas (developing ideas to solve problems in the workplace) and implementing ideas (applying work processes). In higher education, since students will enter the labor market in the future, improving their ability to engage in innovative behavior is important.

Knowledge Sharing

Knowledge sharing has gained attention from several researchers in the last decade because of its importance and Khakpour et al. (2019) stated that exchanging any kind of knowledge between two parties is knowledge sharing, whereas Ford and Staples (2010) contended that knowledge sharing is the process of transferring knowledge from one person to another. In the knowledge sharing process, there are two simultaneous sub-processes: knowledge donating (transferring) and knowledge collecting (receiving) (Thi et al., 2019). Knowledge sharing brings people benefits such as improved performance (T. P. L. Nguyen et al., 2018) and enhanced innovative capability (Thi et al., 2019). In higher education, knowledge sharing could help students create new knowledge, improve their problem-solving abilities and performances, and enhance their creativity (Hu et al., 2009; Salim & Sulaiman, 2011).

Individualism Vs. Collectivism

Darwish and Huber (2003) defined individualism as a "situation in which people are concerned only with themselves and close family members." Individualism describes the psychological characteristics of a person prone to personal identity, self-actualization, the internal focus of control, and principled moral reasoning (Hui, 1988). One who is emotionally independent of others, such as groups, collectivities, and organizations, is believed to be individualistic. When people feel that they belong to larger in-groups that care for them, they are in a state of collectivism. G. Hofstede and M. Bond (1984). Darwish and Huber (2003) contended that "collectivism can be

defined as a cluster of attitudes, beliefs and behaviors toward various people." [H. Triandis and M. Gelfand \(1998\)](#) suggested that both individualism and collectivism can be horizontal, emphasizing equality, or vertical, stressing hierarchy. According to these two authors, the four patterns of individualism and collectivism can be described as follows:

- Horizontal individualism: uniqueness and distinction from groups. Horizontal individualists "want to be unique and do their things."
- Vertical individualism: distinguished, acquired status, competition with others. believed that individualism considers "self-reliance, competitiveness, aggressive creativity, conformity, insecurity." Vertical individualists also want to do their own thing and to be the best.
- Horizontal collectivism: similarity to others, common goals with others, interdependence, sociability. Horizontal collectivists merge themselves with their in-groups.
- Vertical collectivism: integrity of the in-group, sacrifice for the sake of in-group goals, competitions between in-groups with out-groups. Vertical collectivists merge themselves with their in-groups and are willing to sacrifice themselves for their in-groups.

Hypotheses development

[Ansari and Khan \(2020\)](#) believed that individualism considers "self-reliance, competitiveness, aggressive creativity, conformity, insecurity." [Realo et al. \(2002\)](#) thought that individualists define themselves as "an autonomous and largely independent agent without references to other people, groups, or institutions." [Darwish and Huber \(2003\)](#) stated that individualism emphasizes "personal autonomy, privacy, self-realization, individual initiative independence, individual decision making, an understanding of personal identity as the sum of attributes of the individual, and less concern about the needs and interests of others." Regarding knowledge sharing, [Chow et al. \(2000\)](#) concluded that, if no conflict exists between the self and collective interests, willingness to share happens equally between managers in individualist and collectivist cultures. [Wasko and Faraj \(2005\)](#) found that individuals contribute their knowledge when they believe participation enhances their professional reputation.

Additionally, [Ha et al. \(2009\)](#) confirmed that individualism has a positive impact on communication competence, which, in turn, has a significant impact on knowledge sharing. Since one who is individualistic is concerned about individual achievement, they tend to share knowledge. Therefore, we could propose the following:

- H1a: Horizontal individualism has a positive relationship with knowledge transfer.
- H1b: Horizontal individualism has a positive relationship with knowledge reception.
- H1c: Vertical individualism has a positive relationship with knowledge transfer.
- H1d: Vertical individualism has a positive relationship with knowledge reception.

[Hsu \(1983\)](#) thought that individualists are aggressive in their creativity. [H. Triandis and M. Gelfand \(1998\)](#) found that, in horizontal individualism, "people want to be

unique and distinct from groups," whereas in vertical individualism, "people often want to become distinguished and acquire status." "I want to be the best" is often spoken by people in a state of vertical individualism. [Realo et al. \(2002\)](#) stated that individualists are likely to be prominent from others. [Darwish and Huber \(2003\)](#) contended that people in states of individualism take individual initiatives. Thus, the following are hypothesized:

H1e: Horizontal individualism has a positive relationship with innovative behavior.

H1f: Vertical individualism has a positive relationship with innovative behavior.

According to [Cai and Shi \(2022\)](#), collectivism is a collection of symptoms that include ideology, ideas, feelings, emotions, and behaviors concerning interpersonal relationships. It may manifest itself in various ways, including a sense of connection to the lives of others and a desire to share with others. A strong emphasis is on sharing characterizes collectivism. [Chow et al. \(2000\)](#) demonstrated that a collectivistic society fosters individuals' knowledge sharing with their group members. Collectivists may pool material and intangible resources such as work, time, and outcomes. As a result, we can hypothesize the following:

H2a: Horizontal collectivism has a positive relationship with knowledge transfer.

H2b: Horizontal collectivism has a positive relationship with knowledge reception.

H2c: Vertical collectivism has a positive relationship with knowledge transfer.

H2d: Vertical collectivism has a positive relationship with knowledge reception.

Numerous elements have been identified as influencing inventive behavior. Among them, particular emphasis has been placed on issues affecting persons and organizations. Person–organization fit refers to an individual who contributes positively to the organization and substantially impacts innovative behavior ([Sudibjo & Prameswari, 2021](#); [Turek & Wojtczuk-Turek, 2016](#)). Individual inventive behavior may be influenced by the collaboration between employees and managers ([Lipych et al., 2018b](#)) and between employees and coworkers ([F. A. Bawuro et al., 2018](#)). The fact that collectivism entails individuals making sacrifices for groups or organizations and sharing resources, non-resources, and outcomes leads to two hypotheses:

H2e: Horizontal collectivism has a positive relationship with innovative behavior.

H2f: Vertical collectivism has a positive relationship with innovative behavior.

As mentioned previously, in higher education, knowledge sharing is believed to bring students benefits such as new knowledge creation and improvements in problem–solving skills and performances ([de Vries et al., 2006](#); [Wasko & Faraj, 2005](#)). Therefore, the following are hypothesized:

H3a: Knowledge transfer has a positive relationship with innovative behavior.

H3b: Knowledge reception has a positive relationship with innovative behavior.

The research model is illustrated in Figure 1.

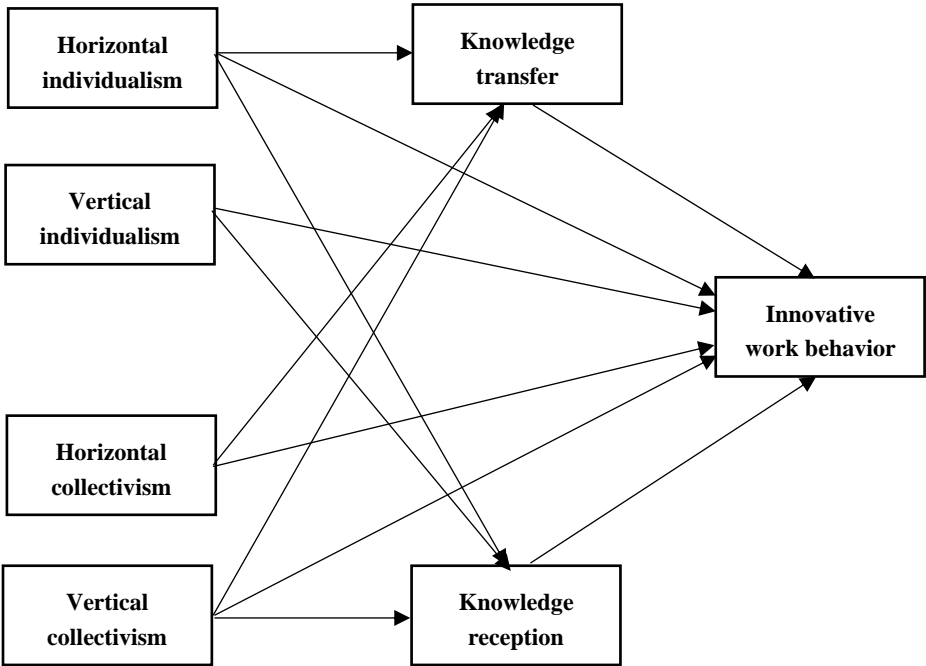


Figure 1. Research model

3. Methods

3.1. Sample

By adopting a convenience sampling technique, google forms were used to collect data. Among the 532 surveys filled out, 15 questionnaires were excluded because they were incomplete. As a result, the sample included 517 students in Vietnam. SPSS 28 and AMOS 28 were used for data processing and analysis.

3.2. Measurement

The measurements utilized in this study were used, adjusted, and adapted from prior research. Vertical individualism, horizontal individualism, horizontal collectivism, and vertical collectivism were measured using (H. C. Triandis & M. J. Gelfand, 1998). Because Triandis and Gelfand's measurements were made in the workplace, the vertical individuality and horizontal collectivism measures used in this study were altered to fit learning situations. Each variable had four items: horizontal individualism, vertical individualism, horizontal collectivism, and vertical collectivism.

In knowledge sharing, one party transfers knowledge to another. The processes of transferring and receiving happen simultaneously. The measures of knowledge sharing in this study are thus based on the processes of transferring and receiving. They were constructed based on the studies by de Vries et al. (2006) and Thi et al. (2019). Because those three studies were conducted in enterprises, the measures in this study were

modified to suit higher education environments. Knowledge transfer consists of five items, while knowledge reception includes four items.

The dependent variable, innovative behavior, was measured by five items adapted from the studies of [Hu et al. \(2009\)](#) and [Elidemir et al. \(2020\)](#). All variables were measured using a five-point Likert scale. These items are listed in Table 1.

Table 1. Measures.

Factor	Label	Item	Reference
Horizontal individualism	HI1	I prefer to rely on myself than on others.	H. Triandis and M. Gelfand (1998)
	HI2	I hardly depend on others; I would rather depend on myself in many cases.	
	HI3	I am confident; I am self-dependent.	
	HI4	Being independent of others is critical to me.	
Vertical individualism	VI1	Learning better than others is important to me.	Adapted from H. Triandis and M. Gelfand (1998)
	VI2	For me, “winning is everything.”	
	VI3	I believe in competition law.	
	VI4	I get overwrought and provoked when another student learns better than I do.	
Horizontal collectivism	HC1	I would feel honored if a university friend of mine received a prize.	Adapted from H. Triandis and M. Gelfand (1998)
	HC2	My university friend’s well-being is significant to me.	
	HC3	Spending time with other students is my pleasure.	
	HC4	Cooperating with other students makes me motivated.	
Vertical collectivism	VC1	The closer the relationship between parents and children, the better it is.	H. Triandis and M. Gelfand (1998)
	VC2	Taking care of my family is my responsibility, even though I may have to make sacrifices.	
	VC3	Members of the family should stay together, even if they have to make sacrifices.	
	VC4	Respecting my group’s decisions is critical to me.	

Factor	Label	Item	Reference
Knowledge transfer	KT1	I tell my university friends about the new things that I learn.	Adapted from G. Hofstede and M. H. Bond (1984); Thi et al. (2019)
	KT2	I share new or interesting things on social media.	
	KT3	I advise my university friends based on my knowledge.	
	KT4	When my university friends do not understand a lesson, I explain it to them.	
	KT5	I explain how to solve problems to my university friends.	
Knowledge reception	KR1	I ask my university friends to explain the lesson if I do not understand it.	Adapted from McDowell et al. (2018); Thi et al. (2019)
	KR2	I do not hesitate to ask my university friends to share their knowledge and expertise.	
	KR3	When I find it difficult to solve problems, I ask my university friends for help.	
	KR4	When I find a task difficult, I share my problems with my university friends and ask for their advice.	
Innovative work behavior	IWB1	In learning, I often seek new knowledge and skills.	Adapted from Hu et al. (2009) and Elidemir et al. (2020)
	IWB2	In learning, I propose new ideas and try to persuade other students.	
	IWB3	I occasionally create innovative and creative knowledge and skills in learning.	
	IWB4	In learning, I conduct a suitable plan for new idea creation.	
	IWB5	Overall, I consider myself a creator.	

4. Results

4.1. Characteristics of the Sample

The demographic characteristics of the participants are shown in Table 2.

Table 2. Demographic characteristics of the respondents.

Characteristics	Frequencies	Percentage (%)
Gender		
Male	220	42.6
Female	297	57.4
Major		
Engineering	51	9.9
Natural science	112	21.7
Economics and management	100	19.3
Social science	96	18.6
Pharmacology, medicine, biomedical engineering	101	19.5
Others	57	11.0
Studying year		
1 st year	132	25.5
2 nd year	166	32.1
3 rd year	111	21.5
4 th year	107	20.7
5 th year and above	1	0.2

The sample consisted of 220 male students (42.6%) and 297 female students (57.4%). Respondents studying natural science accounted for the largest proportion of 21.7%, while engineering students made up the smallest portion, with 9.9% of the sample. Sophomores constituted the largest part of respondents, 32.1%, while seniors comprised the smallest share, 20.9% of the sample.

4.2. Cronbach’s Alpha Reliability Test and Exploratory Factor Analysis

The Cronbach’s alpha reliability test results are presented in Table 3. All Cronbach’s alpha values of the variables were more than 0.7, meaning that the scales were reliably used to measure the variables.

Table 3. Cronbach’s alpha reliability test.

Factors	Contents	Cronbach's Alpha	Number of items
HI	Horizontal individualism	0.816	4
VI	Vertical individualism	0.842	4
HC	Horizontal collectivism	0.815	4
VC	Vertical collectivism	0.781	4
KT	Knowledge transfer	0.825	5
KR	Knowledge reception	0.812	4
IWB	Innovative work behavior	0.859	5

From the table of KMO and Bartlett's test results, the KMO coefficient calculated from the research sample was 0.838, greater than 0.7. Thus, the sample size was sufficient to conduct an exploratory factor analysis (EFA). Bartlett's test result shows that the P-value (Sig.) determined from the survey sample was 0.00. It can be concluded that the observed variables are correlated with each other in the population.

Table 4. *KMO and Bartlett's test.*

Kaiser–Meyer–Olkin Measure of Sampling Adequacy		.838
Bartlett's Test of Sphericity	Approx. Chi-Square	6969.620
	df	435
	Sig.	.000

The results of the exploratory factor analysis are presented in Table 5. The factor extraction method based on Eigenvalues was used. The selection criteria were that the factors with Eigenvalues greater than 1 were kept in the model. The analysis results show that, with the 30 observed variables measured, 7 main factors can be extracted. These seven factors explain 64.32% of the variation in the data set.

Table 5. *Total variance explained.*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.910	19.701	19.701	5.910	19.701	19.701	4.057
2	3.178	10.593	30.294	3.178	10.593	30.294	3.764
3	2.565	8.549	38.843	2.565	8.549	38.843	2.970
4	2.251	7.503	46.346	2.251	7.503	46.346	3.298
5	1.960	6.533	52.879	1.960	6.533	52.879	3.077
6	1.810	6.033	58.912	1.810	6.033	58.912	3.546
7	1.622	5.407	64.320	1.622	5.407	64.320	3.090
8	.791	2.637	66.956				
9	.689	2.297	69.253				
10	.685	2.285	71.538				
11	.639	2.129	73.667				
...				

To prepare for confirmatory factor analysis (CFA), the Promax factor-rotation technique was used in the exploratory factor analysis. The results are presented in Table 6.

Table 6. *Pattern matrix.*

	Component						
	1	2	3	4	5	6	7
IWB3	.840						
IWB1	.822						
IWB2	.813						
IWB5	.783						
IWB4	.728						
KT4		.829					
KT2		.810					
KT1		.756					
KT3		.711					
KT5		.700					
VI2			.871				
VI3			.866				
VI4			.855				
VI1			.684				
HC2				.823			
HC4				.794			
HC3				.789			
HC1				.788			
HI3					.845		
HI4					.814		
HI2					.792		
HI1					.742		
KR3						.839	
KR1						.809	
KR4						.805	
KR2						.704	
VC3							.811
VC2							.797
VC1							.782
VC4							.702

The data in Table 6 show that the factor loading values are all greater than 0.5. These items are suitable for explaining the variables.

4.3. Hypotheses Testing

A confirmatory factor analysis was conducted, and the results are presented in Figure 2. As shown in the figure, the values of CMIN/df ($1.863 \leq 2$), CFI ($0.95 \geq 0.95$), TFI ($0.944 \geq 0.9$), GFI ($0.925 \geq 0.9$) and RMSEA ($0.039 \leq 0.08$) were good for the CFA. Convergent validity, discriminant validity and reliability tests were conducted. The standardized loading estimates were greater than 0.5, and the CR values were larger than 0.7. The first analysis revealed that the AVEs of the KT and VC variables were

less than 0.5. Based on the Cronbach’s alpha reliability test results, KT5 and VC4 were discarded. The second analysis showed that the MSVs were smaller than the AVEs and that the SQRTAVEs were greater than the inter-construct correlations. The structural equation modelling analysis is shown in Figure 3.

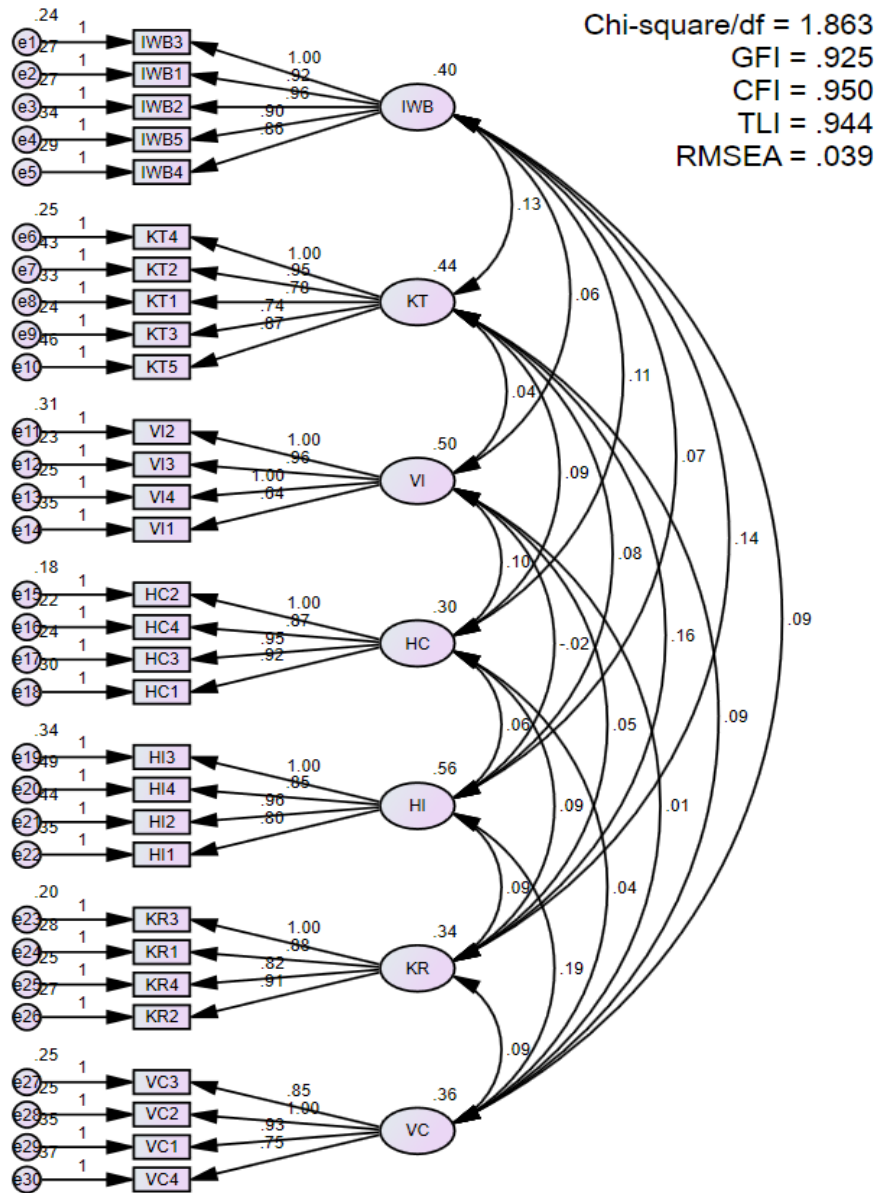


Figure 2. Confirmatory factor analysis.

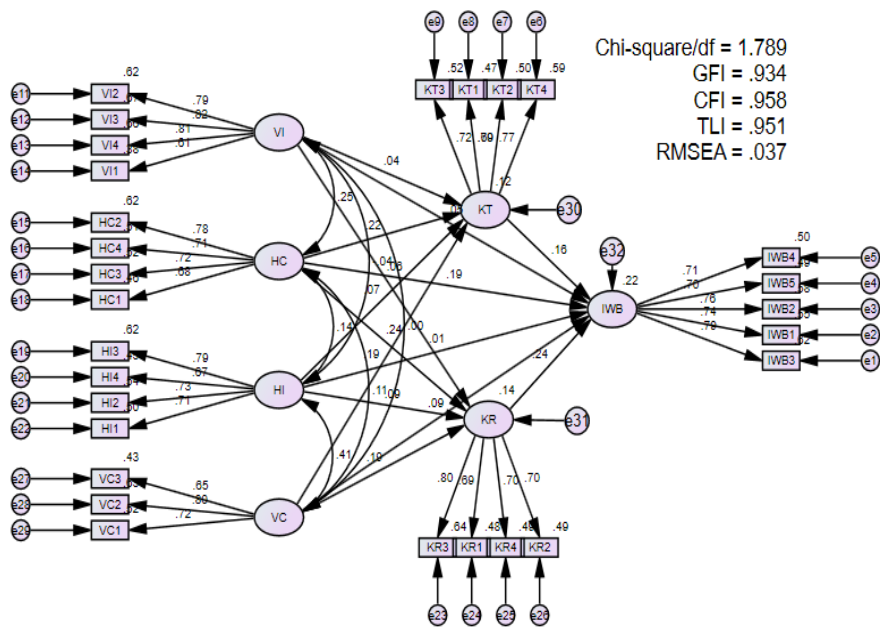


Figure 3. Structural equation modelling.

As shown in Figure 3, CMIN/df was 1.789, smaller than 2. The values of GFI (0.934), CFI (0.958) and TLI (0.951) were all greater than 0.9. The RMSEA was 0.037, smaller than 0.08. Based on these results, it is confirmed that the measurement model met the desired standards for reliability and validity. Table 7 provides the results of the regressions.

Table7. Results of the regressions

H				Estimate	SE.	CR.	P	Label
H1a	KT	<---	HI	.057	.048	1.193	.233	Not supported
H1b	KR	<---	HI	.074	.044	1.684	.092	Supported
H1c	KT	<---	VI	.034	.045	.752	.452	Not supported
H1d	KR	<---	VI	.051	.041	1.255	.210	Not supported
H1e	IWB	<---	HI	.005	.044	.118	.906	Not supported
H1f	IWB	<---	VI	.048	.041	1.168	.243	Not supported
H2a	KT	<---	HC	.256	.062	4.126	***	Supported
H2b	KR	<---	HC	.258	.057	4.562	***	Supported
H2c	KT	<---	VC	.197	.060	3.310	***	Supported
H2d	KR	<---	VC	.177	.054	3.265	.001	Supported
H2e	IWB	<---	HC	.221	.060	3.657	***	Supported
H2f	IWB	<---	VC	.096	.056	1.712	.087	Supported
H3a	IWB	<---	KT	.162	.049	3.283	.001	Supported
H3b	IWB	<---	KR	.254	.055	4.646	***	Supported

The results of the regressions show that, with significance at the 0.01 level, hypotheses H1a, H1c, H1d, H1e and H1f are not supported. There was not enough evidence for the relationship between horizontal individualism, knowledge transfer and innovative behavior. Moreover, there was enough evidence to reject the relationships between vertical individualism, knowledge transfer, knowledge reception and innovative behavior. Contrary to the hypothesis of a negative relationship between horizontal individualism and knowledge reception, the results revealed a positive relationship.

Collectivism in horizontal and vertical forms was proven to have positive relationships with knowledge transfer, knowledge reception and innovative behavior. H2a, H2b, H2c, H2d, H2e and H2f were supported. Finally, as shown in Table 7, it can be seen that the P values for testing the two hypotheses, H3a and H3b, were 0.001 and 0, respectively. In other words, there was evidence of a relationship between knowledge transfer, knowledge reception and innovative behavior.

5. Discussion

According to the study's conclusions, there is insufficient evidence to establish that vertical individualism and information sharing are related (knowledge transfer and knowledge reception). Individuals who are distinguished, concerned with their status, and competitive with others are unlikely to share expertise. Additionally, it was discovered that horizontal individualism had no link with information transfer but was a predictor of knowledge reception. As a result, individuals who value their individuality and distinctiveness from others are more likely to acquire information than to transfer it. Previously published research by [Kremer et al. \(2019\)](#); [Omojowolo and Olatokun \(2017\)](#) concluded that there is no significant association or correlation between horizontal or vertical individualism and knowledge sharing. Thus, the findings of this study are partially compatible with earlier research demonstrating that individuals in individualist cultures are less likely to share knowledge. However, this study demonstrated a positive link between horizontal individualism and knowledge reception, with a tiny standardized regression weight of 0.093, much less than the expected values of 0.186 (vertical collectivism) and 0.238 (knowledge reception) (horizontal collectivism). This conclusion corroborates prior research on the relationship between individualism and the desire to share information ([Kim et al., 2020](#); [H. C. Triandis & M. J. Gelfand, 1998](#)).

Numerous research has established a favorable association between collectivism and information sharing (intentional or behavioral) ([Arpaci & Baloğlu, 2016a](#); [Kim et al., 2020](#); [Kremer et al., 2019](#); [Kucharska, 2017](#); [T. Nguyen et al., 2019](#); [Omojowolo & Olatokun, 2017](#)). As a result, the study's conclusion is consistent with earlier findings. Because horizontal collectivists prioritize shared goals and integration with their in-groups, and vertical collectivists focus on clarification for in-group goals, more collectivism-oriented individuals share more knowledge with others. This was earlier highlighted in [Sudibjo and Prameswari \(2021\)](#) research, who suggested that person-organization fit had a beneficial effect on instructors' knowledge sharing behaviors in the classroom.

Regarding the relationship between individualism-collectivism and innovative work behavior, it was clear that neither horizontal nor vertical individualism had any

relationship with innovative work behavior. Although individuality promotes aggressive creativity (Hsiao et al., 2011), a poll indicated that those who value individualism are less likely to exhibit innovative work behaviors. On the other hand, collectivism was positively associated with innovative work behavior. The more people that are collectivist, the more inventive their behavior. This finding corroborates the findings of , Cousins (2018) who concluded that the national culture to which an individualist or collectivist belongs influences their innovative behavior, as well as (Sudibjo & Prameswari, 2021), who concluded that person-organization fit has a positive effect on the innovative work behavior of school teachers.

Numerous research has established a positive correlation between information sharing and innovative work behavior, including Al Hawamdeh and Al Qatamin (2021); Almulhim (2020); Nghia and Dong (2021); T. Nguyen et al. (2019); L. T. T. Phuong (2021). Several of these studies referred to interpersonal relationships in higher education. discovered that the quality of information exchange was the primary factor promoting students' creativity from a socio-technical perspective. According to Asurakkody Ariyasinghe and Kim Hee (2020), students' knowledge sharing was favorably and significantly associated with innovative work behaviors. Thus, the findings of this investigation corroborate those of the preceding studies.

6. Conclusions

This study aimed to identify the relationship between individualism-collectivism, knowledge sharing, and innovative behavior in higher education. A review of previous studies of individualism-collectivism, knowledge sharing and innovative work behavior was performed. The findings revealed that collectivism in both horizontal and vertical forms has a positive relationship with knowledge sharing and innovative work behavior, while individualism has no relationship with knowledge transfer and innovative work behavior. Regarding knowledge reception, horizontal individualism was proven to have a positive relationship with knowledge reception, while no correlation was found between horizontal individualism and knowledge transfer. The study results also revealed a positive relationship between knowledge sharing and innovative work behavior. This study confirms that cultural dimensions, including individualism and collectivism, can be antecedents of knowledge sharing and innovative behavior in higher education and that higher education institutions should enhance knowledge sharing if they want to produce future innovators.

7. Limitations and Future Research Direction

The present study has several research limitations. First, the present study adopted the cross-sectional research design limiting its ability to draw causal inferences. Future studies should focus on longitudinal or experimental research design to overcome the limitation. Second, the researcher chooses the convenience sampling technique to collect the data due to several restrictions. Future studies should adopt the random sampling technique to generalize the study's findings. Finally, the study uses first-order constructs of knowledge sharing and individualism and collectivism to understand the theory better. However, it should be more interesting to see the collective impact of the said constructs on innovative behavior. Therefore, it is recommended to prospective

researchers use a higher-order / second-order construct approach to evaluate the overall impact of knowledge sharing and cultural dimensions on innovative behavior.

Glossary:

Individualism: Situation in which people are concerned with themselves and close family members only

Collectivism: A cluster of attitudes, beliefs and behaviors toward a wide variety of people

Knowledge sharing: The process of transferring knowledge from one person to another

Innovative work behavior: Generation and implementation of new ideas at work

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Contribution:

Task item	Author 1	Author 2
Got the fund	x	
Designed research		x
Reviewed literature	x	x
Collected data	x	x
Contributed data or analysis tools	x	
Performed the analysis	x	
Wrote the paper	x	x
Contact with the journal		x
Revise the manuscript	x	x

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