



Individual Factors as Antecedents of Knowledge Sharing Practices among Students at a Malaysian Public University: A PLS-SEM Analysis

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ABSTRACT

Knowledge sharing is widely acknowledged to be a key component of collaborative learning in higher education; however, the personal, dispositional drivers of this action are less thoroughly researched than their social, technological and institutional counterparts. This paper challenges and identifies the individual dimension of self-efficacy, attitude, intrinsic motivation and interpersonal trust as a predictor of knowledge sharing behaviour among students of a public university in Malaysia. Data were obtained from a convenience sample of 367 undergraduate and postgraduate students at Universiti Teknologi MARA (UiTM), Puncak Perdana utilising a positivist, cross-sectional quantitative methodology using a structured, multilingual questionnaire. Descriptive and reliability tests were performed with IBM SPSS Statistics and measurement, and structural model assessments were conducted with Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS 4. The individual factors construct had an acceptable level of internal consistency (Cronbach's alpha = 0.811; composite reliability = 0.859). The individual factors had a statistically significant positive effect on knowledge sharing practices ($\beta = 0.314$, $t = 4.730$, $p < .001$) which was the strongest predictor among the tested antecedents. There was a high level of confidence, attitudes, enjoyment and trust across the board, all falling within the "high" interpretive bracket of the study's mean-score classification. The findings extend Social Cognitive Theory to the domain of student knowledge sharing and show interventions targeting self-efficacy and intrinsic motivation may have disproportionate returns compared to infrastructure or policy interventions alone. The paper discusses implications for theory, pedagogy and university policy, as well as limitations of the study and directions for further longitudinal and multi-institutional research.

Keywords: knowledge sharing; individual factors; self-efficacy; intrinsic motivation; Social Cognitive Theory; higher education; PLS-SEM; Malaysia

INTRODUCTION

Collaborative learning in higher education demands students to be willing to exchange notes, insights, problem-solving methodologies and academic resources. Research has linked this communication, at times called information sharing, to enhanced conceptual understanding, improved peer relationships and greater academic performance (Ipe, 2003; Fullwood et al., 2013). Its effectiveness is widely agreed upon, but only partially explains why some students freely share knowledge while others hoard it. Much of the earlier research on knowledge sharing has been conducted in organisational and work settings, where the unit of analysis is the employee, rather than the student (Wang & Noe, 2010). Researchers of student populations have generally looked at individual predictors like trust, self-efficacy, or motivation, but have not necessarily expressed those predictors in terms of a more comprehensive and competitively tested model that also includes social, technological, and institutional influences (Nunnally, 1978; Al-Kurdi et al., 2018).

This fragmentation is of importance as it leaves open a basic empirical question: among the multiple



antecedents described in the research, which variables have the highest explanatory weight for students and is the answer different from what has been found among working adults? It is customary to begin an inquiry of this type by looking at the individual or dispositional factors. Individual characteristics such as self-efficacy, attitude, intrinsic drive, and interpersonal trust are internal elements that shape how a student reacts to external opportunities and incentives for knowledge sharing (Bock et al., 2005; Lin, 2007). Unlike social interactions or the digital infrastructure or institutional policy, which are at least partly external to the student, A student who does not feel that her contribution is valued or that she derives no gratification from helping a classmate is unlikely to share information even in a technologically rich, institutionally supportive setting. By contrast, where the infrastructure and institutional incentives are small, a student who is highly self-efficacious and intrinsically motivated may find ways to impart information.

This article is based on a larger empirical study on antecedents of knowledge sharing practices among students of Universiti Teknologi MARA (UiTM), Puncak Perdana campus. The individual, social, technological and institutional factors were tested simultaneously in an integrated structural model. The article deliberately limits its analytical and theoretical scope to individual factors construct and does not cover the whole four-construct model. This is in line with the first research objective of the study which is to examine the effect of individual factors on knowledge sharing practices among students at UiTM Puncak Perdana. This focus is intended to provide a more robust theoretical grounding in Social Cognitive Theory (Bandura, 1986), a more detailed discussion of the sub-dimensions that comprise the individual factors construct at the item level, and a more focused set of practical recommendations than could be achieved in a four-construct paper of the same length.

The rest of the paper is organised as follows. In Section 2, we review the literature on information sharing practices and build the hypothesis that connects individual factors with knowledge sharing behaviour based on the Social Cognitive hypothesis. The research concept, sample procedure, equipment and analytical approach are discussed in Section 3. Section 4 presents the results of the measurement and structural model of the individual factors construct. The results are discussed in Section 5 comparing with the current literature. Section 6 covers theoretical and practical consequences, limitations, suggestions for further research and concludes with some final notes.

LITERATURE REVIEW

2.1 Knowledge Sharing Practices in Higher Education

Knowledge sharing is the process wherein individuals share knowledge, information, experience and ideas to improve mutual understanding and develop collective knowledge (Ipe, 2003). Knowledge sharing is also regarded as a vital component of good knowledge management, as organisational knowledge management activities require on individuals' desire to exchange and apply knowledge effectively (Mohd Yunus et al., 2024). Nonaka and Takeuchi (1995) distinguish between the explicit knowledge communicated in this process (documents, notes and written materials) and the tacit knowledge that is typically associated with it (personal experience, insight and problem-solving heuristics). In the university environment, knowledge sharing occurs when students share lecture notes, debate course content, work on assignments together or in any other manner help each other to learn (Fullwood et al., 2013). This activity directly impacts collaborative learning and the larger knowledge creation process of an academic community. Knowledge sharing is a discretionary rather than formal activity, and hence best understood as a function of antecedent factors—personal, social, technological, and organisational—that make a student ready and able to share (Wang & Noe, 2010).

2.2 Individual Factors as an Antecedent of Knowledge Sharing

Individual aspects refer to personal views, inclinations and psychological qualities that influence a person's willingness to share knowledge (Bock et al., 2005). This view is congruent with Mohd Yunus et al. (2024) who claimed that human-related elements are important in determining the success of knowledge management programs, emphasising the significance of individuals' willingness to generate, share and exploit information. The construct in this study is operationalised by four interrelated sub-dimensions: knowledge self-efficacy, attitude toward information sharing, intrinsic motivation and interpersonal trust.



Self-efficacy is a belief in one's ability to successfully accomplish a specific action. In terms of knowledge sharing, it refers to the student's view that the knowledge they have is worth giving and that they can effectively impart this knowledge to others (Chiu et al., 2006). Attitude to knowledge sharing is the student's positive or negative evaluation of the act of sharing and is determined by the perceived benefits of sharing (Lin, 2007). Intrinsic motivation is the happiness or personal satisfaction a student feels from giving, regardless of external incentives, and trust is the feeling a student has that a classmate would respect the knowledge shared and respond in kind (Wang & Noe, 2010). Each sub-dimension is conceptually distinct but was operationalised in this study as facets of a higher order individual factors construct, since all four emanate from within the person, rather than the surrounding social, technological or institutional environment (Bock et al., 2005; Lin, 2007).

These dispositional qualities have been repeatedly recognised as important in prior work. Personal attitudes expected rewards and motivational forces are key drivers of the expressed desire of individuals to share knowledge (Bock et al, 2005). Lin (2007) indicated that self-efficacy and motivation are good predictors of knowledge-sharing behaviour in the organisational settings. In the setting of higher education, Chiu et al. (2006) found that students with a positive attitude and self-efficacy to contribute knowledge are more likely to engage in knowledge exchange. In their review of higher education settings, Al-Kurdi et al. (2020) found individual-related dispositions to be among the strongest knowledge sharing determinants. To summarise, this body of work supports the prediction that individual factors are likely to have a major positive effect on the information sharing behaviours of university students. However, the relative strength of this effect against social, technological and institutional antecedents has rarely been examined in a single integrated model tailored to the Malaysian environment.

2.3 Theoretical Foundation: Social Cognitive Theory

The conceptualisation of individual elements in the study is based on Social Cognitive Theory (Bandura, 1986). SCT states that human activity is the product of a continual reciprocal interaction of personal, behavioural and environmental elements, a link which Bandura named triadic reciprocal causation. SCT explains behaviour in terms of the drivers of self-efficacy, motivation and observational learning. SCT does not view self-efficacy beliefs because of past conduct, but rather as something that influences the goals a person sets, the effort he or she expends, and the persistence in the face of obstacles. In the present discussion, a student's confidence in his or her knowledge and ability to articulate that knowledge and his or her satisfaction in doing so are conceptualised as proximal, internal determinants of whether knowledge sharing takes place, and are largely independent of, although not unaffected by, the surrounding social and institutional environment.

SCT is especially suitable to explain the individual aspects to antecedents of student knowledge sharing as it considers personal agency an active rather than passive driver of conduct. Thus, students are not simply conduits through which external social or institutional pressures are translated into action, but rather agents who consider their own capacity and interpret the perceived value of sharing before deciding whether to participate. This theoretical perspective results in the following hypothesis and the discussion below, why individual determinants are likely to outperform or at least compete more externally directed antecedents such as institutional support or technological accessibility.

2.4 Hypothesis Development

Based on the foregoing discussion of literature and theoretical framework, this study proposes the following hypothesis:

H1: Individual Element considerably good influence on Information Sharing Practice among Students at UiTM Puncak Perdana.

The rationale for H1 is taken directly from Social Cognitive Theory and the empirical literature reviewed above: more self-confidence, more favourable attitudes, stronger intrinsic motivation and higher interpersonal



trust are theorised to make students more willing and able to engage actively in knowledge-sharing activity, as these dispositions reduce the perceived personal costs of sharing and increase the perceived personal value of sharing (Bandura, 1986; Bock et al., 2005; Lin, 2007).

METHODOLOGY

3.1 Research Design and Paradigm

This study adopted the positivist research paradigm. Positivism sees reality as objective, measurable and independent of the researcher. Knowledge is acquired by systematic observation, empirical measurement and statistical hypothesis testing (Creswell & Creswell, 2018). The study utilised a quantitative cross-sectional design to collect data from the respondents at a specific point in time. This approach is appropriate to study the strength and relevance of relationships between constructs in a specific population (Sekaran & Bougie, 2016). This technique provides a systematic way of assessing the extent to which individual factors can predict knowledge sharing practices, in addition to the social, technological and institutional aspects addressed in the larger parent study.

3.2 Population, Sampling, and Sample Size

The target population was active undergraduate and postgraduate students registered in UiTM Puncak Perdana. The estimated population is roughly 4792 students during the study period. Non-probability convenience sampling is a popular research strategy in higher education and is typically employed due to the limits of the size, spread and accessibility of student populations (Acharya et al., 2013). To estimate the sample size of the known population, the minimum sample size was calculated as 356 respondents based on the Krejcie and Morgan (1970) algorithm. The confidence level was 95% and the margin of error was 0.05. A total of 367 full and valid questionnaires were obtained, which is higher than this minimal and provides an appropriate basis for PLS-SEM analysis (Hair et al., 2019).

3.3 Measurement of Individual Factors and Knowledge Sharing Practices

The individual variables construct was tested with eight items adapted from validated measures used in the prior knowledge sharing research. The eight items were developed from four sub-dimensions, namely knowledge self-efficacy (two items; e.g., “I am confident in my ability to share knowledge with other students”), attitude toward knowledge sharing (two items; e.g., “Sharing knowledge is good for me”), intrinsic motivation (two items; e.g., “I enjoy the act of sharing”) and trust (two items; e.g., “I trust my classmates to share knowledge with me”). All the items were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The dependent variable, knowledge sharing practices, was measured through six items that measured the frequency, willingness and extent to which respondents engaged in sharing academic knowledge, resources and problem-solving support with their classmates, both face-to-face and through digital platforms. The questionnaire was conducted in a bilingual manner (English and Bahasa Malaysia) to provide clarity and accessibility to the target demographic. A pilot study was undertaken prior to administration with around 30 students (not included in the final data set) to determine item clarity and preliminary dependability.

3.4 Data Collection Procedure

Online questionnaire was distributed through Google forms and also by mail, WhatsApp and social media over a period of roughly four to six weeks with continuous reminders. Participation was totally optional and respondents were told about the aim of the study and the confidentiality of their responses before they began. No Personal Identifiable Information (PII) gathered. The research ethical permission was received from the UiTM Research ethical Committee prior to data collection as per its criteria.

3.5 Data Analysis Technique

The data were analysed in two steps using IBM SPSS Statistics (Version 29) and SmartPLS 4. Descriptive statistics were used to characterise the sample and to summarise the impressions of the individual-factor and



knowledge-sharing items of the respondents. The measuring model was then assessed for internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted (AVE)), and discriminant validity using the threshold levels proposed by Hair et al. (2019, 2022). Composite reliability and Cronbach's alpha values more than 0.70 were considered excellent, whereas an AVE of 0.50 or above suggested satisfactory convergent validity. Acceptable to maintain items with a composite reliability larger than 0.70, even when the AVE was slightly lower than 0.50. The structural model was then tested by bootstrapping (5,000 resamples). To test H1, path coefficient (β), t-value and p-value were computed. A t-value of 1.96 was used as the cutoff for statistical significance. A p-value of .05 was used as the cutoff for statistical significance.

RESULTS

4.1 Respondent Profile

Among the 367 respondents, 233 (63.5%) were females and 134 (36.5%) were males. Under half of the sample, 180 respondents (49.0%) were aged between 21 and 25 years. Followed by 120 respondents (32.7%) aged below 20 years. The most respondents in terms of level of study were Diploma students (180 respondents; 49.0%), followed by master's degree students (86 respondents; 23.4%) and bachelor's degree students (85 respondents; 23.2%). The respondents were selected from the Faculty of Information Science (220 respondents, 60.0%) and the Faculty of Film, Animation and Theatre (147 respondents, 40.0%). The composition provided a very diverse sample of students across levels of study and years of study, therefore supporting the reasonableness of generalising the findings within the UiTM Puncak Perdana student community, subject to the single-campus limitation indicated in Section 6.3.

4.2 Measurement Model Assessment for Individual Factors

The internal consistency of the individual factors construct was tested using Cronbach's alpha and composite reliability. The construct had a Cronbach's alpha of 0.811 and composite reliability (ρ_c) of 0.859 (Table 1), both above the recommended 0.70 criteria (Hair et al., 2019), showing that the eight questions consistently measured a shared underlying construct. The average variance extracted (AVE) of the individual factors was 0.435, a little below the general benchmark of 0.50 for convergent validity, but due to the high composite reliability of the construct, which was well above 0.70 as recommended by Hair et al. (2019), stating that composite reliability above 0.70 can compensate for an AVE below 0.50, the construct was retained for structural-model testing. The knowledge sharing practices construct was likewise highly reliable ($\alpha = 0.818$; $\rho_c = 0.869$) and showed full convergent validity (AVE = 0.525).

Construct	Cronbach's α	Composite Reliability (ρ_c)	AVE	No. of Items
Individual Factors	0.811	0.859	0.435	8
Knowledge Sharing Practices	0.818	0.869	0.525	6

Table 1. Reliability and Convergent Validity of the Individual Factors and Knowledge Sharing Practices Constructs

The Heterotrait-Monotrait Ratio (HTMT) was used to test the discriminant validity, which is a measure of the empirical distinctiveness of a concept from the other constructs in the model when the values are lower than 0.90 (Hair et al., 2022). The HTMT ratio of individual factors and knowledge sharing techniques was 0.933 which was a little higher than the 0.9 threshold, as well as certain other ratios with the technical factors construct in the parent model. Such a trend indicates some degree of overlap across the antecedent constructs, likely due to the underlying link between self-efficacy, motivation and behavioural markers of sharing in respondents' self-reports. This overlap is raised here as an interpretational concern, and discussed further in Section 6.3, rather than as a reason for abandoning the theoretically justified four-sub-dimension definition of individual variables, which maintained proper reliability and loading patterns throughout.



4.3 Descriptive Analysis of Individual Factor Items

Table 2 shows the mean and standard deviation of each individual-factor item, which are interpreted based on the three-band classification scheme used in this study: a mean of less than 2.34 indicates a low level of agreement, a mean of between 2.34 and 3.66 indicates a moderate level and a mean of 3.67 or more indicates a high level (according to the interpretive scheme adapted for five-point Likert data used throughout the parent study). The mean scores of each item of the various criteria ranged from 3.997 to 4.325, which were categorised as high. The respondents' assessment of knowledge sharing as personally helpful was the highest rated single item ($M = 4.325$, $SD = 0.946$) and was a part of the attitude sub-dimension, with the intrinsic-motivation question about the fun of sharing, following closely behind ($M = 4.275$, $SD = 0.915$). The lowest score, still in the high range, was on an item about self-efficacy ($M = 3.997$, $SD = 0.869$). Thus, although respondents generally endorsed positive attitudes and enjoyment related to sharing, their self-assessed confidence in the value of their own knowledge was relatively, but only slightly, more conservative.

Sub-dimension	Representative Item	Mean	SD
Self-Efficacy	Confidence in one's ability to share knowledge with other students	3.997	0.869
Attitude	Perceived personal benefit of sharing knowledge	4.325	0.946
Intrinsic Motivation	Enjoyment derived from sharing knowledge with others	4.275	0.915
Trust	Trust in classmates when exchanging knowledge and information	4.204	0.922

Table 2. Illustrative Mean Scores by Individual Factors Sub-Dimension ($N = 367$)

4.4 Structural Model and Hypothesis Testing

The structural model was estimated using bootstrapping (5,000 resamples) to get t-values and p-values for the hypothesised path. Table 3 shows that the individual characteristics had a statistically significant and positive effect on information sharing behaviours ($\beta = 0.314$, $t = 4.730$, $p < .001$) and effect was more than the crucial threshold of $t = 1.96$ required for significance at 0.05 level (Hair et al., 2019). Therefore, H1 is supported. Of the four antecedents tested in the larger four-construct structural model estimated in the parent study, individual factors had the largest standardised path coefficient, greater than technological factors ($\beta = 0.219$), institutional factors ($\beta = 0.217$) and social factors ($\beta = 0.176$), confirming that dispositional, within-person characteristics explained more for this sample than any of the three externally orientated antecedents considered.

Path	β	t-value	p-value	Result
Individual Factors → Knowledge Sharing Practices	0.314	4.73	< .001	Supported
Technological Factors → Knowledge Sharing Practices (reference)	0.219	3.726	< .001	Supported
Institutional Factors → Knowledge Sharing Practices (reference)	0.217	3.713	< .001	Supported
Social Factors → Knowledge Sharing Practices (reference)	0.176	2.802	0.005	Supported

Table 3. Structural Path Coefficients for Individual Factors (Focal Hypothesis) and Reference Antecedents

The coefficient of determination (R^2) of knowledge sharing practices in the full four-construct model was 0.688. This means that the group of antecedents explained nearly 68.8% of the variance in students' self-reported knowledge sharing practices, a considerable proportion in line with traditional PLS-SEM benchmarks (Hair et al., 2019). The relative size of its path coefficient suggests that individual factors may be reasonably considered as the largest single contribution to this explained variation, ahead of the three externally orientated antecedents.



DISCUSSION

5.1 The Primacy of Individual Factors

The current study's key finding that individual factors exert the greatest influence on knowledge sharing practices among the antecedents examined is consistent with a substantial body of prior research that links self-efficacy, attitude and motivation with knowledge sharing behaviour (Brock et al., 2005; Lin, 2007; Chiu et al., 2006). The current findings are also similar with the systematic literature analysis by Mohd Yunus et al. (2024) which reported that the effectiveness of knowledge management programs is highly dependent on the willingness of individuals to share, produce and utilise information within an organization. Likewise, Abd Kadir et al. (2024) highlighted that favourable attitudes and active engagement are crucial for good knowledge management practices, which further supports the present finding that individual aspects are critical in promoting information sharing behaviour. The present study expands this view further by showing that these individual qualities are still the biggest predictor for information sharing practices among university students. It also provides direct support for the Social Cognitive Theory (Bandura, 1986) predictions that personal activity, rather than the environment, is the proximate cause of conduct. What does this mean in practice? This finding implies that, even when a university is able to provide accessible technology, a positive institutional culture, and peer norms, students who are not confident about the value of their own knowledge, or who do not derive satisfaction from the act of sharing, are likely to under-participate relative to their more confident or intrinsically motivated counterparts. It also appears that the converse is true, that learners high in self-belief and affinity for sharing may sustain significant information sharing behaviour even when external support is relatively low.

This trend helps to explain the significant effects that have tended to be reported in single-antecedent studies on individual traits run in isolation from social, technological and institutional variables (Lin, 2007; Chiu et al., 2006). Individual factors appear to have independent explanatory weight that is real and of significant size, rather than just a proxy for some more fundamental social or institutional force.

5.2 Self-Efficacy and Confidence

The mean score of self-efficacy was the most conservative of the four sub-dimensions, however, it also fell within the high interpretative band. This is a pattern of theoretical interest. Bandura (1986) suggests that self-efficacy beliefs are built up cumulatively, through mastery experience, vicarious observation of peers and social persuasion and so may lag behind more readily available attitudinal or affective responses such as recognising that sharing is generally beneficial or enjoyable. That is, while a student may be happy to believe that sharing information is a good thing and may be happy to do it when the opportunity arises, they may be less confident about whether their own skill is worth giving. This difference is directly relevant for pedagogy (Section 6.2), as interventions that build task-specific self-efficacy (e.g., by providing structured opportunities for students to practice explaining material to peers and receiving positive feedback) may be more effective in bridging this gap than generic encouragement to "share more."

5.3 Attitude and Intrinsic Motivation

The comparatively high scores on attitude and intrinsic motivation show that the people in this sample had good preconceptions about the concept of knowledge sharing and enjoy the process itself. This is usually excellent news in practice, as it is generally easier to design behavioural opportunity than attitude change. A population with a good attitude of sharing, and who find it gratifying, needs less persuasive interventions, and more structural opportunities – mentioned further below – via which that positive disposition can be translated into consistent behaviour. This observation also supports other findings from the parent study that students who perceive reciprocal benefit from sharing are more likely to participate in collaborative learning, underpinned by Social Exchange Theory, and that intrinsic motivation and expected reciprocal benefit are conceptually adjacent and may reinforce one another over time.



5.4 Trust

Trust, which is included in this study as an individual level disposition, occupies an important conceptual point between the individual and social domains, as it was measured as a personal view about one's peers rather than an actual relational feature. Its relatively high rating in this sample ($M = 4.204$) suggests that respondents generally perceive that shared knowledge will be respected and reciprocated, a precondition that both Social Cognitive Theory, with its emphasis on social persuasion as a builder of self-efficacy, and Social Exchange Theory, with its emphasis on anticipated reciprocity, would predict is necessary for sustained sharing behaviour (Bandura, 1986; Blau, 1964). This implies that the boundary between individual and social antecedents is rather permeable in practice. This idea may also assist to explain the higher HTMT ratios seen in Section 4.2 and is discussed in the limitations section below.

5.5 Individual Factors Relative to Social, Technological, and Institutional Antecedents

It is interesting to consider why the individual factors were better than the three externally directed antecedents in this sample. One argument is that social, technological and institutional factors are more facilitating than direct causes of behaviour. This possibility is mentioned in the theoretical discussion of technological and institutional factors in other parts of the parent study: accessible technology and supportive institutions offer the opportunity for knowledge sharing to occur but do not in themselves create the underlying willingness to take up that opportunity. And that willingness seems to be coming mainly from the pupil. A complementary alternative argument is that of measurement proximity. Knowledge sharing practices were measured as a self-reported frequency of behaviour, and individual variables as a self-reported confidence and satisfaction. Thus, both constructs share an introspective, first-person perspective that is less frequent among more externally seen dimensions, such as institutional culture or peer norms. This measurement-level issue is discussed further as a limitation in Section 6.3, but does not, in the authors' judgement, undermine the substantive theoretical case, well supported independently in the literature, that dispositional factors are genuinely consequential for student knowledge sharing.

IMPLICATIONS, LIMITATIONS, AND DIRECTIONS FOR FUTURE RESEARCH

6.1 Theoretical Implications

The current study extends the Social Cognitive Theory to the realm of student knowledge exchange. The study reveals that in a competitively characterised structural model including social, technological and institutional antecedents, self-efficacy, attitude, intrinsic motivation and trust have a considerable and even dominant explanatory power. This study provides empirical support for the theoretical argument that human agency is not merely one of many environmental factors of equal importance, but a relatively powerful force in the production of discretionary academic activity. The present study further supports the theoretical primacy of dispositional antecedents over social, technological and institutional alternatives, by demonstrating that individual factors retain, and even augment, their explanatory advantage even in the face of such competition. This advantage is more frequently demonstrated in studies of student-level knowledge sharing that focus on individual predictors in isolation than in studies that explicitly pit them against such alternatives.

6.2 Practical Implications

For university administrators and lecturers, the findings indicate that interventions designed to boost students' self-efficacy and intrinsic drive may result in a greater return on investment, in terms of more knowledge sharing, than interventions that concentrate primarily on infrastructure or policy. Abdul Kadir (2024) also endorsed the idea where he stressed that good information and document management is not only about technology infrastructure but also competent users and effective organisational procedures. Similarly, Mohd Yunus et al. (2024) noted that boosting knowledge management initiatives requires developing the information-sharing capabilities of individuals and providing organisational support. According to Social Cognitive Theory, mastery experiences are the most important source of self-efficacy (Bandura, 1986). Providing students with opportunities to rehearse explaining information to peers, with constructive criticism,



are likely to produce these experiences. Likewise, peer mentorship schemes and low-stakes presenting formats in which students explain concepts to small groups before they are expected to do so in higher-stakes settings may assist learners in establishing a more accurate, and presumably more confident, sense of the value of their own knowledge. Attitudes toward sharing were already positive in this sample, so it may be more productive for lecturers to focus limited resources on removing situational barriers to acting on that positive attitude (for example by building brief, structured peer-explanation activities into existing tutorials) rather than on further attitude-change campaigns. Finally, because trust in classmates was an important belief at the individual level, orientation activities and early-semester icebreakers that create interpersonal familiarity among cohort members could have a disproportionate downstream effect on later knowledge-sharing behaviour by establishing the reciprocity expectations that appear to underlie ongoing sharing.

Limitations

There are some limitations to these findings. Firstly, the sample consisted of students from one of UiTM campus only and were recruited using convenience sampling and therefore the findings may not be generalisable to students from other institutions, other campuses within UiTM or students outside Malaysia where cultural norms of self-presentation and peer collaboration may be different. Second, the cross-sectional design records impressions of respondents at one point in time and cannot prove causality direction with certainty. For example, it remains possible that students who share knowledge previously tend to judge their own self-efficacy and enjoyment more favourably thereafter rather than vice versa. Third, all constructs were measured by self-report, which is susceptible to social desirability and common method variance (Podsakoff et al., 2003). The high Heterotrait-Monotrait ratios reported in Section 4.2 are consistent with, but not definitive evidence of, some degree of shared-method inflation between the individual factors and knowledge sharing practices constructs. Fourth, the average variance retrieved for individual factors was somewhat below the cut-off of 0.50, but this was acceptable due to the strong composite dependability of the construct. Future study on this scale may explore the modification or replacement of the weaker-loading items to increase convergent validity. Finally, our analysis only considered individual, social, technological and institutional factors. Other possible variables that are outside the focus of this study are personality qualities, cultural background, and previous knowledge-sharing experience.

Directions for Future Research

Future studies should test the robustness of the individual-factors effect reported here, with longitudinal designs to establish temporal precedence and collect data from multiple public and private universities in Malaysia to assess generalisability beyond a single campus (Creswell & Creswell, 2018). The conceptual connection between trust and the social aspects construct identified in Section 5.4 might also indicate that future studies could benefit from testing alternate measurement specifications, for example, by modelling trust as a societal rather than an individual indication. This may help to explain construct boundaries and to deal with the higher-than-expected discriminant-validity ratios shown here. For example, researchers could employ experimental or quasi-experimental designs that directly manipulate self-efficacy (e.g., structured peer-teaching interventions) to test causal claims that the present cross-sectional design cannot support. Finally, researchers are encouraged to examine possible moderators of the relationship between individual factors and knowledge sharing, such as academic discipline, year of study or previous collaborative-learning experience, which may help explain heterogeneity in the degree to which personal disposition translates into observed sharing behaviour.

CONCLUSION

The study was conducted to examine the effect of individual characteristics, self-efficacy, attitude, intrinsic motivation and trust on knowledge sharing behaviours among 367 students at UiTM Puncak Perdana using PLS-SEM in a positivist cross-sectional research design. Individual factors showed acceptable reliability and convergent validity and had a statistically significant positive effect on knowledge sharing practices ($\beta = 0.314$, $t = 4.730$, $p < .001$). was the strongest of the four antecedents tested in the broader structural model from which this analysis is derived. The results corroborate the explanatory value of Social Cognitive Theory for understanding students' knowledge sharing and imply that dispositional, within-person aspects may be of



more practical weight for university interventions than infrastructural or policy-based measures only. The single-campus, cross-sectional, self-report nature of the study design warrants caution in generalising the findings, but the results do provide a useful empirically grounded starting point for universities to design interventions, particularly those that focus on building student self-efficacy and providing structured opportunities for peer teaching, to strengthen a genuine culture of knowledge sharing on campus.

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