

Motivated by AI? Exploring Students' Perceptions of ChatGPT and Online Learning Motivation in Higher Education

Mazlan Che Soh¹, Nasyrah Ahmad^{2*}, Siti Hajjar Mohd Amin³, Norazlin Abd Aziz⁴

^{1,2,3,4}Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA

*Corresponding Author

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ABSTRACT

The increasing use of ChatGPT in higher education offers new opportunities to support online learning, yet its relationship with learners' motivation remains underexplored. This study examined the relationship between students' perceptions of ChatGPT use and online motivation across three dimensions: expectancy, value, and social support. A quantitative survey was conducted with 199 diploma and bachelor's degree students using a five-point Likert-scale questionnaire. Construct-level internal consistency was high (Cronbach's alpha = .816–.933). The findings showed generally positive perceptions of ChatGPT use and online motivation. Pearson correlation analysis revealed significant positive relationships between perceptions of ChatGPT use and expectancy ($r = .465, p < .001$), value ($r = .512, p < .001$), and social support ($r = .474, p < .001$), with value showing the strongest association. Because the study used a cross-sectional convenience sample, the findings reflect associations within the sampled respondents and should not be interpreted as causal or broadly generalisable effects.

Keywords: perceptions of ChatGPT use; online motivation; expectancy; value; social support; higher education

INTRODUCTION

Background of Study

Online learning motivation refers to the beliefs, values, and contextual conditions that initiate and sustain learners' participation in digitally mediated learning. In this study, online motivation is operationalised through expectancy, value, and social support, based on the Motivation to Learn Online Questionnaire developed by Fowler (2018). Expectancy encompasses learners' self-efficacy and control of learning beliefs; value includes intrinsic goal orientation, extrinsic goal orientation, and task value; and social support reflects learners' engagement with classmates and the support provided by instructors. These dimensions indicate that motivation in an online environment is not limited to an individual learner's willingness to participate but also involves perceptions of capability, task relevance, rewards, and interpersonal support.

The widespread use of ChatGPT has introduced an additional technological layer to online learning. Students can use it to obtain explanations, generate ideas, translate material, structure written work, and receive immediate responses to academic questions. Research with Indonesian higher education students has shown that ChatGPT acceptance and use are shaped by multiple technological and motivational determinants, including expectations regarding performance, effort, facilitating conditions, and behavioural intention (Habibi et al., 2023). Similarly, Shahzad et al. (2024) found that awareness of ChatGPT influenced adoption intention among university students, while perceived usefulness, ease of use, intelligence, and trust played key roles in the acceptance process.

The educational value of ChatGPT therefore depends on more than its availability. Hmoud et al. (2024) identified task enjoyment, effort, evaluation of results, perceived relevance, and interaction as key features of students' motivation when completing tasks with ChatGPT. This indicates that ChatGPT may strengthen motivation when students regard the tool as relevant, manageable, and supportive of meaningful task

completion. However, its contribution must be considered alongside learners' expectancy beliefs, the value they assign to learning activities, and the social and instructional support available in the online environment.

Statement of Problem

Although ChatGPT offers rapid and personalised academic assistance, its use does not produce uniformly positive learning outcomes. Abbas et al. (2024) found that academic workload and time pressure could encourage students to use ChatGPT, but heavier use was also associated with procrastination, memory loss, and reduced academic performance. Uppal and Hajian (2025) reported that favourable perceptions of ChatGPT's usefulness and efficiency were associated with positive academic outcomes, while also highlighting concerns about overreliance, procrastination, plagiarism, and ethical use. These mixed findings suggest that students' positive perceptions of ChatGPT should not automatically be interpreted as evidence of sustained or constructive learning motivation.

Existing studies have mostly examined ChatGPT from the perspectives of technology acceptance, adoption intention, academic performance, or general engagement. For example, Habibi et al. (2023) and Shahzad et al. (2024) focused mainly on the determinants of acceptance and use, whereas Mehrvarz et al. (2025) examined how perceptions of ChatGPT shaped online learning engagement and academic performance. Hmoud et al. (2024) provided a more direct examination of task motivation, but their qualitative findings did not measure the broader combination of expectancy, value, and social support examined in this study. Consequently, acceptance of ChatGPT, frequency of use, and perceived usefulness cannot, on their own, explain whether learners feel capable of completing difficult tasks, value their learning activities, or remain socially connected in online classes.

This study addresses the conceptual and empirical issue by examining students' perceptions of ChatGPT use within a multidimensional online motivation framework. Rather than treating ChatGPT use as an isolated technological behaviour, the study evaluates how perceptions of its use are associated with learners' expectancy, value, and social support. This approach is particularly relevant in the Malaysian higher education context, where the purposeful integration of generative artificial intelligence requires evidence not only of adoption but also of how students perceive its usefulness in relation to confidence, task value, peer engagement, and instructor support. Accordingly, the study investigates students' perceptions of ChatGPT use and examines whether these perceptions are significantly associated with the three dimensions of online motivation.

Objective of the Study and Research Questions

This study explores students' perceptions of ChatGPT use and their relationship with learners' online motivation. Specifically, it addresses the following research questions:

- What are students' perceptions of ChatGPT use in online learning?
- What is the level of expectancy among the sampled students in online learning?
- What is the level of value among the sampled students in online learning?
- What is the level of social support among the sampled students in online learning?
- Is there a significant relationship between students' perceptions of ChatGPT use and online motivation (expectancy, value, and social support)?

H01: There is no significant relationship between students' perceptions of ChatGPT use and online motivation.

LITERATURE REVIEW

Theoretical Framework of the Study

Community of Inquiry Theory (Garrison et al., 2000)

The Community of Inquiry (CoI) Theory offers a useful framework for understanding how teaching presence, social presence, and cognitive presence interact to explain students' motivation in online learning. According to

recent studies, these three presences can enhance students' motivation by fostering meaningful, engaging, and supportive online learning environments. For instance, Askangela et al. (2025) found a positive correlation between students' motivation to learn online and their perceptions of social, cognitive, and teaching presence in an online English course. Similarly, Adam et al. (2025) found that the three CoI presences had a substantial impact on students' psychological need satisfaction and autonomous motivation in blended learning. Zuo et al. (2022) also found that self-efficacy and social presence positively affected online learning motivation. These findings indicate that the CoI model can help explain online learning motivation by demonstrating how effective instructor support, peer connection, and active learning can inspire students to participate and remain motivated.

Technology Acceptance Model (TAM) (Davis, 1989)

The Technology Acceptance Model (TAM), introduced by Davis (1989), is a widely used theoretical framework for explaining individuals' acceptance and use of technology. The model proposes that technology adoption is influenced mainly by two key beliefs: perceived usefulness, which refers to the extent to which an individual believes that using a particular technology will improve performance, and perceived ease of use, which reflects the extent to which the technology is perceived as requiring minimal effort (Davis, 1989). In online learning, TAM has been widely applied to explain students' willingness to adopt and continue using digital learning platforms, with perceived usefulness and ease of use influencing attitudes, behavioural intentions, and actual technology use (Al-Emran et al., 2018; Granić & Marangunić, 2019). More recent studies have also shown the relevance of TAM in explaining students' acceptance of e-learning systems, particularly where perceived usefulness, ease of use, and facilitating technological conditions contribute to learners' engagement and intention to continue using online learning technologies (Mailizar et al., 2021). TAM is therefore relevant to online learning motivation because students who perceive digital learning technologies as useful and easy to navigate are more likely to develop positive attitudes towards online learning and sustain their participation in technology-mediated learning activities.

Past Studies on ChatGPT and Online Learning

Habibi et al. (2023) examined the determinants of ChatGPT acceptance and use among Indonesian higher education students using an extended UTAUT2 model and PLS-SEM analysis of 1,117 responses. The study demonstrated that students' use of ChatGPT was influenced by a combination of behavioural intention and facilitating conditions. These findings are important because they show that adoption is not explained by access alone; students' expectations, perceived effort, available support, and established patterns of use also shape their willingness to use ChatGPT for learning.

Hmoud et al. (2024) investigated the task motivation of 15 higher education students with experience of using ChatGPT. Through interviews and content analysis, the researchers identified five motivational categories: task enjoyment, reported effort, assessment of results, perceived relevance, and interaction. The study showed that students' motivation to use ChatGPT is closely connected to whether the tool makes a task engaging, reduces or redirects effort, produces satisfactory outcomes, and is perceived as relevant to academic needs. These categories are particularly relevant to the value component of this study because they illustrate how learners evaluate the usefulness and personal significance of technology-assisted tasks.

Shahzad et al. (2024) analysed data from 320 Chinese university students using PLS-SEM to investigate ChatGPT awareness, acceptance, and adoption. Their findings showed that ChatGPT awareness significantly influenced adoption intention, while perceived ease of use, usefulness, and intelligence mediated this relationship. Trust also strengthened key relationships in the acceptance process. This study suggests that students may be more willing to incorporate ChatGPT into their learning when they understand its functions, regard it as useful, and have sufficient confidence in its performance. At the same time, the authors emphasised the need for its safe and ethical use in assessment activities.

Mehrvarz et al. (2025) analysed self-reported data from 305 university students in Iran to examine how perceptions of ChatGPT affected online learning engagement and academic performance. Their structural equation model showed that perceptions of ChatGPT accounted for 19.2% of the variance in online

engagement, while perceptions and engagement together explained 40.4% of the variance in academic performance. Online engagement also mediated the relationship between perceptions of ChatGPT and academic performance. The study provides empirical support for examining ChatGPT within a broader learning environment rather than treating usage as a purely technical activity.

Collectively, these studies show that ChatGPT use is connected to acceptance, trust, task relevance, effort, engagement, and academic outcomes. However, these constructs do not fully represent the combined motivational dimensions of expectancy, value, and social support. This study therefore extends the literature by examining whether students' reported perceptions of ChatGPT use are associated with their confidence and control beliefs, the intrinsic and extrinsic value attached to learning, and the support experienced from peers and instructors.

Conceptual Framework of the Study

Figure 1 presents the conceptual framework used to examine the relationship between students' perceptions of ChatGPT use and learner motivation in online learning. The framework is grounded in the CoI Theory proposed by Garrison et al. (2000), which explains that meaningful online learning is supported through the interaction of cognitive, social, and teaching presence. In this study, learner motivation is conceptualised through three dimensions (expectancy, value, and social support) adapted from Fowler (2018). Expectancy comprises self-efficacy and control of learning beliefs, whereas value includes intrinsic goal orientation, extrinsic goal orientation, and task value. Social support comprises social engagement and instructor support. From a CoI perspective, these motivational dimensions reflect learners' confidence in their ability to learn, the value they attach to learning activities, and the support and interaction they experience within the online learning environment. The framework thus provides a basis for examining how students' perceptions of ChatGPT use are associated with these dimensions of learner motivation.

The conceptual framework is further supported by Davis's (1989) TAM, which explains technology adoption primarily in terms of users' perceptions of usefulness and ease of use. In this study, the four ChatGPT items adapted from Youssef et al. (2024) capture favourable perceptions of ChatGPT use and perceived academic benefits rather than behavioural frequency alone. This construct is therefore interpreted as perceptions of ChatGPT use. By integrating TAM with the CoI framework, the study examines whether these perceptions are associated with learners' expectancy, value, and social support, which collectively represent key dimensions of motivation in online learning environments.

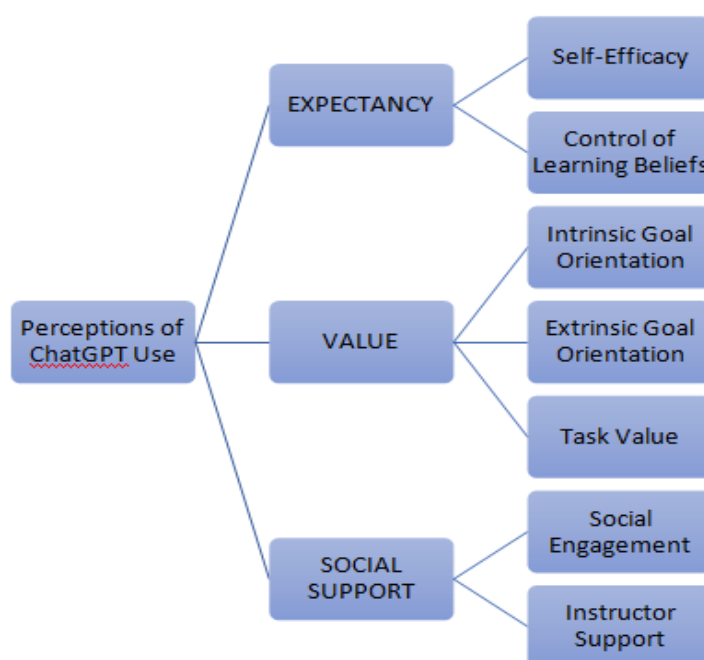


Figure 1: Conceptual Framework of the Study

METHODOLOGY

This quantitative cross-sectional study examined the relationship between students' perceptions of ChatGPT use and learners' online motivation. A convenience sample of 199 active diploma and bachelor's degree students at Universiti Teknologi MARA (UiTM), Seremban Campus, who had prior experience of using ChatGPT, participated in the study. Participants were recruited through class WhatsApp groups, and data were collected via Google Forms between 15 May and 30 June 2026. The exact number of students invited could not be established because the questionnaire link was shared through these groups; therefore, a formal response rate could not be calculated. In total, 199 valid responses were included in the final analysis. No separate missing-data handling rule could be verified from the available study records; therefore, no unverified imputation or deletion procedure is claimed, and the analysis is reported based on the 199 valid responses retained.

Data were gathered using a five-point Likert-scale questionnaire adapted from Fowler (2018) and Youssef et al. (2024). Online motivation comprised expectancy, value, and social support, whereas the four ChatGPT items served as a measure of students' perceptions of ChatGPT use and its perceived benefits, rather than behavioural frequency alone. The questionnaire used a single five-point response format ranging from 1 (Never) to 5 (Always). Because several ChatGPT statements are attitudinal rather than frequency-based, the fit between these anchors and the item wording is recognised as a measurement limitation, and the response scale was not retrospectively altered after data collection. Composite scores for each construct were calculated as the mean of the relevant items. The negatively worded SSEQ1 item, "I feel disconnected from my teacher and fellow students in classes," was reverse-coded before calculating the Social Engagement and Social Support composite scores so that higher scores consistently represented higher levels of social engagement and support.

Participation was voluntary, and respondents were informed of the study's purpose before completing the questionnaire. Consent was obtained before participation, and respondents were assured that their responses would be treated confidentially and used solely for research purposes. No formal ethics approval was obtained for this study. No separate pilot test was conducted before the main data collection.

Table 1: Likert Scale

1	Never
2	Rarely
3	Sometimes
4	Often
5	Always

Table 2: Distribution of Items in the Survey

Variable	Construct	Subdimensions	Source	No. of Items	Cronbach's Alpha
Online Motivation	Expectancy	Self-Efficacy (7); Control of Learning Beliefs (4)	Fowler (2018)	11	0.912
Online Motivation	Value	Intrinsic Goal Orientation (4); Extrinsic Goal Orientation (4); Task Value (6)	Fowler (2018)	14	0.933
Online Motivation	Social Support	Social Engagement (5); Instructor Support (7)	Fowler (2018)	12	0.911
Perceptions of ChatGPT Use	Perceptions of ChatGPT Use and Perceived Benefits	—	Youssef et al. (2024)	4	0.816

Table 3: Reliability Levels, Cronbach's Alpha Ranges, and Their Interpretations

Reliability Level	Cronbach's Alpha Range	Interpretation
Excellent	0.90 and above	Indicates very high internal consistency
Good	0.80–0.89	Reflects strong internal consistency
Acceptable	0.70–0.79	Indicates acceptable internal consistency
Questionable	0.60–0.69	Reflects questionable internal consistency
Poor	Below 0.60	Indicates poor internal consistency

Note. Reliability-level interpretations are based on Ahmad et al. (2024).

Internal consistency was assessed at the construct level. Cronbach's alpha was .912 for Expectancy, .933 for Value, .911 for Social Support, and .816 for Perceptions of ChatGPT Use, indicating good to excellent internal consistency across the constructs. Because the instrument comprises conceptually distinct dimensions, the overall alpha for all 41 items was not interpreted as evidence of a single underlying construct.

FINDINGS

Demographic Analysis

Demographic information is reported to show the composition of the sample rather than to claim population representativeness. Because participants were recruited through convenience sampling and the sample was heavily concentrated within one faculty, the percentages should be interpreted as characteristics of the respondents in this study rather than as estimates of the wider university student population.

Table 4: Percentage Distribution of the Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	20%
		Female	80%
2	Level of Study	Diploma	28%
		Bachelor's Degree	72%

Table 4 shows the demographic profile of the 199 respondents. Female students made up 80% of the sample, while male students accounted for 20%. By level of study, 72% were bachelor's degree students and 28% were diploma students. The sample was also heavily concentrated in the Faculty of Administrative Science and Policy Studies. Consequently, the findings should be interpreted primarily within the context of this convenience sample, and generalisation to students from other faculties, institutions, or populations should be made with caution.

Descriptive Statistics

Means and standard deviations are reported to provide a clear description of the central tendency and variability of the data. According to Vetter (2017), the mean (M) represents the average response. It indicates the overall tendency of respondents' perceptions, while the standard deviation (SD) reflects the extent to which responses vary around the mean. A lower SD indicates that responses are more closely clustered around the mean, suggesting greater consistency among respondents, whereas a higher SD reflects greater variation in responses. Therefore, the SD should not be interpreted as inherently good or bad. Rather, it provides useful information about the degree of agreement or diversity in respondents' perceptions.

Findings for Perceptions of ChatGPT Use

This section presents the findings for Research Question 1: What are students' perceptions of ChatGPT use in online learning?

Table 5: Mean (M) and Standard Deviation (SD) for Perceptions of ChatGPT Use (CU)

Statement	M	SD
CUQ1 ChatGPT is a state-of-the-art writing model that is favourably used today.	3.98	0.86
CUQ2 Students seek help from ChatGPT's assistance in composing essays and articles.	3.87	0.88
CUQ3 ChatGPT helps students in English language translation.	4.04	0.8
CUQ4 Employing ChatGPT significantly improves human productivity.	3.73	0.98

Table 5 indicates that respondents generally reported favourable perceptions of ChatGPT use in online learning, with mean scores ranging from 3.73 to 4.04. The highest mean was recorded for CUQ3 (M = 4.04, SD = 0.80), reflecting positive views of ChatGPT for English-language translation. This was followed by CUQ1 (M = 3.98, SD = 0.86) and then CUQ2 (M = 3.87, SD = 0.88). CUQ4 recorded the lowest mean (M = 3.73, SD = 0.98), although it remained above the scale midpoint. These items should be interpreted as perceptions of use and perceived benefits rather than as direct measures of actual usage frequency.

Findings for Expectancy

This section presents the findings for Research Question 2: What is the level of expectancy among the sampled students in online learning? In this study, expectancy was measured through (i) self-efficacy and (ii) control of learning beliefs.

(i) Table 6: Mean (M) and Standard Deviation (SD) for Self-Efficacy (ESE)

Statement	M	SD
ESEQ1 I believe I'll receive excellent grades in my classes.	3.88	0.82
ESEQ2 I'm certain I can understand the most difficult material presented in the readings.	3.6	0.85
ESEQ3 I'm confident I can learn the basic concepts that are being taught.	4.05	0.74
ESEQ4 I'm confident I can understand the most complex material presented by the instructor online.	3.62	0.89
ESEQ5 I'm confident I can do an excellent job on assessments online.	3.92	0.78
ESEQ6 I'm certain I can master the skills being taught online.	3.67	0.83
ESEQ7 Although online classes can be challenging, I think I can do well.	3.79	0.91

Table 6 indicates that respondents generally demonstrated a high level of self-efficacy in online learning, with mean scores ranging from 3.60 to 4.05. The highest mean was recorded for ESEQ3 (M = 4.05, SD = 0.74), reflecting that respondents were particularly confident in their ability to learn the basic concepts taught online. This was followed by ESEQ5 (M = 3.92, SD = 0.78), indicating a strong belief in their ability to perform well in online assessments. Meanwhile, ESEQ1 (M = 3.88, SD = 0.82) highlighted confidence in achieving excellent grades. Respondents were also confident in their capacity to learn the skills taught online (M = 3.67, SD = 0.83). However, lower mean scores were found for understanding the most difficult reading materials (M = 3.60, SD = 0.85) and understanding the most complex materials that the instructor presented online (M = 3.62, SD = 0.89), indicating that respondents were slightly less confident when handling highly complex or challenging learning content. Overall, the findings indicate that students are generally confident in

understanding course content, performing well in assessments, and mastering online learning skills. The SD values (0.74–0.91) also suggest that responses were relatively consistent.

(ii) Table 7: Mean (M) and Standard Deviation (SD) for Control of Learning Beliefs (ECB)

Statement	M	SD
ECBQ1 If I study in appropriate ways, then I'll be able to learn the material.	3.9	0.81
ECBQ2 It's my own fault if I don't learn the material taught.	4.07	0.81
ECBQ3 If I try hard enough, then I'll understand the material presented.	4.18	0.75
ECBQ4 If I don't understand the material presented, it's because I didn't try hard enough.	4.02	0.91

Table 7 presents the means and standard deviations for Control of Learning Beliefs (ECB). Overall, the findings indicate that students perceived a strong sense of control over their learning. The item relating to students' belief that trying hard enough will help them understand the material presented (ECBQ3) recorded the highest mean score ($M = 4.18$, $SD = 0.75$). This was followed by the belief that failure to learn the material is largely attributable to their own actions (ECBQ2: $M = 4.07$, $SD = 0.81$), suggesting that students generally recognised their personal responsibility in the learning process. In comparison, the statement "If I study in appropriate ways, then I'll be able to learn the material" recorded the lowest mean score ($M = 3.90$, $SD = 0.81$). Nevertheless, the score remained relatively high, indicating that students generally believed their learning outcomes could be influenced by their own effort and learning strategies.

Findings for Value

This section presents the findings for Research Question 3: What is the level of value among the sampled students in online learning? Value was measured through three dimensions: (i) intrinsic goal orientation, (ii) extrinsic goal orientation, and (iii) task value.

(i) Table 8: Mean (M) and Standard Deviation (SD) for Intrinsic Goal Orientation (VI)

Statement	M	SD
VIQ1 I prefer online material that really challenges me, so I can learn new things.	3.94	0.98
VIQ2 I prefer online material that arouses my curiosity, even if it's difficult to learn.	3.62	0.92
VIQ3 The most satisfying thing for me is trying to understand the online content as thoroughly as possible.	3.82	0.82
VIQ4 I choose assignments that I can learn from even if they don't guarantee a good grade.	3.71	0.82

Table 8 presents the means and standard deviations for Intrinsic Goal Orientation (VI). Overall, the findings indicate a moderately favourable level of intrinsic motivation among students in online learning. The highest mean was recorded for the preference for online materials that provide sufficient challenge to support learning new things ($M = 3.94$, $SD = 0.98$). This was followed by students' satisfaction with understanding online content as thoroughly as possible ($M = 3.82$, $SD = 0.82$), suggesting that students generally valued mastery and deeper understanding of the learning content. The preference for assignments that offer learning opportunities, even when they do not guarantee a good grade, recorded a mean of 3.71 ($SD = 0.82$). The lowest mean was reported for the preference for online materials that stimulate curiosity despite being difficult to learn ($M = 3.62$, $SD = 0.92$). Although comparatively lower, the score remained above the scale midpoint, indicating that students generally showed positive intrinsic motivation towards online learning.

(ii) Table 9: Mean (M) and Standard Deviation (SD) for Extrinsic Goal Orientation (VE)

Statement	M	SD
VEQ1 Getting a good grade is the most satisfying thing for me.	4.46	0.74
VEQ2 I want to do well in my classes so that I can get awards and recognition.	4.26	0.86

VEQ3 I want to get better grades than most of the other students in my classes.	4.19	0.85
VEQ4 I want to do well in my classes because it's important to show my ability to my family, friends, employer, or others.	4.3	0.89

Table 9 presents the means and standard deviations for learners' extrinsic goal orientation. The highest mean was recorded for VEQ1 ("Getting a good grade is the most satisfying thing for me") at $M = 4.46$ ($SD = 0.74$). This was followed by VEQ4, concerning the importance of demonstrating ability to family, friends, employers, or others, at $M = 4.30$ ($SD = 0.89$); VEQ2, concerning awards and recognition, at $M = 4.26$ ($SD = 0.86$); and VEQ3, concerning the desire to obtain better grades than other students, at $M = 4.19$ ($SD = 0.85$). These results indicate that grades, recognition of ability, awards, and comparative achievement were salient extrinsic motivators among the sampled respondents.

(iii) Table 10: Mean (M) and Standard Deviation (SD) for Task Value (VT)

Statement	M	SD
VTQ1 I think I will be able to use what I learn in this course in other courses.	4.14	0.77
VTQ2 It is important for me to learn the course material in this class.	4.24	0.73
VTQ3 I am very interested in the content area of this course.	4.05	0.77
VTQ4 I think the course material in this class is useful for me to learn.	4.05	0.78
VTQ5 I like the subject matter of this course.	3.94	0.78
VTQ6 Understanding the subject matter of this course is very important to me.	4.23	0.75

Table 10 shows the means and standard deviations for learners' task value. The highest mean was recorded for VTQ2 ("It is important for me to learn the course material in this class") at $M = 4.24$ ($SD = 0.73$), closely followed by VTQ6 ("Understanding the subject matter of this course is very important to me") at $M = 4.23$ ($SD = 0.75$). Respondents also believed what they learned could be applied in other courses (VTQ1: $M = 4.14$, $SD = 0.77$). VTQ3 and VTQ4 both recorded a mean of 4.05, indicating positive interest in and perceived usefulness of the course content. Although VTQ5 recorded the lowest mean ($M = 3.94$, $SD = 0.78$), it remained above the scale midpoint. Overall, the findings suggest that respondents placed considerable value on the importance, usefulness, transferability, and subject content of their learning activities. This pattern is consistent with the emphasis placed by Hmoud et al. (2024) on perceived relevance as a key component of task motivation when students use ChatGPT.

Findings for Social Support

This section presents the findings for Research Question 4: What is the level of social support among the sampled students in online learning? Social support was measured through (i) social engagement and (ii) instructor support.

(i) Table 11: Mean (M) and Standard Deviation (SD) for Social Engagement (SSE)

Statement	M	SD
SSEQ1 I feel "disconnected" from my teacher and fellow students in classes.	3.05	1.04
SSEQ2 I pay attention in classes.	3.91	0.78
SSEQ3 I enjoy class discussions.	4.05	0.81
SSEQ4 I feel like I can freely communicate with other students in classes.	3.89	0.91
SSEQ5 I have strong relationships with fellow students in this course.	3.84	0.93

Table 11 presents the means and standard deviations for Social Engagement (SSE) in online learning. With mean scores for the positively worded items ranging from 3.84 to 4.05, the results indicate that respondents generally showed a high degree of social involvement. SSEQ3 had the highest mean ($M = 4.05$, $SD = 0.81$), suggesting that students generally enjoyed contributing to class discussions. Following this were SSEQ2 ($M =$

3.91, SD = 0.78), which indicated that students paid attention in online classes, and SSEQ4 (M = 3.89, SD = 0.91), which suggested that students felt free to interact with their peers. Finally, SSEQ5 (M = 3.84, SD = 0.93) indicated that students typically formed close bonds with one another.

(ii) Table 12: Mean (M) and Standard Deviation (SD) for Instructor Support (SIS)

Statement	M	SD
SISQ1 I feel like I can freely communicate with the instructor in this class.	3.87	0.86
SISQ2 The instructor responds to questions, clearly, completely, and in a timely manner.	4.06	0.8
SISQ3 The instructor's expectations for me in this class are clear.	3.91	0.8
SISQ4 The instructor provides the guidance I need to be successful in this class.	4.08	0.78
SISQ5 The instructor presents the material in a way that makes it relevant to me.	4.15	0.76
SISQ6 In this course, I have the freedom to guide my own learning.	4.14	0.77
SISQ7 The instructor provides regular feedback that helps me gauge my performance in this class.	4	0.78

Table 12 shows the means and standard deviations for Instructor Support (SIS) in online learning. With mean scores ranging from 3.87 to 4.15, the results show that respondents generally perceived a high level of instructor support. SISQ5 had the highest mean score (M = 4.15, SD = 0.76), indicating that students felt that instructors presented course materials in a relevant manner. This was followed by SISQ6 (M = 4.14, SD = 0.77), suggesting that students believed they had enough freedom to direct their own learning. Meanwhile, students rated highly the instructors' guidance to help them succeed (SISQ4, M = 4.08, SD = 0.78) and their clear, complete, and timely responses (SISQ2, M = 4.06, SD = 0.80). In contrast, SISQ1 had the lowest mean (M = 3.87, SD = 0.86), but it still reflected a generally favourable view of communication with the instructor. Overall, the findings point to the importance of instructor support in online learning, particularly in terms of relevant teaching resources, direction, learner autonomy, prompt responses, and frequent feedback. Additionally, the relatively low SD values (0.76–0.86) show that respondents' opinions were largely consistent.

Inferential Statistics

Correlation analysis was conducted to examine the strength and direction of associations between students' perceptions of ChatGPT use and the three dimensions of online motivation: expectancy, value, and social support. Pearson's correlation coefficient (r) was computed to estimate the direction and magnitude of these associations. Statistical significance was set at the .05 level. As the study used a cross-sectional correlational design, the analysis was interpreted in terms of association rather than causation. Accordingly, statistically significant correlations were not treated as evidence that perceptions of ChatGPT use caused changes in learners' online motivation.

Relationship between Perceptions of ChatGPT Use and Online Motivation

This section presents the findings for Research Question 5: Is there a significant relationship between students' perceptions of ChatGPT use and online motivation?

H01: There is no significant relationship between students' perceptions of ChatGPT use and online motivation.

Table 13: Correlations between Perceptions of ChatGPT Use and Online Motivation

		EXPECTANCY	VALUE	SOCIAL SUPPORT
CHATGPT	Pearson Correlation	.465**	.512**	.474**
PERCEPTIONS	Sig. (2-tailed)	<.001	<.001	<.001
	N	199	199	199

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

Table 13 presents the correlations between students' perceptions of ChatGPT use and online motivation. Significant positive associations were observed with expectancy ($r = .465$, 95% CI [.348, .567], $p < .001$), value ($r = .512$, 95% CI [.402, .608], $p < .001$), and social support ($r = .474$, 95% CI [.359, .575], $p < .001$) ($N = 199$). These values indicate moderate positive associations for expectancy and social support and a comparatively stronger positive association for value. Therefore, the null hypothesis ($H01$) was rejected. The coefficients describe associations within this sample and do not demonstrate causal effects.

DISCUSSION

Summary of Findings and Discussion

The first research question concerned students' perceptions of ChatGPT use in online learning. Respondents generally perceived ChatGPT favourably for translation, academic assistance, writing, and productivity, although the lower rating for productivity indicates that perceived benefits may vary by task. This pattern is in line with Habibi et al. (2023), who showed that ChatGPT use is shaped by students' performance expectations, perceived effort, facilitating conditions, and behavioural intention. It is also consistent with Shahzad et al. (2024), whose findings highlight the roles of usefulness, ease of use, perceived intelligence, and trust in students' intention to adopt ChatGPT. Nevertheless, these findings should be interpreted as perceptions of use and perceived benefits rather than as direct evidence of actual usage frequency or causal effects on learning.

For expectancy, respondents reported positive self-efficacy and control of learning beliefs. They were particularly confident in learning basic concepts and believed that sustained effort would help them understand course material, although confidence was lower for difficult readings and complex online content. These findings suggest that learners have a meaningful sense of personal agency but may still require structured support when tasks become cognitively demanding. Within the Community of Inquiry framework, ChatGPT may support cognitive presence by providing explanations and prompts; however, a deeper understanding still depends on purposeful inquiry, reflection, teaching presence, and interaction with others (Garrison et al., 2000).

For value, respondents reported both intrinsic and extrinsic reasons for participating in online learning and generally regarded the course content as important, useful, and transferable. The task-value findings are consistent with Hmoud et al. (2024), who identified perceived relevance, task enjoyment, effort, and evaluation of results as key features of students' motivation when using ChatGPT. For social support, respondents indicated positive communication with peers, enjoyment of class discussions, and strong instructor support. These findings suggest that technology does not generate motivation independently. Motivation is strengthened when learners perceive academic tasks as worthwhile and remain connected to instructors and learning communities.

The correlation analysis showed statistically significant positive relationships between students' perceptions of ChatGPT use and expectancy, value, and social support. The strongest association was observed for value ($r = .512$), followed by social support ($r = .474$) and expectancy ($r = .465$). Accordingly, the null hypothesis was rejected. The stronger association for value suggests that respondents who reported more favourable perceptions of ChatGPT use also tended to report greater perceived importance, usefulness, or reward in their learning activities. This interpretation aligns with Mehrvarz et al. (2025), who found that positive perceptions of ChatGPT were linked to stronger online learning engagement and academic performance. Nevertheless, the cross-sectional correlational design indicates association rather than causation; the results do not demonstrate that ChatGPT directly increases motivation.

IMPLICATIONS, LIMITATIONS, AND FUTURE RESEARCH

Theoretical and Conceptual Implications

The findings support the Community of Inquiry framework by indicating that meaningful online learning involves the interaction of cognitive, social, and teaching presence (Garrison et al., 2000). ChatGPT may

strengthen cognitive presence by supporting idea generation, clarification, and access to information, but the positive social-support findings suggest that peer interaction and instructor guidance remain indispensable. The results also complement the Technology Acceptance Model (Davis, 1989), as learners' willingness to use ChatGPT appears linked to its perceived usefulness for academic tasks. Conceptually, the significant relationships with expectancy, value, and social support indicate that students' perceptions of ChatGPT use should be understood within a wider motivational context rather than solely as an act of technology acceptance. Learners' beliefs about their capabilities, the value of academic tasks, and the quality of human support may collectively shape meaningful AI-assisted learning.

Pedagogical Implications

Educators should integrate ChatGPT through structured activities that require students to verify AI-generated information, compare responses with scholarly sources, explain their reasoning, and revise outputs using disciplinary knowledge. Because respondents reported lower confidence when dealing with complex material, instructors can use guided prompts and staged tasks to move learners from basic explanations towards analysis and independent problem-solving. Assessment design should reward the learning process, source evaluation, reflection, and original judgment rather than reproduced AI-generated answers. Such safeguards matter because unstructured or excessive reliance on ChatGPT may be associated with procrastination, weakened memory, ethical concerns, and poorer academic outcomes (Abbas et al., 2024; Uppal & Hajian, 2025). Regular instructor feedback and peer discussion should also be maintained so that ChatGPT complements rather than replaces teaching presence and social interaction.

CONCLUSION AND FUTURE WORK

Several limitations should be noted when interpreting the findings. First, the convenience sample was heavily concentrated in one faculty and was predominantly female, which limits generalisability beyond the sampled respondents. Second, all principal variables were measured through the same self-report questionnaire, raising the possibility of common-method variance and shared response tendencies. Third, the four ChatGPT items primarily captured favourable perceptions and perceived benefits rather than behavioural frequency, while the common Never-to-Always anchors did not suit all attitudinal statements. Fourth, the cross-sectional design and bivariate correlations cannot establish temporal order or causality, and unmeasured factors may partly account for the observed associations. Future research should use more balanced samples across faculties and institutions, distinguish the actual frequency and purpose of ChatGPT use from perceived usefulness, employ response anchors matched to item content, and apply longitudinal or experimental designs where causal questions are intended. Further studies can report construct validity evidence, McDonald's omega, robustness analyses, and adjusted models where appropriate, and examine potential mediators such as AI literacy, critical thinking, self-regulation, trust, and perceived usefulness.

To conclude, among diploma and bachelor's degree students at UiTM Seremban, perceptions of ChatGPT use were generally favourable and were significantly and positively associated with all three dimensions of online motivation, namely, value ($r = .512$), social support ($r = .474$), and expectancy ($r = .465$). Although these cross-sectional associations do not establish causality, they suggest that ChatGPT is most likely to support online learning motivation when used with meaningful learning tasks, consistent instructor guidance, as well as peer interaction.

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