Employability on Self-Perception Among IT Students: The Effects of Intrinsic Motivation and Academic Performance

Waraluck Maprasom, King Mongkut's University of Technology Thonburi, Thailand
Surachai Suksakulchai, King Mongkut's University of Technology Thonburi, Thailand
Prapassorn Wongdee, King Mongkut's University of Technology Thonburi, Thailand

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Abstract
The primary objective of higher education in Thailand is to prepare students for future careers. However, some students are uncertain about their ability to find employment. Therefore, this study investigated the relationship between intrinsic motivation, academic performance, and self-perceived employability, and aimed to create a predictive model of IT students' self-perceived employability. The sample group for the study comprised 420 students from the Department of Information Technology, Faculty of Business Administration, Rajamangala University of Technology, from nine campuses across Thailand. Data was collected using online questionnaires and analyzed using Pearson's correlation coefficient and multiple regression analysis. The results showed that intrinsic motivation, academic performance, and self-perceived employability were positively correlated. The multiple correlation coefficient was between 0.75 and 0.95. Additionally, it was found that intrinsic motivation and academic performance can predict students' self-perceived employability with a significance level of 0.05. The findings of this study suggest that the teaching and learning process should be designed to improve intrinsic motivation and academic achievement. This may be accomplished through providing students with stimulating and engaging learning experiences, as well as chances to learn in a supportive setting. As a result, students may gain the confidence they need to find a job after graduation.

Keywords: Intrinsic Motivation, Academic Performance, Self-Perceived

Introduction

Rajamangala University of Technology (RUT) is a public university that was established in 1975 under the Rajamangala University of Technology Act of 2005. Since January 18, 2005, it has been under the supervision of the Office of the Higher Education Commission and comprises nine campuses across all regions of Thailand (Act Rajamangala University of Technology, 2005). The university's mission is to provide quality education that equips graduates with academic knowledge and practical skills to meet the demands of various sectors. Information Technology (IT) programs, such as business computing, digital business information systems, and others, are offered at all RUT campuses.

According to a survey by the Office of the Permanent Secretary for Industry, Science, Research, and Innovation in 2022, 73.96% of the respondents reported being employed, 2.91% were continuing their education, while 23.12% were unemployed (Office of the Permanent Secretary, M. o. H. E., Science, Research and Innovation, 2023). However, the employment outcomes of 10,542 RUT graduates in the past five years showed that 70.54% secured employment or self-employment within one year, 3.58% pursued further education, while 15.88% remained unemployed (Isan, Student Development Division Rajamangala University of Technology, 2023) This data suggests that despite most students finding a job, a considerable proportion of graduates failed to do so, which implies a waste of their educational investment (Coetzee et al., 2019).

The issue of graduate unemployment can be partly attributed to their low self-confidence in their abilities (Ergün et al., 2021) and their perceived skill gap with employer expectations (Coetzee et al., 2019). Some factors that can contribute to this lack of self-confidence are insufficient knowledge and skills in their field of work (Abelha et al., 2020), low socioeconomic status (Kassa et al., 2022), and lack of critical thinking application from academic studies. This can result in students having low self-perceived employability for the workplace (Yau Hsiung Wong, 2019).

One of the main goals of higher education is to prepare students for their future careers. Therefore, it is essential to implement educational strategies that foster the development of knowledge, skills, and relevant professional experiences before entering the labor market. One crucial indicator of student development is self-perceived employability (Räty et al., 2019). Self-perceived employability is the extent to which a student believes that they have the skills, knowledge, and abilities to secure and retain a job (Harry et al., 2018) and perform effectively according to the requirements of the organization (Ergün et al., 2021). Based on the literature, two factors affect employability outcomes: intrinsic motivation and academic performance.

Intrinsic motivation is an internal drive that stems from personal characteristics such as curiosity, autonomy, satisfaction, and enjoyment, which motivate individuals to engage in various activities voluntarily (Ryan & Deci, 2000; Richard & Ryan, 2020). Intrinsic motivation arises from one's own interests without expecting external rewards or pressures, involving interest, enjoyment, challenge, and personal exploration (Harter et al., 1981; Amabile et al., 1994; Deci et al., 1985).

Individuals who are highly intrinsically motivated tend to approach their tasks with enthusiasm, commitment, and accountability, and the drive to pursue goals without depending on external regulations (Buzdar et al., 2017).

Another important factor that can affect self-perceived employability is academic performance. Academic performance refers to the degree of satisfaction with educational outcomes that align with future career aspirations (Rothwell et al., 2008). Academic performance can be measured by grades or scores, attitudes (Alani et al., 2021) and readiness to learn through various types of assessments, such as performance, knowledge, skill, and self-assessments (Ergün et al., 2021).

Based on the above information, the present study aims to investigate the relationship between intrinsic motivation, academic performance, and self-perceived employability of IT students, and to create a predictive model of IT students' self-perceived employability of IT students at RUT's Faculty of Business Administration in Thailand using intrinsic motivation and academic performance as predictor variables. These variables are worth investigating because they can influence IT graduates' career decisions, satisfaction, and outcomes in a dynamic and competitive labor market. The findings of the study will inform the design of learning processes that enhance students' self-perceived employability and offer a guideline for revising the curriculum and supplementary teaching activities that enable learners to gain confidence and develop essential skills according to their needs and expectations for future employment.

Purpose of the Research

This study has two primary goals: (1) to investigate the relationship between intrinsic motivation, academic performance, and self-perceived employability of IT students; and (2) to create a predictive model of IT students' self-perceived employability. The specific research questions were:

- What are the correlations among intrinsic motivation, academic performance, and self-perceived employability among IT students at RUT's Faculty of Business Administration in Thailand?

- Can intrinsic motivation and academic performance predict self-perceived employability among IT students at RUT's Faculty of Business Administration in Thailand?

Methods

Participants and Procedures

The questionnaire respondents are made up of 420 undergraduate students majoring in IT from nine RUT campuses in Thailand. Table 1 shows the results of the general data analysis of the questionnaire respondents.

	Variable	Frequency	Percent
Gender	male	160	38.10
	female	260	61.90
Age	18-19 years	46	10.95
	20-21 years	222	52.86
	22-23 years old	111	26.43
	For more than 23 years	41	9.76
GPA	Less than 2.01	22	5.24
	2.01 - 3.00	166	39.52
	3.01 - 4.00	232	55.24

(N=420)

Table 1: Demographic profile of respondents

Table 1 shows the demographic characteristics of the respondents. There were 260 female students (61.90%) and 160 male students (38.10%) among the 420 responders. The respondents' ages ranged from 18 to 23 years, with the majority being 20-21 years old (222 students, 52.86%). The respondents' cumulative GPA varied from 2.01 to 4.00, with the majority having a GPA of 3.01 - 4.00 (232 students, 55.24%), followed by a GPA of 2.01 - 3.00 (166 students, 39.52%) and the lowest GPA of less than 2.00 (22 students, 5.24%).

Instrument and Procedure

Instrument Development

The questionnaire was developed by adapting and combining two existing instruments: (1) an intrinsic motivation questionnaire developed by Harter et al., (1981) which was applied by Lepper et al., (2005) to measure intrinsic motivation among university students; and (2) a self-perceived employability measurement questionnaire developed by Rothwell et al., (2008); Wittekind et al., (2010); and Álvarez-González et al., (2017) to assess employability among university students. The questionnaire consists of 61 items characterized by 5 levels of response: 5 = "Strongly agree," 4 = "Agree," 3 = "Moderately agree," 2 = "Disagree," and 1 = "Strongly disagree."

Instrument Validation

The questionnaire was evaluated by three experts in the fields of computer science and education. Content validity indices ranged from 0.60 to 1.00, with an average score of 0.67. After revising the questionnaire based on the experts' recommendations, it was piloted with a sample of 30 participants, who measured three key constructs: intrinsic motivation, academic performance, and self-perceived employability. The Cronbach's alpha coefficients for these constructs were 0.89, 0.79, and 0.93, respectively. According to Table 2, a Cronbach's alpha coefficient of 0.7 or higher indicates acceptable internal consistency (J. C. Nunnally, 1994).

Dimensions	Number of items	Reliability
Intrinsic motivation	16	0.89
Academic performance	4	0.79
Self-perceived employability	13	0.93

Table 2: Cronbach's α value of each dimension

Data Analysis

Correlation Analysis

The relationships between intrinsic motivation, academic performance, and self-perceived employability were analyzed using Pearson's correlation coefficient.

Regression Analysis

stepwise multiple regression analysis was conducted to develop a predictive model for students' self-perceived employability based on intrinsic motivation and academic performance."

Results

Analysis of the relation between intrinsic motivation, academic performance, and self-perceived employability.

Variable	Intrinsic motivation	Academic performance	Self-Perceived employability
Intrinsic motivation	-		
Academic performance	.83**	-	
Self-perceived employability	.95**	.91**	-
Mean	3.72	3.92	3.71
Standard deviation	0.15	0.10	0.12

**p<.001 (N=420)

Table 3: Descriptive data and Pearson correlations for the variables

Table 3 indicates that the variables of intrinsic motivation, academic performance, and self-perceived employability are statistically significantly correlated at the 0.01 level with correlation coefficients ranging from 0.83 to 0.95. The highest correlation coefficient was found between intrinsic motivation and self-perceived employability (r = 0.95), followed by academic performance and self-perceived employability (r = 0.91). The lowest correlation coefficient was found between intrinsic motivation and academic performance (r = 0.83).

A stepwise multiple regression analysis was conducted to create a predictive equation for students' self-perceived employability based on intrinsic motivation, extrinsic motivation, and academic performance.

Model		Unstandardized Coefficients	Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.035	.058		.604	.546		
	IM	.499	.017	.622	29.658	.000	.314	3.182
	AC	.464	.025	.390	18.604	.000	.314	3.182
Dependent Variable: Self-perceived employability $R^2 = 0.942$; Adj $R^2 = 0.936$ F = 3404.039; Sig. = 0.000								

Note: IM = Intrinsic motivation, AC = Academic performance
SPE = Self-perceived employability

Table 4: The standardized regression coefficients of the predictor variables for students' self-perceived employability

Table 4 presents the standardized regression coefficients of the predictor variables for students' self-perceived employability. The results showed that intrinsic motivation and academic performance explained 94.2% of the variance in students' self-perceived employability (R^2=0.942). The adjusted R-squared value was 0.936 (93.6%). Both intrinsic motivation and academic performance were significant predictors of students' self-perceived employability at the 0.05 level. Intrinsic motivation had a beta coefficient of 0.499. This means that other variable are held constant if the importance of intrinsic motivation is increased by 1 unit, the self-perceived employability will be increased by 0.499.

Academic performance had a beta coefficient of 0.464, indicating that when other variable are held constant if the importance of academic performance is increased by 1 unit, the self-perceived employability will be increased by 0.464. The standardized regression equation for predicting students' self-perceived employability from intrinsic motivation and academic performance was as follows:

$$SPE = 0.35 + 0.499IM + 0.464AC$$

The above model shows that intrinsic motivation had a stronger effect on self-perceived employability than academic performance. Both of these independent variables had significant positive impacts on students' self-perceived employability.

Conclusion

This study investigated how intrinsic motivation and academic performance influenced self-perceived employability among IT students from nine campuses of the Faculty of Business Administration, RUT in Thailand. The results showed that intrinsic motivation was the strongest predictor of self-perceived employability. This finding implies that learning activities should be designed to enhance skills and training that foster intrinsic motivation and self-perceived employability among learners. Activities such as hands-on practice through experiential learning or the use of supplementary learning media to create problem-solving games, for example, can help learners better understand concepts, boost their creativity, and foster their enthusiasm, curiosity, and problem-solving skills (Ryan & Deci, 2000; Richard & Ryan, 2020). These skills are critical for increasing problem-solving, communication, and teamwork (Yau Hsiung Wong, 2019). These skills can help learners enhance their learning outcomes and perceive their employability more positively, increasing their chances of

finding work after graduation. Academic performance was also related to self-perceived employability in a positive way. Self-confidence, enjoyment of learning, motivation, effort, persistence, excitement for learning, and engagement in activities that improve learning experiences are some of the elements that might contribute to strong academic performance (Rothwell et al., 2008). As a result, developing activities that aid in the improvement of skills and learning outcomes, such as problem-based learning (PBL) (Ali et al., 2019), can assist raise self-confidence in work-related abilities (Hayat et al., 2020). This is because activities that enhance learning experiences through research processes and problem-solving in simulated settings allow learners to develop new information on their own, which can boost their confidence in their skills (Sheeba Sardar Ali, 2019; Shi et al., 2021). According to this study, the teaching and learning process should aim to increase intrinsic motivation and academic performance in students (Buzdar et al., 2017). This may be accomplished by offering interesting and dynamic learning experiences as well as fostering a supportive learning atmosphere (Alani et al., 2021). Consequently, students can improve their self-perceived employability and prepare for future careers.

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