

Entrepreneurial commitment and entrepreneurial technology readiness among entrepreneur students



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Background: It is important to comprehend the dynamics of entrepreneurship and technological readiness in order to establish a technology-based entrepreneurial environmental system. Technology plays a role in the enhancement of success, the promotion of innovation and the facilitation of market development.

Aim: This study aims to predict the relationship between entrepreneurial technology readiness (ETR) and entrepreneurial commitment (EC) among college students.

Setting: Data were collected using a questionnaire administered to 409 students who had completed entrepreneurship education. The school provided time to complete the administration and data collection process.

Methods: This study used smart-partial least squares (PLS) statistical analysis to analyse the predictive relationship between two constructs: ETR and EC. The ETR scale consists of 13 items that assess four dimensions: optimism, innovativeness, insecurity and discomfort. In contrast, the EC scale features 51 items constructed into affective, normative and continuance commitment dimensions.

Results: The results showed that technological readiness can predict EC among college students. This knowledge can help universities and governments focus on aspects of technological readiness to improve business success. In addition, it helps government decision-making by emphasising the importance of technological readiness in education.

Conclusion: This study found that ETR enhances student EC. These findings show that entrepreneurship education should include technical willingness to more effectively prepare students for real-world business difficulties and digital innovation.

Contribution: This study emphasises the importance of entrepreneurship literature and its practical implications for educational institutions in implementing technology-supported entrepreneurship education programmes.

Keywords: entrepreneurial; entrepreneurial commitment; technology readiness; entrepreneurship students; higher education.

Introduction

Indonesia, with its accelerating economic development on a global scale and the fourth-largest population in the world, recognises the importance of entrepreneurship in various sectors, especially the financial industry, economic development and solid bilateral partnerships. The Indonesian government and higher education institutions consider entrepreneurship critical in creating job opportunities and strengthening economic stability. The availability of productive labour is an essential characteristic of socio-economic conditions that also affect the stability of the country's economy. An environment that is receptive to change and opportunities is necessary for this workforce. According to the Indonesian Young Entrepreneurs Association (HIPMI) National Working Meeting, the President of Indonesia has established a target for the country to become the fourth-largest economy by 2045. This highlights the significance of encouraging domestic entrepreneurship (Chen et al. 2022).

Business resilience during periods of economic growth depends on resources and economic stability. According to Ezekiel, Omotayo and Olaleke (2018), entrepreneurs face the challenge of

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innovating and enhancing their resources while remaining receptive to change (Farradinna et al. 2023). The study's results indicate that entrepreneurial commitment (EC) significantly contributes to business continuity and sustainability (Cardon & Kirk 2013), influences the success of network building and relates to the adequacy of personal characteristics (Mohamed & Karoui Zouaoui 2021). Entrepreneurial commitment tends to contribute significantly to entrepreneurial activity according to research examining the relationship between entrepreneurial intention and commitment (Fayolle, Basso & Tornikoski 2011). Several studies indicate that acknowledging the diversity of expertise (Brodack & Sinell 2017) and valuing the contributions of organisational members (Tasnim & Sing 2016) reflect an elevated level of EC.

Understanding the dynamics of entrepreneurship and technological readiness is very important to create a technology-based entrepreneurial environment. Technology is essential in increasing success, providing alternative contributions to innovation and helping market development (Bouwman et al. 2018; Han 2019; Jafari-Sadeghi et al. 2021). The impact of technological change creates important values in entrepreneurship (Panjaitan, Moonti & Adam 2021) because the use of technology is always related to everyday life, such as exploring information, efficiency and effectiveness to create successful entrepreneurs (Chung, Tyan & Han 2017; Jafari-Sadeghi et al. 2021).

The concept of entrepreneurial technological readiness has received inadequate attention in the literature among academics and practitioners. This research investigates the correlation between entrepreneurial technological readiness and EC, assessing the degree to which factors of technological readiness impact EC. This study aims to conceptualise entrepreneurial technological readiness, contributing to the entrepreneurship literature and highlighting practical implications for educational institutions in implementing technology-based entrepreneurship programmes.

Literature review

Entrepreneurial commitment

Entrepreneurial commitment describes the character and attitude of an individual, shown by their dedication and resolve in executing ideas for business. The theoretical foundation of EC is a psychological theory derived from Meyer and Allen's (1991) commitment model, which assesses the psychological variables motivating individuals to engage in their entrepreneurial roles (Yangailo & Qutieshat 2022). The concept refers to the psychological attachment and sense of responsibility experienced by individuals in managing a business, confronting obstacles and making decisions.

Research in entrepreneurial psychology seeks to identify the primary motivating factors that influence entrepreneurial intention. The integrative model indicates that EC delineates individual characteristics (Dushnitsky & Matusik 2019) and

discovers internal and external motivating factors that may impact entrepreneurial intention (Snihur, Zott & Amit 2021). The EC model specifically examines three elements from previous organisational commitment theories, including the works of Allen and Meyer (1990), Meyer, Becker and Vandenberghe (2004) and Mowday (1998). The individual's involvement in their work is primarily a result of the positive attitude they receive; they are persuaded that the tasks they perform are ethical and reasonable (Bekmezci, Orçanlı & Firat 2022).

Several recent studies classify the EC model into dimensional constructs to affirm entrepreneurial goals and performance. Entrepreneurial commitment is the result of a dimensional construct developed by Tasnim (2015) based on the development of multidimensional constructs by MacKenzie, Podsakoff and Jarvis (2005), namely affective commitment (AC), normative commitment (NC) and continuous commitment (CC); all three are hierarchical reflective latent constructs. So, AC is reflected by entrepreneurial passion (EP), value (Val) and personality (PER). Meanwhile, NC reflects internalised norm (NM) and righteousness and responsibility (RR), and, finally, CC reflects investment (INV) and lack of alternatives (LA).

Entrepreneurial technology readiness

Technological readiness indicates an individual's willingness to adopt and take advantage of technology to pursue various objectives, including business interests. This concept is a mental state that arises from the internal factors that function as either drivers or inhibitors in an individual's decision to utilise the expanding technology. Entrepreneurial technology readiness (ETR) is an individual's readiness, comfort and enthusiasm in adopting and integrating technology and business activities (Parasuraman 2000). Technological readiness has become an essential factor in the progress of modern entrepreneurship today, be it the use of devices, platforms and digitalisation in all lines of business.

According to Parasuraman and Colby (2015), technological readiness in entrepreneurship involves significant aspects that can affect an individual's intention to adopt and take advantage of technological innovations. The concept of planned behaviour implies that an individual's purpose in adopting new technology will affect their attitudes, beliefs and experiences as entrepreneurs (Bernardus et al. 2020; Mfazi & Elliott 2022). Parasuraman (2000) was later developed by Astuti and Nasution (2014) to identify a model that is recognised to measure technological readiness among entrepreneurs, namely innovation (individual tendencies to adopt technology), optimism (positive views and beliefs that technology can offer improvements, control, flexibility and efficiency in life), discomfort (fears and worries felt when dealing with technology) and insecurity (feelings of scepticism regarding the ability to work and face technology-based situations). It is essential to understand technological readiness in entrepreneurship research to emphasise the involvement of micro, small, and medium enterprises (MSME)

individuals in adopting and embracing information technology (Suhartanto & Leo 2018). Therefore, technological readiness in the downstream development process can be predicted to develop further with the stabilisation of new technology.

Entrepreneurial commitment and entrepreneurship technology readiness among students

The relationship between EC and entrepreneurial technological readiness among college students has become attractive in recent years. Because the entrepreneurial landscape is getting wider, coupled with the development of modern technology, it builds the passion and ability of the younger generation as the next innovators (Cassia, Minola & Paleari 2011). The literature highlights EC as the dedication, perseverance and resilience of entrepreneurs in attaining business success (Yoganandan & Dinesh Kumar 2021). Commitment serves as the primary motivator for entrepreneurs to deal with challenges and leverage opportunities. Conversely, commitment is crucial, while technological readiness assesses an individual's capacity to effectively leverage technological advancements in business operations (Dutot & Horne 2015; Neumeyer, Santos & Morris 2020).

Entrepreneurship has been an increasing phenomenon in the creative sector, enabling many possibilities for investigation. The creative industry is closely intertwined with product advancements and marketing techniques, necessitating entrepreneurs to leverage technology media to accomplish business goals (Harding et al. 2020). The use of technology by a business, whether large, medium or small scale, has multiplied. Technology has brought customers and entrepreneurs into limitless interactions, and customers are faced with increasingly modern products and services since entrepreneurs adopted technology in the sales and service process (Parasuraman 2000; Zhu & Luo 2021).

Technological readiness in entrepreneurship contains not only technical skills and knowledge in implementing innovative technological instruments and platforms but also an attitude and readiness to adopt innovative technology and information in business operations (Farradinna, Herawati & Mulyani 2021; Nacu & Avasilcai 2013; Trivedi, Oza & Savalia 2010). The intersection of entrepreneurial drive and technological proficiency is one of the important topics in higher education today, as it forces educators and policymakers to understand how best to support the next wave of young entrepreneurs (Gupta & Pathak 2018; Yi & Duval-Couetil 2018). Particular researchers emphasise that enhanced technological readiness levels exhibit greater adaptability to change, capitalise on superior chances and maintain a positive mindset when confronting problems (Kumi et al. 2024; Subrahmanya 2022). This is recognised because of the capacity to leverage and manage existing data and employ accessible resources, whether technologies or platforms, to enhance student achievement in business planning (Kraus et al. 2022; Martins, Shahzad Xu 2023).

A relationship between commitment and technological readiness among entrepreneurs can significantly influence the success of potential entrepreneurs (Linton & Xu 2021). Young entrepreneurs exhibiting elevated technical readiness may be better prepared to face and negotiate the problems posed by innovative financial markets (Martín-Rojas, Morales & Bolívar-Ramos 2013; Subrahmanya 2022). Particular academics predict that technology and business significantly influence entrepreneurial competencies (Zhang 2015). Strong EC (Ardelean 2021), proficiency and precision in contemporary technology (Gupta & Bose 2022) and integrating innovations are anticipated to enhance the possibility of enduring and sustained achievement. By comprehending the interplay between dedication and technological preparation, academics may devise and execute superior programmes that fulfil the requirements and ambitions of young entrepreneurs. Based on the explanation above, we propose the following hypothesis for this study:

H1: Technological readiness positively influences EC.

Research methods and design

Study design

This study developed a non-experimental quantitative methodology, focusing on exploring the relationship between two variables without employing any manipulation process. This research methodology applies scores collected through surveys, frequently employed in social research that examines multiple data points, which are then interpreted through statistical analysis. This study evaluates the impact of EC and technology readiness on students.

Participants

Our survey design was chosen to collect data using questionnaires distributed directly and online. We asked several students who had taken the entrepreneurship courses to answer their level of agreement with some statements from the variables of EC and entrepreneurial technological readiness; a total of 409 students had taken entrepreneurship subject. The participants were selected from multiple universities in the Riau province, such as Universitas Pasir Pangaraian, Universitas Islam Riau and Universitas Muhammadiyah Riau. The sample components were chosen through purposive sampling methods. A personal survey employing a five-point Likert scale, ranging from strongly agree to disagree, was provided to gather substantial primary data.

Measurement

Entrepreneurial technology readiness

This study uses a technology readiness scale to measure the beliefs and perceptions of individual readiness in running a business. This measurement instrument combines positive and negative individual beliefs about the individual's tendency to use existing and new technologies. ETR results from the development of Parasuraman's (2000) study, which

divides it into four personality dimensions: optimistic, innovative, discomfort and insecure. The ETR scale is a multi-item scale comprising 16 statement items containing factors that drive and inhibit technological readiness. Response statements by participants according to a 5-point Likert scale ('1' strongly disagree and '5' strongly agree).

Entrepreneurial commitment

The scale of EC was developed into several syntheses derived from the commitment theory of Meyer and Allen (1997) (Battistelli, Montani & Odoardi 2013) (MacKenzie et al. 2005) and (Tasnim & Singh 2016). The development results measure the Entrepreneurial Commitment Metric (ECM) as an instrument of EC. The ECM is classified into dimensional constructs. The results of the dimensional constructs developed by Tasnim (2015) based on MacKenzie et al. (2005), namely AC, are reflected by EP, Val and PER. Meanwhile, NC reflects internalised NM and RR and, finally, CC reflects INV and LA. The ECM scale contains 54 statement items that are responded to using a 5-point Likert scale ('1' strongly disagree and '5' strongly agree).

Data analysis

The analysis in this study uses the partial least squares structural equation modelling (PLS-SEM) model method using Smart-PLS software version 3.2.8 (Ringle, Sven & Jan-Michael 2015) to test the interaction between ETR and EC. Based on the opinion of Hair, Ringle and Sarstedt (2011), running an analysis with the help of PLS-SEM can predict linear constructs and their indicators at once.

The assessment of model quality explains the predictive power of the structural model run by predicting the model fit index R square, Q square, quality assessment of each block of variables and evaluation of the quality of the structural model.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Universitas Islam Riau Faculty Research Ethics Committee (Ref. No. ER-2025/A-15).

Results

This study constructed a non-experimental quantitative methodology, examining the relationship between two variables without using any manipulation process. This research methodology employs scores obtained from surveys, a technique utilised in social research that analyses several data points, subsequently interpreted using statistical analysis. The demographic characteristics of the participants are presented in Table 1. This study evaluates the impact of EC and technology readiness on students. Figure 1 presents the hypothesised decision model for this study, which illustrates the relationships among entrepreneurial technology readiness, entrepreneurial commitment, and their respective dimensions.

TABLE 1: Demographic characteristics information of the participants.

No	Characteristics	Total	%
1	Gender		
	Male	189	46.2
	Female	220	53.8
2	Age (years)		
	≤ 18	23	5.6
	≤ 19	132	32.3
	≤ 20	125	30.6
	≤ 21	59	14.4
	≤ 22	45	11.0
3	Latest education		
	Senior High School	254	62.1
	Vocational School	114	27.9
	Aliyah Madrasah	41	10.0
4	Place to stay (Domicile)		
	Urban	78	19.1
	Suburban	162	39.6
	Capital City	169	41.3
5	Training experience		
	Never received training	215	52.6
	Have received training	194	47.4

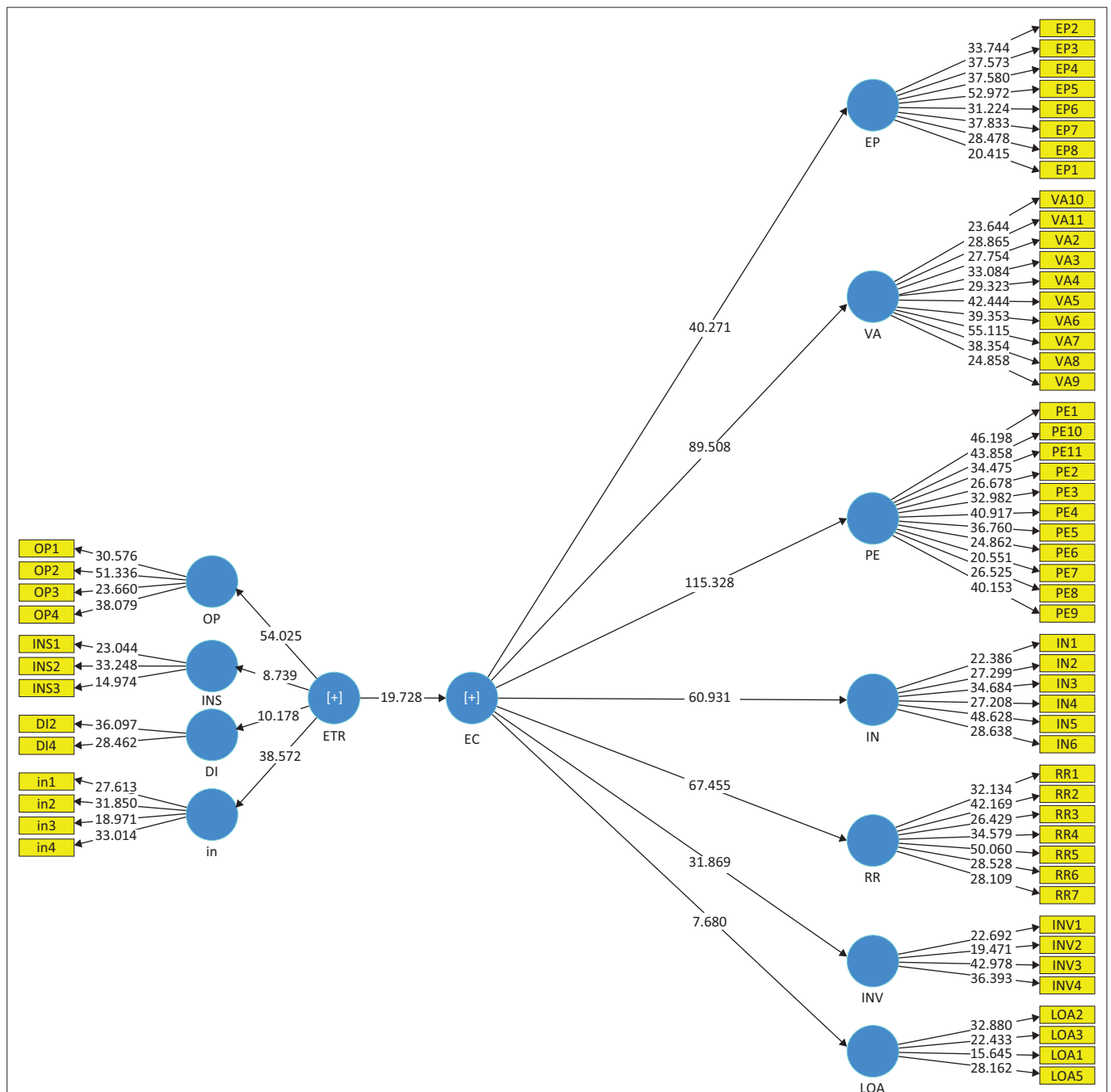
Composite reliability

Based on the analysis of reliability and internal validity, it shows that Cronbach's alpha for technological readiness and EC is above the threshold of 0.7, especially composite reliability (CR); this can be seen in Table 2, namely for ETR, CR = 0.975, with a reasonably high Cronbach's alpha internal consistency value of 0.973; meanwhile, entrepreneurship commitment shows CR = 0.859, with Cronbach's alpha = 0.859. The Cronbach's alpha value has proven the internal consistency of the data, thus indicating a consistent and valid value in these data.

The alpha coefficient in the Smart-PLS approach is used to complete the verification of construct convergent validity. We clean the variables from indicators with a threshold < 0.7. To compare the square root of the average variance extracted (AVE) value with the correlation of latent variables, it is necessary to understand that each construct must be higher than its highest correlation with other constructs (Hair et al., 2017). The square root of AVE for reflective constructs is known to be greater than the correlation between constructs with other constructs in the path model.

Table 3 shows that the measurement is discriminant; the AVE value of a construct is more significant than its squared correlation from other constructs (Fornell & Larcker 1981). We examine the AVE, which moves from 0.594 to 0.866 for both variables (technology readiness and EC).

The reliability of all observed items is indicated by the outer loading model involved in the given construct. The outer loading value represents the relationship between the reflective measurement model, whose value must be more than 0.705 (Hair et al. 2011).



OP, Optimism; INS, Insecurity; DI, Discomfort; IN, Innovativeness; ETR, Entrepreneurial Technology Readiness Index; EP, Entrepreneurial passion; VA, Values; PE, Personality; IN, Internalised Norms; RR, Responsibility and Righteousness; INV, Investment; LOA, Lack of Alternatives; EC, Entrepreneurship Commitment.

FIGURE 1: Hypothesised decision model.

Discriminant validity

Discriminant validity, as given in Table 4, shows how far the characteristics of the construct are unique and different from others (Hair et al. 2011). The achievement of discriminant validity is carried out by external loading of the self-construct, which must be low and high (Chin 2010).

Quality evaluation

Assessing the quality of the measurement model

We examined the R^2 value, which shows the amount of change that the independent variable contributes to the

TABLE 2: Composite reliability and internal consistency.

Constructs	Composite reliability	Cronbach's alpha
Entrepreneur technology readiness	0.975	0.973
Entrepreneurship commitment	0.859	0.859

dependent variable, to assess whether the measurement model was satisfactory. The coefficient in this study allows us to estimate the predictive power of the research model. The R^2 value is 0.389, meaning that entrepreneurial technological readiness brings a change of 38.9% to EC. According to our sample size, which can be considered high, we can see that R^2 respects the recommended minimum limit of 0.13 (Wetzels, Odekerken-Schröder & Van Oppen 2009).

TABLE 3: The convergent validity of constructs.

Constructs	Items	Loadings	AVE	Composite reliability
ETR	OP1	0.776	0.866	0.618
	OP2	0.822		
	OP3	0.749		
	OP4	0.796		
	INS1	0.768	0.594	0.814
	INS2	0.828		
	INS3	0.712		
	DI2	0.854		
	DI4	0.840	0.718	0.836
	INN1	0.762		
	INN 2	0.784		
	INN 3	0.730		
	INN 4	0.752		
	INN 4	0.752	0.598	0.937
EC	EP1	0.732	0.639	0.934
	EP2	0.797		
	EP3	0.823		
	EP4	0.798		
	EP5	0.851		
	EP6	0.788		
	EP7	0.823		
	EP8	0.776		
	VAL2	0.739	0.598	0.937
	VAL3	0.766		
	VAL4	0.743		
	VAL5	0.801		
	VAL6	0.801		
	VAL7	0.843		
	VAL8	0.803		
	VAL9	0.732		
	VAL10	0.727		
	VAL11	0.771		
	PER1	0.819	0.615	0.946
	PER2	0.777		
	PER3	0.793		
	PER4	0.818		
	PER5	0.794		
	PER6	0.750		
	PER7	0.713		
	PER8	0.774		
	PER9	0.790		
	PER10	0.818		
	PER11	0.768	0.596	0.898
	INTN1	0.777		
	INTN2	0.770		
	INTN3	0.763		
	INTN4	0.754		
	INTN5	0.827		
	INTN6	0.738		
	RR1	0.794	0.623	0.920
	RR2	0.825		
	RR3	0.762		
	RR4	0.795		
	RR5	0.835		
	RR6	0.767		
	RR7	0.745		
	INV1	0.767	0.624	0.869
	INV2	0.723		
	INV3	0.822		
	INV4	0.842		

Table 3 continues on the next column →

TABLE 3 (Continues...): The convergent validity of constructs.

Constructs	Items	Loadings	AVE	Composite reliability
	LoA1	0.828	0.629	0.871
	LoA2	0.805		
	LoA3	0.746		
	LoA4	0.791		
	LoA5	0.791		

ETR, entrepreneurial technology readiness; EC, entrepreneurial commitment; OP, optimism; INN, innovativeness; INS, insecurity; DI, discomfort; EP, entrepreneurial passion; VAL, values; PER, personality; INTN, internalised norms; RR, responsibility righteousness; INV, investments; LoA, lack of alternatives; AVE, average variance extracted.

Evaluation of predictive measurement model (Q^2)

Q^2 evaluation is an additional validation to ensure that the model not only fits the existing data (fit model) but is also essential to avoid overfitting. The Q^2 value we obtained after blindfolding indicates the prediction of the model used, not only the relationship between variables but also the predicted value produced. If the Q^2 value is greater than 0, it indicates that the model has relevant predictive ability, while if the Q^2 value is equal to 0.35, it indicates excellent predictive relevance. Based on the analysis results in this study, the Q^2 value is 0.389, thus indicating that the built model can predict EC based on the level of ETR.

Evaluation of the quality of the structural model

It is an assessment process used to measure the proposed theoretical model with data collected in SEM. This step is used to accurately ensure the significance of the relationship between the supported variables and the model so that it can reflect the phenomenon being studied. The Goodness of Fit index used provides an overview of the fit of the entire model by comparing observed data. Goodness-of-Fit index was calculated in this study by use of Equation 1:

$$\text{GOF} = \sqrt{\text{communality} \times R^2}$$

$$\text{GOF} = \sqrt{(0.61599) \times (0.38914)} = 0.48960 \quad [\text{Eqn 1}]$$

The results showed satisfactory results, so proceeding to the following data analysis step is possible. If the GOF index = 0.1, it is weak, and 0.25 is moderate. In contrast, this study shows a value of 0.36, which is stated as high.

Structural model evaluation

This section explains the results of the structural model evaluation and predicts the results of the formulated hypothesis. The results of the bootstrapping algorithm from the PLS approach are used, where bootstrap replication $n = 500$. Chin (1998) states this method is more effective because of the newer resampling method. Thus, to test the significance of the structural relationship, it is necessary to carry out a bootstrap procedure that can estimate precision (standard error, confidence interval, etc.), which is more flexible and powerful and can improve the reliability and accuracy of the estimate. The results are shown in Table 5, displaying the β -value coefficient, t -statistic and p -value. PLS and regression analysis have similarities in determining the path and standard β coefficient, where each hypothesised model path is tested. The greater the β value, the more substantial the effect on the

TABLE 4: Discriminant validity.

Construct	ETR	EC	OP	INN	INS	DIS	EP	Val	Per	IntN	RR	Inv	LoA
ETR	0.572	-	-	-	-	-	-	-	-	-	-	-	-
EC	0.624	0.667	-	-	-	-	-	-	-	-	-	-	-
OP	0.838	0.612	0.786	-	-	-	-	-	-	-	-	-	-
INN	0.491	0.855	0.506	0.772	-	-	-	-	-	-	-	-	-
INS	0.527	0.325	0.266	0.314	0.771	-	-	-	-	-	-	-	-
DIS	0.590	0.224	0.299	0.128	0.350	0.847	-	-	-	-	-	-	-
EP	0.598	0.840	0.601	0.632	0.291	0.164	0.799	-	-	-	-	-	-
Val	0.585	0.916	0.600	0.700	0.280	0.194	0.788	0.773	-	-	-	-	-
Per	0.531	0.922	0.502	0.748	0.273	0.212	0.699	0.813	0.305	-	-	-	-
IntN	0.814	0.476	0.537	0.339	0.217	0.365	0.476	0.439	0.418	0.757	-	-	-
RR	0.533	0.890	0.544	0.813	0.267	0.152	0.657	0.746	0.782	0.408	0.789	-	-
Inv	0.505	0.762	0.416	0.652	0.296	0.306	0.559	0.630	0.654	0.397	0.686	0.790	-
LoA	0.283	0.417	0.213	0.370	0.180	0.301	0.240	0.305	0.329	0.172	0.378	0.433	0.793

Note: The bold values represent the square root of Average Variance Extracted (AVE) for each construct. These values, being higher than the inter-construct correlations, indicate adequate discriminant validity as per Fornell–Larcker criterion.

ETR, entrepreneurial technology readiness; EC, entrepreneurial commitment; OP, optimism; INN, innovativeness; INS, insecurity; DIS, discomfort; EP, entrepreneurial passion; Val, values; Per, personality; IntN, internalised norms; RR, responsibility righteousness; INV, investments; LoA, lack of alternatives.

TABLE 5: Hypothesis.

Hypothesis	Coefficients of correlation (β standard)	Value (t)	p	Decision
ETR $\rightarrow$ EC	0.624	19.408	0.000	Confirmed

EC, entrepreneurial commitment; ETR, entrepreneurial technology readiness.

endogenous variable. The t -statistic values are used to assess significance, with thresholds of > 2.58 for $\alpha = 1\%$, > 1.96 for $\alpha = 5\%$, and > 1.65 for $\alpha = 10\%$.

The analysis results allow us to validate the hypothesis of this study. Statistical tests reveal a significant positive correlation between entrepreneurial technological readiness and EC in students. Thus, this hypothesis is confirmed ($\beta = 0.624$; $t = 19.408$, $p < 0.05$). This shows that entrepreneurial technological readiness significantly influences students' EC.

Discussion

This study examines the role of entrepreneurial technological readiness in students' EC. This survey involved 409 Pekanbaru, Riau Province, students who had taken entrepreneurial courses. Generally, they had never received entrepreneurship training from the local government or other training institutions. Empirical data prove that ETR changes EC ($R^2 = 0.389$). These results also show a significant positive relationship ($\beta = 0.624$), meaning that the better the technological readiness, the greater the students' EC.

Individuals who can manage technology enhance the perceived value of a business's appearance (Harding et al. 2020). Technology is perceived as enhancing business ability and effectiveness (Astuti & Nasution 2014). The ability to apply technology implies an individual's receptiveness to new technological advancements to accomplish a specific objective, as elucidated in the research of Parasuraman (2000) and Chen (2011). Technological advances lead individuals to become pioneers of innovative and creative thinking. According to Bogdány, Balogh and Csizmadia (2014) and Ahmad, Ahmad and Afriyani (2022), a person who chooses a career as an entrepreneur tends to be motivated to create a new business. Thus, individual readiness is needed to utilise

technology and embrace increasingly advanced technological changes, thus creating a strong commitment for individuals to start or develop their businesses.

Limitations and future studies

Although this study has provided new insights into the relationship between technological readiness and EC among university students, its limitations must be considered. The sample was limited to university students, so the findings cannot be generalised widely to other regions or institutions. Geographical and socio-cultural contexts and opportunities for access to technology influence students' perceptions and behaviours towards entrepreneurship and technology.

In addition, the quantitative approach using a questionnaire that focuses on perceptions may cause subjective bias in some individuals, especially in the measurement of variables of technological readiness and EC, because the analysis depends on the interpretation of respondents and the circumstances responded to at a certain time. Future research, to overcome the limitations, is suggested to use mixed methods to gain a deeper understanding related to technological readiness and EC. Longitudinal research is recommended to observe changes in student behaviour and attitudes towards entrepreneurship over a certain period, especially in the current era of digital disruption.

Practical implication

This research has practical implications for higher education institutions and professionals. Practical implications in the design of an entrepreneurship programme underscore theoretical and motivational dimensions to enhance students' preparedness for involving technology as an integral component of the entrepreneurial process. Therefore, a more adaptable approach to education for digital growth will probably make students more determined to pursue a career as an entrepreneur, which is a positive for the environment.

Conclusion

This study examines the relationship between entrepreneurial technological readiness and EC in students. The analysis selected to answer the hypothesis ensures that technological readiness shows a significant positive relationship with EC. We have involved 409 student participants from various universities who received entrepreneurship education materials that semester. This hypothesis analysis analyses data using Smart-PLS software to prove the contribution value of technological readiness to EC in students.

Based on the description above, it is necessary to realise that technological readiness can help improve the presentation and performance of a business. This research will gradually benefit students and entrepreneurship teachers in developing science and preparing to utilise technology. Thus, universities and governments as policymakers understand that the importance of technological readiness is applied in learning, not only limited to entrepreneurial skills in students but also providing information on the potential of utilising technology to increase EC.

This study provides implications for educators and other stakeholders, stating that it is necessary to be aware of the readiness of technology to encourage positive attitudes and reduce reluctance to use technology. This study is not free from limitations regarding the lack of coverage area for distributing questionnaires so that further studies can collect data more representatively. The varied characteristics of the participants make it difficult for us to generalise our findings; for this reason, it is necessary to involve active business actors and ask their opinions.

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Competing interests

The author reported that they received funding from the Universitas Islam Riau, which may be affected by the research reported in the enclosed publication. The author has disclosed those interests fully and has implemented an approved plan for managing any potential conflicts arising from their involvement. The terms of these funding arrangements have been reviewed and approved by the affiliated university in accordance with its policy on objectivity in research.

Authors' contributions

Ideas and conceptual development by S.F.; methodology and analysis by S.F. and W.J.; data collection and validation by

S.F., N.S., D.W., W.J. and N.L.J. and analysis, review and editing by S.F. and W.J. All authors have approved the published version of the manuscript.

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Data availability

The data that supports the findings of this study are available from the corresponding author, S.F. upon reasonable request. The research location's background and precision may prevent the release of data sets generated during the study to maintain anonymity.

Disclaimer

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References

- Ahmad, T.S., Ahmad, S. & Afriyani, A., 2022, 'Entrepreneurial commitment, entrepreneurial competence, towards business performance through business competitiveness development', *Jurnal Penelitian Pendidikan Indonesia (JPPI)* 8(3), 568–578. <https://doi.org/10.29210/020221444>
- Allen, N.J. & Meyer, J.P., 1990, 'The measurement and antecedents of affective, continuance and normative commitment to the organization' *Journal of Occupational Psychology* 63(1), 1–18. <https://doi.org/10.1111/j.2044-8325.1990.tb00506.x>
- Ardelean, B., 2021, 'Role of technological knowledge and entrepreneurial orientation on entrepreneurial success: A mediating role of psychological capital', *Frontiers Media* 12, 814733. <https://doi.org/10.3389/fpsyg.2021.814733>
- Astuti, N.C. & Nasution, R.A., 2014, 'Technology readiness and e-commerce adoption among entrepreneurs of SMEs in Bandung City, Indonesia', *Gadjah Mada International Journal of Business* 16(1), 69–88. <https://doi.org/10.22146/gamaijb.5468>
- Battistelli, A., Montani, F. & Odoardi, C., 2013, 'The impact of feedback from job and task autonomy in the relationship between dispositional resistance to change and innovative work behaviour', *European Journal of Work and Organizational Psychology* 22, 26–41. <https://doi.org/10.1080/1359432X.2011.616653>
- Bekmezci, M., Orçanlı, K. & Firat, Z.M., 2022, 'The mediating role of normative commitment and the moderating role of organisational justice on the influence of career development on job engagement', *Periodica Polytechnica Social and Management Sciences* 30(2), 95–105. <https://doi.org/10.3311/PPSo.16652>
- Bernardus, D., Murwani, F.D., Ardyani, E., Padmawidjaja, L., Aji, I.D.K., Jatipawira, S.Y. et al., 2020, 'Which psychological characteristics strengthen "The entrepreneurial intention-action relationship?" An extension of the theory of planned behavior', *Cogent Business & Management* 7(1), 1823579. <https://doi.org/10.1080/23311975.2020.1823579>
- Bogdány, E., Balogh, Á. & Csizmadia, T., 2014, 'Leadership succession and the origin of successor in Hungarian SMEs', *Management & Marketing: Bucharest* 9(3), 283–300.
- Bouwman, H., Nikou, S., Molina-Castillo, F.J. & De Reuver, M., 2018, 'The impact of digitalisation on business models' *Digital Policy, Regulation and Governance* 20(2), 105–124. <https://doi.org/10.1108/DPRG-07-2017-0039>
- Brodack, F. & Sinell, A., 2017, 'Promoting entrepreneurial commitment: The benefits of interdisciplinarity', *Technology Innovation Management Review* 7(12), 6–13. <https://doi.org/10.22215/timreview/1123>
- Cardon, M.S. & Kirk, C.P., 2015, 'Entrepreneurial passion as mediator of the self-efficacy to persistence relationship', *Entrepreneurship Theory and Practice* 39(5), 1027–1050. <https://doi.org/10.1111/etap.12089>
- Cassia, L., Minola, T. & Paleari, S., 2011, 'Chapter 1: Entrepreneurship, technology and change: A review and proposal for an interpretative framework', in *Entrepreneurship and technological change*, pp. 3–18, Edward Elgar Publishing, Cheltenham. <https://doi.org/10.4337/9781781002018.00012>

- Chen, C.J., Guo, R.-S., Wang, S.H. & Lin, Y.H., 2022, 'Power distance diversification, ownership structure, and business group performance', *Journal of Business Research* 151, 70–85. <https://doi.org/10.1016/j.jbusres.2022.06.041>
- Chen, S.C., 2011, 'Understanding the effects of technology readiness, satisfaction, and electronic word-of-mouth on loyalty in 3C products', *Australian Journal of Business and Management Research* 1(3), 1–9. <https://doi.org/10.52283/NSWRCA.AJBMR.20110103A01>
- Chin, W., 2010, 'How to write up and report PLS analyses', in V.E. Vinzi, W.W. Chin, J. Henseler & H. Wang (eds.), *Handbook of partial least squares: Concepts, methods and applications*, Springer Handbooks of Computational Statistics Series, Vol. II, pp. 655–690, Springer, Heidelberg. https://doi.org/10.1007/978-3-540-32827-8_29
- Chin, W.W., 1998, 'The partial least squares approach for structural equation modeling', in G.A. Marcoulides (ed.), *Modern methods for business research*, pp. 295–336, Lawrence Erlbaum Associates Publishers, Mahwah, NJ.
- Chung, N., Tyan, I. & Han, H., 2017, 'Enhancing the smart tourism experience through geotag', *Information Systems Frontiers* 19(4), 731–742. <https://doi.org/10.1007/s10796-016-9710-6>
- Dushnitsky, G. & Matsuik, S.F., 2019, 'A fresh look at patterns and assumptions in the field of entrepreneurship: What can we learn?', *Strategic Entrepreneurship Journal* 13(4), 437–447. <https://doi.org/10.1002/sej.1324>
- Dutot, V. & Horne, C.V., 2015, 'Digital entrepreneurship intention in a developed vs. emerging country: An exploratory study in France and the UAE', *Elsevier BV* 7(1), 79–96. <https://doi.org/10.5148/tncr.2015.7105>
- Ezekiel, A.O., Omotayo, A. & Olaleke, O., 2018, 'Entrepreneurs' commitment and business performance in a recessed economy', *Academy of Entrepreneurship Journal* 24(1), 11–22.
- Farradina, S., Herawati, I. & Mulyani, A.H., 2021, 'Psychological characteristics of entrepreneurship potentials among vocational high school students', *Jurnal Pendidikan, Teknologi, dan Kejuruan* 27(1), 66–73. <https://doi.org/10.21831/jptk.v27i1.32859>
- Farradina, S., Syafitri, N., Herawati, I. & Jayanti, W., 2023, 'An exploratory factor analysis of entrepreneurship psychological readiness (EPR) instrument', *Journal of Innovation and Entrepreneurship* 12, 66. <https://doi.org/10.1186/s13731-023-00314-y>
- Fayolle, A., Basso, O. & Tornikoski, E.T., 2011, 'Chapter 10: Entrepreneurial commitment and new venture creation: A conceptual exploration', in *Handbook of research on new venture creation*, pp. 160–182, Edward Elgar Publishing, Cheltenham, UK.
- Fornell, C. & Larcker, D.F., 1981, 'Structural equation models with unobservable variables and measurement error: Algebra and statistics', *Journal of Marketing Research* 18, 382–388. <https://doi.org/10.2307/3150980>
- Gupta, G. & Bose, I., 2022, 'Digital transformation in entrepreneurial firms through information exchange with operating environment', *Information & Management* 59(3), 103243. <https://doi.org/10.1016/j.im.2019.103243>
- Gupta, S. & Pathak, G.S., 2018, 'Virtual team experiences in an emerging economy: A qualitative study', *Journal of Organizational Change Management* 31(4), 778–794. <https://doi.org/10.1108/JOCM-042017-0108>
- Hair, J., Ringle, C. & Sarstedt, M., 2011, 'PLS-SEM: Indeed a silver bullet', *Journal of Marketing Theory and Practice* 19, 139–151. <https://doi.org/10.2753/MTP1069-6679190202>
- Hair, J.F., Hult, G.T.M., Ringle, C.M. & Sarstedt, M., 2017, *A primer on partial least squares structural equation modeling (PLS-SEM)*, 2nd edn., Sage Publications Inc., Thousand Oaks, CA.
- Han, J.W., 2019, 'Promotion of technology-based start-ups: TIPS policy of Korea', *Asian Journal of Innovation & Policy* 8(3), 396–416. <https://doi.org/10.7545/ajip.2019.8.3.396>
- Harding, D., Kadiyono, A.L., Hafiar, H., Ma'mun, T.N., Wibowo, H., Nugraha, Y. et al., 2020, 'Readiness of technology adaptation towards digital-based entrepreneurship', *International Journal of Entrepreneurship* 24(1), 1–5.
- Jafari-Sadeghi, V., Garcia-Perez, A., Cadelo, E. & Couturier, J., 2021, 'Exploring the impact of digital transformation on technology entrepreneurship and technological market expansion: The role of technology readiness, exploration and exploitation', *Journal of Business Research* 124, 100–111. <https://doi.org/10.1016/j.jbusres.2020.11.020>
- Kraus, S., Durst, S., Ferreira, J.J., Viegas, P., Kailer, N. & Weinmann, A., 2022, 'Digital transformation in business and management research: An overview of the current status quo', *International Journal of Information Management* 63, 102466. <https://doi.org/10.1016/j.ijinfomgt.2021.102466>
- Kumi, E., Osei, H.V., Asumah, S. & Yeboah, A., 2024, 'The impact of technology readiness and adapting behaviors in the workplace: A mediating effect of career adaptability', *Future Business Journal* 10, 63. <https://doi.org/10.1186/s43093-024-00355-z>
- Linton, J. & Xu, W., 2021, 'Research on science and technological entrepreneurship education: What needs to happen next?', *The Journal of Technology Transfer* 46, 393–406. <https://doi.org/10.1007/s10961-020-09786-6>
- MacKenzie, S., Podsakoff, P. & Jarvis, C., 2005, 'The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions', *The Journal of Applied Psychology* 90, 710–730. <https://doi.org/10.1037/0021-9010.90.4.710>
- Martín-Rojas, R., Morales, V.J.G. & Bolívar-Ramos, M.T., 2013, 'Influence of technological support, skills and competencies, and learning on corporate entrepreneurship in European technology firms', *Technovation* 33(12), 417–430. <https://doi.org/10.1016/j.technovation.2013.08.002>
- Martins, J.M., Shahzad, M.F. & Xu, S., 2023, 'Factors influencing entrepreneurial intention to initiate new ventures: Evidence from university students', *Journal of Innovation and Entrepreneurship* 12, 63. <https://doi.org/10.1186/s13731-023-00333-9>
- Meyer, J.P. & Allen, N.J., 1997, 'Commitment in the workplace: Theory, research, and application', in *Advanced topics in organizational behavior*, pp. 1–63, SAGE, Thousand Oaks, CA.
- Meyer, J.P., Becker, T.E. & Vandenberghe, C., 2004, 'Employee commitment and motivation: A conceptual analysis and integrative model', *Journal of Applied Psychology* 89(6), 991–1007. <https://doi.org/10.1037/0021-9010.89.6.991>
- Mfazi, S. & Elliott, R.M., 2022, 'The theory of planned behavior as a model for understanding entrepreneurial intention: The moderating role of culture', *Journal of Contemporary Management* 19(1), 1–29. <https://doi.org/10.35683/jcm20123.133>
- Mohamed, F. & Karoui Zouaoui, S., 2021, 'Impact of entrepreneur's commitment on entrepreneurial coaching relationship', *Cogent Business & Management* 8(1), 1989995. <https://doi.org/10.1080/23311975.2021.1989995>
- Mowday, R.T., 1998, 'Reflections on the study and relevance of organizational commitment', *Human Resource Management Review* 8, 387–401. [https://doi.org/10.1016/S1053-4822\(99\)00006-6](https://doi.org/10.1016/S1053-4822(99)00006-6)
- Nacu, C.M. & Avasilcăi, S., 2013, 'Technological entrepreneurship: Success factors as perceived by potential young entrepreneurs', *Advanced Materials Research* 837, 639–644. <https://doi.org/10.4028/www.scientific.net/amr.837.639>
- Neumeyer, X., Santos, S.C. & Morris, M.H., 2020, 'Overcoming barriers to technology adoption when fostering entrepreneurship among the poor: The role of technology and digital literacy', *Institute of Electrical and Electronics Engineers* 68(6), 1605–1618. <https://doi.org/10.1109/tem.2020.2989740>
- Panjaitan, R., Moonti, A. & Adam, E., 2021, 'Technology readiness and digital competing capabilities: Digital value resonance', *Shirkah: Journal of Economic and Business* 6(2), 205–226. <https://doi.org/10.22515/shirkah.v6i2.385>
- Parasuraman, A., 2000, 'Technology Readiness Index (TRI): A multiple-item scale to measure readiness to embrace new technologies', *Journal of Service Research* 2(4), 307–320. <https://doi.org/10.1177/109467050024001>
- Parasuraman, A. & Colby, C.L., 2015, 'An updated and streamlined Technology Readiness Index: TRI 2.0', *Journal of Service Research* 18(1), 59–74. <https://doi.org/10.1177/1094670514539730>
- Ringle, C.M., Sven, W. & Jan-Michael, B., 2015, *SmartPLS 3*, SmartPLS, Bönningstedt.
- Snihur, Y., Zott, C. & Amit, R., 2021, 'Managing the value appropriation dilemma in business model innovation', *Strategic Science* 6(1), 22–38.
- Subrahmanya, M.B., 2022, 'Competitiveness of high-tech start-ups and entrepreneurial ecosystems: An overview', *Springer Science & Business Media* 17(1), 1–10. <https://doi.org/10.1007/s42943-022-00056-w>
- Suhartanto, D. & Leo, G., 2018, 'Small business entrepreneur resistance of ICT adoption: A lesson from Indonesia', *International Journal of Business and Globalisation* 21(1), 5. <https://doi.org/10.1504/IJBG.2018.10015253>
- Tasnim, R., 2015, 'The antecedents and consequences of entrepreneurial commitment: modelling commitment among Malaysian entrepreneurs', PhD Thesis, Universiti Teknikal Malaysia Melaka, Melaka.
- Tasnim, R. & Singh, H., 2016, 'What, exactly, is entrepreneurial commitment? Modeling the commitment of successful entrepreneurs', *Journal of Applied Management and Entrepreneurship* 21(3), 6–35. <https://doi.org/10.9774/GLEAF.3709.2016.ju.00003>
- Trivedi, R.H., Oza, B. & Savalia, J.R., 2010, 'Technopreneurial competence and its relationship with social and environmental factors: An empirical study', *Inderscience Publishers* 3(1), 74–74. <https://doi.org/10.1504/ijbe.2010.031274>
- Wetzels, M.G.M., Odekerken-Schröder, G.J. & Van Oppen, C.A.M.L., 2009, 'Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration', *MIS Quarterly* 33(1), 177–195. <https://doi.org/10.2307/20650284>
- Yangailo, T. & Qutieshat, A., 2022, 'Uncovering dominant characteristics for entrepreneurial intention and success in the last decade: Systematic literature review', *Entrepreneurship Education* 5, 1–34. <https://doi.org/10.1007/s41959-022-00073-z>
- Yi, S. & Duval-Couetil, N., 2018, 'What drives engineering students to be entrepreneurs? Evidence of validity for an entrepreneurial motivation scale', *Journal of Engineering Education* 107(2), 291–317. <https://doi.org/10.1002/jee.20199>
- Yoganandan, G. & Dinesh Kumar, M., 2022, 'Qualities of successful entrepreneurs – A review of relevant literature', *Materials Today: Proceedings* 81, 173–175. <https://doi.org/10.1016/j.matpr.2021.03.022>
- Zhang, Y., 2015, 'The impact of brand image on consumer behavior: A literature review', *Open Journal of Business and Management* 3(1), 58–62.
- Zhu, X. & Luo, S., 2021, 'The influence of computer network technology on national income distribution under the background of social economy', *Computer Communications* 177, 166–175. <https://doi.org/10.1016/j.comcom.2021.06.025>