

THE APPLICATION OF DIGITAL TRANSFORMATION TO THE INTELLIGENT FINANCE STUDENT INNOVATION CAPABILITY

Yiyun WAN^{1,2}, Sudawan SOMJAI² and Akaramanee SOMJAI²

1 Qiongtai Normal University, Hainan, China; 332694501@qq.com

2 College of Innovation and Management, Suan Sunandha Rajabhat University, Thailand; s63484945158@ssru.ac.th (Y. W.); sudawan.so@ssru.ac.th (S. S.); Akramanee.so@ssru.ac.th (A. S.)

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ABSTRACT

This study employs qualitative and quantitative methods to investigate the impact of digital transformation, curriculum teaching, and social responsibility on the innovation ability of students majoring in intelligent finance. The study gathered quantitative data through a survey of 446 intelligent finance professionals in China, particularly in Hainan Province. The analysis utilized descriptive statistics, correlation analysis, and structural equations to examine the relationships between the variables. Furthermore, qualitative insights were gained through in-depth interviews with 63 industry experts and teachers to understand their perspectives on the impact of these factors on industry development and competitiveness. The research findings indicate that digital transformation, curriculum teaching, and social responsibility positively impact on the innovation capability of students majoring in intelligent finance. Curriculum teaching and social responsibility also serve as mediating variables. The study emphasizes the importance of adapting and transforming curriculum teaching and social responsibility in digital transformation to better address technological and scientific advancement and identify effective integration methods. This approach aims to enhance the innovation capability of students majoring in intelligent finance and promoting industry development and talent growth.

Keywords: Digital Transformation, Innovation Ability, Smart Finance Students

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INTRODUCTION

In the context of the current digital economy, the White Paper on Global Digital Economy (2023) published by the China Institute of Information and Communication Technology (CAICT) highlights the pivotal role of the digital economy in economic recovery and the centrality of industrial digitalisation as the driving force behind the development of the digital economy. The white paper indicates that industrial digitisation accounts for 85.3% of the digital economy, thereby demonstrating the significant impact of the digital economy on the development of the digital economy. The five most significant information technologies that affect financial data include financial cloud computing, electronic invoicing, mobile payments, data mining and digital signatures. Among these, financial cloud computing, with its efficient and flexible characteristics, is becoming the key to the digital transformation of the financial industry. These information technologies can lead to financial management restructuring, reduce operating costs, improve work efficiency, and maintain the integrity and security of information, leading to electronic archiving of archives (Li Likek et al., 2019).

As these information technologies continue to develop and be applied, it is inevitable that financial management will also undergo significant changes. The traditional archives management mode will be superseded by electronic archiving, which will facilitate the digital management of archives. The implementation of electronic archiving can enhance the efficiency of archives management, reduce storage costs, and facilitate the retrieval and utilisation of archives. The digital economy is becoming a significant driving force behind economic recovery, and the industrial digitisation and the extensive utilisation of the five information technologies represent crucial support for the development of the digital economy. As technology continues to advance and its applications become more diverse, the digital economy will undoubtedly bring greater convenience to our lives. This has led to an increase in the demand for accounting information technology and has prompted accounting professionals at all levels and types to adapt to the digital transformation requirements of accounting work.

At present, there is a paucity of research investigating the factors influencing the innovation capacity of students specialising in intelligent finance. As an emerging field, intelligent finance not only has an impact on the traditional financial business model, but also provides new opportunities for the development of the financial industry. In this context, it is of particular importance to cultivate the spirit of innovation and social responsibility among financial students. The objective of this article is to employ both quantitative and qualitative research methods to investigate the impact of social responsibility and curriculum teaching on the innovation capability of students majoring in intelligent finance during the process of digital transformation.

LITERATURE REVIEWS

Influencing factors on Student Innovation Capability of Intelligent Finance

This study compares the effects of self-discipline learning, mentor guidance, and university research support on the research and innovation abilities of college students. Empirical evidence indicates that self-regulated learning, mentor guidance, and university research support have a considerable, positive impact on the research and innovation abilities of college students. The coefficient of the path representing mentor guidance is lower. A bidirectional positive effect is observed between self-regulated learning and mentor guidance, as well as between mentor guidance and university research support. Consequently, universities should endeavour to enhance college students' self-learning abilities, provide more effective mentor guidance, augment support for scientific research, and cultivate their innovation abilities (Tao, Zhang, & Liao, 2020). This involves the acceptance or development of new ideas and

processes, which include the generation, implementation, and adoption of new ideas, methods, programmes, and policies to achieve organisational goals (Al-Husseini et al., 2021).

The research on creativity focuses on the concept of 'invisible guides', the phenomenon of 'intellectual excitement', and the design optimization environment. The extension studies encompass information primitives, system thinking, and path innovation. A systematic analysis was conducted by researchers to assess the innovation capacity of college students in terms of microfoundations, thinking, and innovation. This investigation elucidates the characteristics of creativity research and extension learning in fostering individual innovation capacity. The research indicates that creativity and innovation are mutually reinforcing. The combination of extensibility and creativity can result in the generation of innovative solutions (Rii, Edastama, & Nabilah, 2022). The innovation capacity model is based on six factors: creativity, self-confidence, personal energy, risk propensity, leadership ability, and ambiguous problem-solving (Ha et al., 2023).

The development of an original survey instrument was undertaken with the objective of assessing students' innovation capacities. The initial items and constructs were developed in accordance with the theoretical framework and literature supporting the measurement of innovation. A total of eight new constructs were theoretically associated with the three proposed dimensions of 'self' as suggested by Kegan. The dimensions include intrapersonal (motivation, proactivity, self-concept), social (networking, persuasive communication, teamwork across difference), and cognitive (creative cognition, risk-taking) (Kegan, 2009).

The evaluation dimension of Digital Transformation

It is crucial to acknowledge that the process of digital transformation is a gradual and incremental one. The current measurement method may not accurately reflect the extent of digital transformation within enterprises. (Qi Huaijin, Cao Xiuqin, and Liu Yanxia, 2020) employed the proportion of digital economy-related project assets in the year-end intangible asset details of listed companies to the total intangible assets and the degree of annual change as proxy variables to address this issue. Their research was based on that of He Fan and Liu Hongxia (2019). A study utilising tracking survey data from 1950 industrial enterprises in China's inaugural national demonstration zone for the integration of industrialisation and industrialisation over a five-year period (2015-2019) (Liu Shuchun et al., 2021). The study selected ERP investment (ERPInVM), MES/DCS investment (MESInvVM), and PLM investment (PLMinVM) as proxy variables. The literature reviewed indicates that this method is particularly suited to the development of digital projects, offering a straightforward and intuitive approach.

Bumann Peter's (2019) Universal Digital Transformation Framework comprises five dimensions: strategy, organisation, culture, technology, customers, and personnel. The Enterprise Digital Transformation Index (Li Mingyue, 2023) employs a formula comprising six sub-indicators to assess digital transformation. These are the strategic driving score, the technology empowerment score, the organisational empowerment score, the environmental empowerment score, the digital achievement score, and the digital application score. Each sub-indicator is assigned a standardised value and weighted accordingly in the formula. The use of technical terms is explained at the first instance of their use, and the language is clear, objective, and value-neutral. The findings of the interviews and literature review indicated that digital transformation (DT) is a holographic process that encompasses changes at the personal, internal, and external levels. A number of personal characteristics, such as age, gender, education, and job tenure, as well as internal factors, such as budget issues, communication levels, employee comprehension and understanding, and job tenure, and external factors, such as regulation and compliance, general levels of digital experience, and market conditions, all play a role in DT. (Jos e Ant é nio Porf í rio al., 2024).

The challenge of Curriculum Teaching in the intelligent era

As educational reform progresses, it becomes increasingly challenging and intricate. In order to facilitate curriculum teaching reform, it is necessary to consider the multiple levels of curriculum, teaching, schools, and teachers. When implementing changes to whole classroom teaching in schools, it is important to consider various factors, especially in the context of the current era of education, which is characterised by the advent of information technology, including the Internet, cloud computing and new generation information technology. These developments have the potential to promote the development of education. From the impact of information technology on school education to the demand for deepening education reform, it is evident that schools must adapt to the changing needs of society and the times. In 2013, UNESCO identified seven dimensions of learning in the 'Special Task of Learning Indicators' for basic education: physical health, social and emotional well-being, culture and the arts, written communication, learning methods and cognition, numeracy, and science and technology (Chu Honghou et al., 2015).

The existing literature on classroom teaching change lacks empirical evidence and theoretical rigour. It is overly theoretical and fails to consider the practical implications of change. Micro-practical research is constrained to the comprehension of the nature of change, rendering it challenging to extend beyond the change event itself. It is seldom employed to contemplate teaching reform from the vantage point of behavioural generation, and there is a paucity of detailed accounts of the process.

Factors influencing Social Responsibility

Of the characteristics of SR, that of personal-related social responsibility, which concerns the provision of fair and responsible treatment for person, is considered to be of greater importance than the other three features of social responsibility (Zulfiqar et al., 2019). The social responsibility of person affects organisational dedication, while the social responsibility of customers affects work dedication (Al Amri et al., 2019). External social responsibility encompasses activities directed towards local government, natural resources, and customers (Ashrafi et al., 2020). There is a significant impact of social responsibility on study engagement. (Ismael & Yesitas, 2020; Memon et al., 2020; Bapat & Upadhyay, 2021; Wei et al., 2021). The implementation of economic, legal, ethical, and discretionary corporate social responsibility practices has been demonstrated to positively influence person engagement (Nyuur et al., 2022).

From the literature review, the conceptual framework can be drawn as shown in Figure 1.

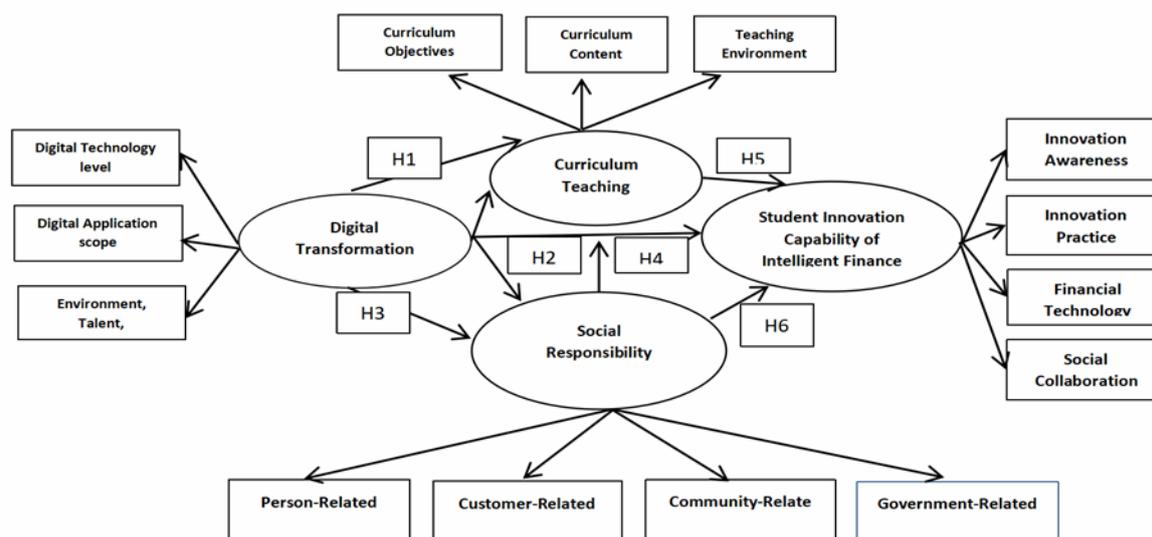


Figure 1 Conceptual Framework

RESEARCH METHODOLOGY

In this study, used Mix Method. Considering the return rate, the sample size for quantitative research is no less than 391. In order to complete the formal test and consider the possibility of invalid questionnaires, the number of samples collected in this study was greater than the planned number of which was 446. 86 people were selected to complete the prediction analysis to determine the rationality of the scale. The questionnaire comprised 70 questions across 14 dimensions. Qualitative insights were gained through in-depth interviews with 63 industry experts and teachers to understand their perspectives on the impact of these factors on industry development and competitiveness. The number of items is 25. As for the quantitative research, the questionnaire used for collecting data is made up of two parts. The first part includes characteristics of the sample such as gender, age, degrees, professional title, years of teaching, school types (public or private). The second part includes items related to the variables in this study, adopting Likert's 5-point scoring method, in which 1 means strongly disagree, 2 means disagree, and 3 means general, 4 means agree, and 5 means strongly agree.

This study employs a mixed research methodology, comprising three distinct phases.

Firstly, a comprehensive literature review was conducted in order to gain a sufficient understanding and knowledge base from previous research related to this study. Subsequently, a research framework was constructed, displaying the dimensions or influencing factors of the variables on which this research design is based.

Secondly, quantitative data is collected through a questionnaire survey and analysed by statistical techniques to examine the relationship between digital transformation, curriculum teaching, social responsibility and student innovation capability in intelligent finance among Chinese enterprises and schools. Prior to commencing the study, it is necessary to convene a panel of experts to determine the suitability of the questionnaire questions. This will be followed by the administration of a large-scale online and paper questionnaire survey.

Thirdly, qualitative data is collected through an in-depth interview and analysed in order to test the relationship between digital transformation, curriculum teaching, social responsibility and student innovation capability of intelligent finance among Chinese enterprises and schools.

RESEARCH RESULTS

Respondents' Profiles and Studied Variables

According to the survey results, 77.58% of the sample will choose "B.Female female", 42.60% of the samples were "C.Grade3 third grade". In terms of age distribution, most of the samples were "B.21-25 years 21-25 years old", with a total of 274.0 samples, accounting for 61.43%. In addition, the proportion of samples under A.Under 20 years of age 20 years old was 37.00%. The dependent variable in this study is Student Innovation Capability of Intelligent Finance (SIC), while the independent variables are Digital Transformation (DT), Curriculum Teaching (CT), and Social Responsibility (SR). The study encompasses 14 dimensions, including Innovation Awareness (IA) and Innovation Practice (IP). This study examines the significant impact of digital transformation on the innovation ability of intelligent finance students, and the significant impact of course teaching and social responsibility on the innovation ability of intelligent finance students through intermediary variables.

PLS structural equation models

As shown from Table 1: X digital transformation had a significant positive effect on the measurement of M1 social responsibility in this study ($\beta = 0.668$, $P < 0.001$), the digital transformation of X had a significant positive impact on the teaching measurement of M2 courses ($\beta = 0.339$, $P < 0.001$), while the digital transformation of X had a significant positive impact on the innovation ability of Y students ($\beta = 0.215$, $P < 0.001$), the M1 social responsibility measure had a significant positive effect on the M2 course teaching measure ($\beta = 0.458$, $P < 0.001$), while the M1 social responsibility measure had a significant positive

effect on the innovation ability of Y students ($\beta = 0.287$, $P < 0.001$), while the M2 course teaching measure had a significant positive effect on the Y students' innovation ability ($\beta = 0.338$, $P < 0.001$). Findings on Table 4.38 on showed that curriculum teaching had strongest direct effect on innovation capability (0.339), followed by social responsibility (0.287), and digital transformation (0.215). In addition, digital transformation had the strongest direct effect on social responsibility (0.668), followed by curriculum teaching (0.339), innovation capability (0.215).

Table 1 PLS structural equation models

	O	M	STDEV	T statistic	P	2.50%	97.50%
A-X(DT)-> B-M1(SR) measure	0.668	0.669	0.027	24.906	0.000	0.609	0.715
A-X(DT) -> C-M2(CT) measure	0.339	0.338	0.048	7.040	0.000	0.248	0.431
A-X(DT) ->D-Y(SIC)	0.215	0.216	0.049	4.415	0.000	0.116	0.308
B-M1(SR) measure -> C-M2(CT) measure	0.458	0.458	0.047	9.648	0.000	0.364	0.547
B-M1(SR) measure -> D-Y(SIC)	0.287	0.287	0.053	5.376	0.000	0.181	0.391
C-M2(CT) measure -> D-Y(SIC)	0.338	0.338	0.053	6.345	0.000	0.237	0.443

Bootstrap Mediation effect test

As can be seen from the Table 2, the statistical analysis results of the data included in the questionnaire, including the number of cases, minimum value, maximum value, mean, standard deviation, skewness and kurtosis, are used to verify whether the data obtained by the survey obey normal distribution. Whether the data follows a normal distribution will have a crucial impact on the subsequent analysis. Kline (1998) believes that when the absolute value of skewness is less than 3 and the absolute value of kurtosis is less than 10, it indicates that the sample basically follows a normal distribution. The formal sample results in the table show that the absolute value of skewness of each question is less than 3, and the absolute value of kurtosis is less than 10. Both the skewness and kurtosis meet the conditions of normal distribution, indicating that each topic can follow the normal distribution. The data collected by the questionnaire can be directly used for the following statistical analysis such as reliability and validity.

Table 2 Variables Descriptive Statistics

	N	Minimum		Maximum		Mean		Std. Deviation		Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error								
IA	446	1.40	5.00	3.770	0.608	-0.400	0.116	-0.243	0.231				
IP	446	2.00	5.00	3.812	0.578	-0.373	0.116	-0.439	0.231				
FT	446	2.40	5.00	3.722	0.588	-0.175	0.116	-0.840	0.231				
SC	446	2.20	5.00	3.844	0.548	-0.341	0.116	-0.244	0.231				
Y(SIC)	446	2.60	4.75	3.787	0.484	-0.247	0.116	-0.814	0.231				
DTL	446	2.20	5.00	3.740	0.605	-0.311	0.116	-0.693	0.231				
DAS	446	2.20	5.00	3.874	0.546	-0.256	0.116	-0.535	0.231				
ETC	446	2.00	5.00	3.883	0.555	-0.345	0.116	-0.154	0.231				
X(DT)	446	2.67	4.87	3.832	0.488	-0.220	0.116	-0.874	0.231				
CO	446	2.40	5.00	3.909	0.543	-0.216	0.116	-0.583	0.231				
CC	446	2.60	5.00	3.943	0.553	-0.230	0.116	-0.514	0.231				
TE	446	2.40	5.00	3.912	0.550	-0.165	0.116	-0.495	0.231				
M2(CT)	446	2.87	4.87	3.921	0.469	-0.166	0.116	-0.837	0.231				
PR	446	2.20	5.00	3.927	0.565	-0.257	0.116	-0.461	0.231				
CSR	446	2.20	5.00	3.926	0.535	-0.254	0.116	-0.327	0.231				
CMR	446	2.60	5.00	3.889	0.534	-0.170	0.116	-0.643	0.231				
GR	446	2.40	5.00	4.059	0.567	-0.216	0.116	-0.567	0.231				
M1(SR)	446	2.95	4.80	3.950	0.463	-0.177	0.116	-0.941	0.231				

Measurement model evaluation

Differentiative validity analysis is to verify whether there are statistical differences in the correlation of two surfaces. The items of different surfaces should not be highly correlated. If so (above 0.85), it means that these items are measured in the same thing, which usually occurs in the definition of the surface if there is excessive overlap. In this study, the more rigorous AVE method was used to evaluate the differential validity. Fornell and Larcker, 1981 The AVE open root number of each factor must be greater than the correlation coefficient of each pairwise variable, indicating the differential validity between the factors. The diagonal is that the AVE open root number of each factor is larger than the standardized correlation coefficient outside the diagonal, so this study has discriminative validity, and the lower oblique triangle is the correlation coefficient. See the table below for details.

Table 3 First order dimension Fornell and Larcker discrimination validity

	A1- DTL	A2- DAS	A3- ETC	B1- PR	B2- CSR	B3- CMR	B4- GR	C1- CO	C2- CC	C3- TE	D1- IA	D2- IP	D3- FT	D4- SC
A1- DTL	0.798													
A2- DAS	0.618	0.768												
A3- ETC	0.586	0.613	0.783											
B1-PR	0.459	0.458	0.477	0.792										
B2- CSR	0.487	0.498	0.482	0.597	0.763									
B3- CMR	0.475	0.527	0.488	0.589	0.638	0.761								
B4-GR	0.474	0.470	0.492	0.626	0.595	0.617	0.798							
C1-CO	0.485	0.497	0.479	0.525	0.494	0.522	0.490	0.766						
C2-CC	0.480	0.462	0.459	0.495	0.544	0.490	0.458	0.600	0.783					
C3-TE	0.444	0.468	0.492	0.492	0.473	0.471	0.455	0.600	0.594	0.774				
D1-IA	0.482	0.470	0.505	0.515	0.490	0.502	0.514	0.472	0.511	0.509	0.796			
D2-IP	0.462	0.423	0.438	0.426	0.436	0.482	0.453	0.484	0.520	0.457	0.587	0.767		
D3-FT	0.455	0.448	0.482	0.471	0.492	0.511	0.469	0.436	0.485	0.496	0.593	0.608	0.771	
D4-SC	0.404	0.380	0.395	0.375	0.398	0.455	0.407	0.440	0.528	0.416	0.570	0.610	0.597	0.759

Table 4 Second order dimension Fornell and Larcker discrimination validity

	A-X(DT)	B-M1(SR) measure	C-M2(CT)measure	D-Y(SIC)
A-X(DT)	0.859			
B-M1(SR) measure	0.668	0.841		
C-M2(CT) measure	0.645	0.684	0.856	
D-Y(SIC)	0.625	0.662	0.673	0.834

Then use the heterogeneous-elemental ratio, the ratio of inter-trait correlation (between-trait) to intra-trait (within-trait) correlation. It is the ratio of the mean of the index correlation between different structures relative to the mean of the index correlation between the same structures. The results are shown in Table 4.26 below. It can be seen from the table below that the HTMT value between each of the 2 variables in this study is below 0.85, which also indicates that there is a good discriminatory validity between each variable.

Finalized Model and Hypothesis Analysis

This study examines the significant impact of digital transformation on the innovation ability of intelligent finance students, and the significant impact of course teaching and social responsibility on the innovation ability of intelligent finance students through intermediary variables (shown in Figure 2).

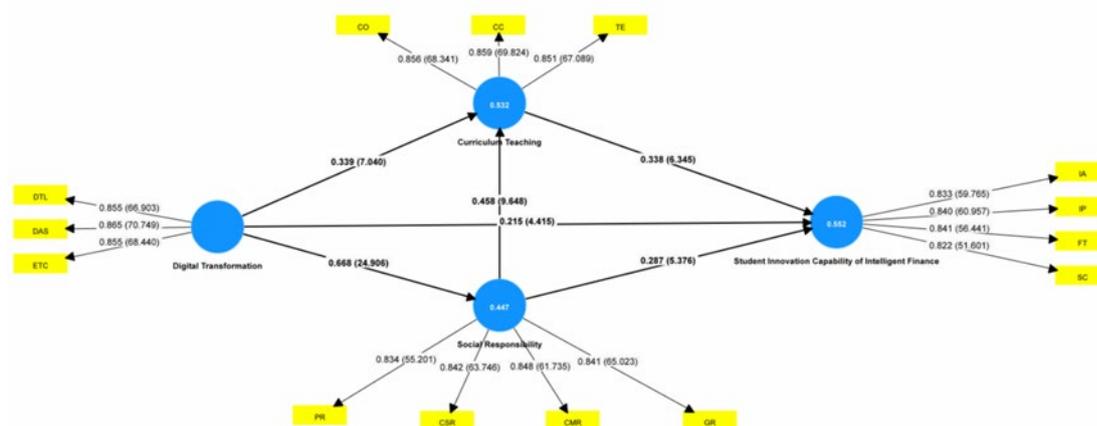


Figure 2 Finalized Model

The analysis from Table 5 revealed that the results were consistent with the hypothesis. The results indicated that these variables have a significant impact on the innovation ability of intelligent finance major students. The course curriculum, which places a strong emphasis on social responsibility in the context of digital transformation, has led to a notable enhancement in the innovative capabilities of students majoring in intelligent finance. The enhancement of course content and the cultivation of social responsibility, in conjunction with the ongoing advancement of the digital transformation system, are of paramount importance to the innovation capacity of students specialising in intelligent finance.

Table 5 Conclusion of Hypothesis Testing

Hypothesis	Hypothesis Testing Results
H1 The impact of digital transformation on the curriculum teaching	Consistent
H2 The impact of digital transformation on the innovation capability of intelligent finance students	Consistent
H3 The impact of digital transformation on social responsibility	Consistent
H4 The impact of social responsibility on curriculum teaching	Consistent
H5 The impact of curriculum teaching on the innovation capability of intelligent finance students	Consistent
H6 The Influence of Social Responsibility on the Innovation Ability of Intelligent Finance Students	Consistent

DISCUSSION & CONCLUSION

Research discussion

The research was conducted to reach four objectives. The first objective was to assess the impact of digital transformation on the innovation capability of students majoring in intelligent finance. The results of the study showed X digital transformation has a significant positive impact on the innovation ability of Y students ($\beta = 0.215$, $P < 0.001$). A-X digital transformation \rightarrow D-Y students innovation ability direct effect is 0.215, Bias Corrected (95%) confidence interval [0.116, 0.308], excluding 0, indicating that the direct effect is significant. The second objective was to investigate the correlation between digital transformation and curriculum teaching, and their impact on the innovation capability of students majoring in smart finance. The objective of this study is to conduct a comprehensive examination of the interrelationship between digital transformation and curriculum teaching, with a view to elucidating the manner in which they interact to enhance the innovative capacity of students

specialising in intelligent finance. A comprehensive literature review and empirical research have yielded a substantial amount of primary data, which has been subjected to in-depth statistical analysis. The results showed that the X digital transformation had a significant positive impact on the teaching measurement of M2 courses ($\beta = 0.339$, $P < 0.001$). The third research objective was to investigate the correlation between digital transformation and social responsibility, and their impact on the innovation capability of students majoring in smart finance. The results of the study show that the X digital transformation had a significant positive effect on the M1 social responsibility measures ($\beta = 0.668$, $P < 0.001$). The fourth study objective was to enhance the innovation capability of students majoring in intelligence finance, a model for digital transformation, social responsibility, and curriculum teaching should be created. A-X digital transformation-> B-M1 Social responsibility measurement-> C-M2 course teaching measurement-> D-Y The indirect effect of students' innovation ability is 0.103, Bias Corrected (95%) confidence interval [0.069, 0.145], excluding 0, indicating that the mediation effect is significant, accounting for 16.6%; A-X digital transformation-> D-Y The total effect of students' innovation ability was 0.625, and the confidence interval of Bias Corrected (95%) [0.564, 0.676], excluding 0, indicating that the total effect is significant.

Research conclusion: 2SDC model

The findings summarized that curriculum teaching had strongest direct effect on innovation capability (0.338), followed by social responsibility (0.287), and digital transformation (0.215). In addition, digital transformation had the strongest direct effect on social responsibility (0.668), followed by curriculum teaching (0.339), innovation capability (0.215). The model of 2SDC (Student Innovation Capability of Intelligent Finance, Social Responsibility, Digital Transformation and Curriculum Teaching) may improve students' innovation ability in the field of intelligent finance to cope with fierce competition in the new era and contribute to the continuous improvement of financial work, sustainable economic growth, and social development. With more qualified innovative talents provided, the improvement of local competition capability and the construction of Hainan international tourism island and Hainan free trade port are well and totally guaranteed. The construction of the professional abilities of students in three stages, namely the basic, practical and case levels, and the cultivation of this ability system, enables students to adapt fully to the job market and achieve growth at the management level.

In terms of professional skills, it is important to emphasise the ability to analyse professional situations, to understand business models and to gain an insight into the substance of business in order to meet the changing needs of enterprises. It is recommended that students maintain a keen interest in furthering their knowledge, demonstrate proficiency in learning, and engage in ongoing learning to enhance their professional competence and skill set. Furthermore, the cultivation of cross-border capabilities, such as the formulation of financial systems and distribution systems from the perspective of business, should also be given due consideration. For instance, the capacity to adapt to financial challenges in a dynamic business environment should be a priority. In terms of talent development, it is recommended that the improvement of management and data analysis abilities be promoted, as well as the equal emphasis on professional quality and honesty quality. He has developed the capacity to adapt to changing circumstances, demonstrating a combination of strategic thinking, coordination and communication skills, and a willingness to engage in continuous learning. Concurrently, it is imperative to cultivate contemporary skills, such as information technology capabilities and big data analysis capabilities, in order to adapt to the challenges of the digital age. We encourage students to adhere to the highest standards of honesty and trustworthiness, to enhance their abilities, and to maintain their study habits in order to achieve comprehensive development.

REFERENCES

- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management*, 40(5), 1297-1333.
- Arık, G., Arslan, S., Çakır, M., & ve Kavak, Y. (2016). Fatih projesinin ulusal ve uluslararası eğitim teknoloji politikaları bağlamında değerlendirilmesi. *Eğitim ve Öğretim Araştırmaları Dergisi*, 5(2), 308-321.
- Blanka, C., Krumay, B., & Rueckel, D. (2022). The Interplay of Digital Transformation and Employee Competency: A Design Science Approach. *Technological Forecasting and Social Change*, (178), 1-15.
- Bandura, A. (1999). Social cognitive theory of personality. *Handbook of personality*, 2(1), 154-196.
- Balsmeier, B., & Woerter, M. (2019). Is this time different? How digitalization influences job creation and destruction. *Research policy*, 48(8), 103765.
- Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting Research*, 46(3), 467-498.
- Beresford, D. R., & Feldman, S. A. (1976). Companies increase social responsibility disclosure. *Management Accounting*, 59(9), 51-55.
- Bocquet, R., Le, B. C., & Mothe, C., et al. (2013). Are firms with different CSR profiles equally innovative? Empirical analysis with survey data. *European Management Journal*, 31(6), 642-654.
- Berman, S. J. (2012). Digital transformation: Opportunities to create new business models. *Strategy & Leadership*, 40(2), 16-24.
- Benitez, J., Henseler, J., Castillo, A., & Schuberth, F. (2020). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. *Information & management*, 57(2), 103168.
- Bogner, A., Littig, B., & Menz, W. (2009). *Introduction: Expert interviews—An introduction to a new methodological debate*. In A. Bogner, B. Littig, & W. Menz (Eds.).
- Bouwman, H., Nikou, S., & de Reuver, M. (2019). Digitalization, business models, and SMEs: How do business model innovation practices improve performance of digitalizing SMEs?. *Telecommunications Policy*, 43(9), 101828.
- Creswell, J. W. (2021). *A concise introduction to mixed methods research*. SAGE publications.
- Drucker, P., & Maciariello, J. (2014). *Innovation and entrepreneurship*. Routledge.
- Franke, N., & Lüthje, C. (2004). Entrepreneurial intentions of business students: a benchmarking study. *International Journal of Innovation and Technology Management*, 1(3), 269-88.
- Galloway, L., & Brown, W. (2002). Entrepreneurship education at university: a driver in the creation of high growth firms?. *Education+ training*, 44(8/9), 398-405.
- Ghimire, S., Yaseen, Z. M., Farooque, A. A., Deo, R. C., Zhang, J., & Tao, X. (2021). Streamflow prediction using an integrated methodology based on convolutional neural network and long short-term memory networks. *Scientific Reports*, 11(1), 17497.
- Gracia-Perez, Sadeghi, V. J, A., & Candelo, E., et al. (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(1), 100-111.
- Gurbaxani, V., & Dunkle, D. (2019). Gearing up for successful digital transformation. *MIS Q. Executive*, 18(3), 6.
- Kegan, R., & Lahey, L. L. (2009). *Immunity to change: How to overcome it and unlock potential in yourself and your organization*. Harvard Business Press.

- Li Licheng et al. (2019). Financial Innovation in the Context of Digital Economy. *Accounting Research*, (10), 95-97.
- Li Ling, & Tao Houyong. (2023). Research on the Relationship between Digital Orientation and Enterprise Digital Innovation Scientific. *Research*, 1-16.
- Lindeman, R. H., Merenda, P. F., & Gold, R. Z. (1980). *Introduction to bivariate and multivariate analysis*. (No Title).
- Lowe, A., Norris, A. C., Farris, A. J., & Babbage, D. R. (2018). Quantifying thematic saturation in qualitative data analysis. *Field methods*, 30(3), 191-207.
- Ma Lianfu et al. (2022). Enterprise digital transformation and control camera configuration. *Economic Management*, 44(11), 46-66.
- Marabelli, M., & Galliers, R. D. (2017). Information systems strategising: The role of ambidextrous capabilities in shaping power relations. In *The Routledge Companion to Management Information Systems* (pp. 202-217). Routledge.
- Matt, C., Hess, T., & Benlian, A. (2015). Digital transformation strategies. *Business & information systems engineering*, 57, 339-343.
- Meijer, A., & Bekkers, V. (2015). A metatheory of e-government: Creating some order in a fragmented research field. *Government Information Quarterly*, 32(3), 237-245.
- Parlak, B. (2017). Dijital çağda eğitim: Olanaklar ve uygulamalar üzerine bir analiz. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 22(15), 1741-1759.
- Shorten, A., & Smith, J. (2017). Mixed methods research: expanding the evidence base. *Evidence-Based Nursing*, 20, 74-75.
- Somjai, S. (2018). *Smart leadership*. Bangkok: Plus Plus Creator.
- Sudawan Somjai. (2021). *Smart CEO in the Era of Change*. Bangkok: Papernet.
- Sumarni, W., & Kadarwati, S. (2020). Ethno-stem project-based learning: Its impact to critical and creative thinking skills. *Jurnal Pendidikan IPA Indonesia*, 9(1), 11-21.
- Taşkıran, A. (2017). Dijital çağda yükseköğretim. *Journal of Open Education Practice and Research*, 3(1), 96-109.
- Wang Yuqing. (2023). Research on Digital Transformation Measurement Methods. *Modern Management*, 13(6), 715-724.
- Yamane, T. (1973). *Statistics: An Introductory Analysis*. 3rd ed. New York: Harper and Row.
- Yang Zhenning et al. (2021). Wu Chen the Balanced Effect of Open Innovation Networks in the "Dual Circulation" of Chinese Enterprises: Based on Digital Empowerment and Organizational Flexibility The investigation. *Managing the World*, 37(11), 184-205+12.
- Zeya He et al. (2023). Building Organizational Resilience with Digital Transformation. *Journal of Service Management*, 34, 147-171.
- Zhao Chenyu et al. (2021). How digital transformation affects the total factor productivity of enterprises Finance, *Trade and Economics*, 42(7), 114-129.

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