

DIGITAL TRANSFORMATION, ENTERPRISE DYNAMIC CAPABILITIES, AND “BUSINESS MODEL INNOVATION

ABSTRACT: The concepts of digital transformation and dynamic capabilities have gained significant attention in contemporary times. Chinese enterprises must promptly utilize dynamic capabilities to acquire external resources, knowledge, and skills to enhance their internal capabilities and achieve innovation. This study constructs a theoretical model to examine the influence of digital transformation on business innovation, based on the dynamic capabilities theory. It also explores the mediating role of dynamic capabilities in the relationship between digital transformation and business model innovation. The research model was empirically tested using SEM structural equations on 400 valid enterprise questionnaires. The results indicate that the digital transformation of enterprises has a positive effect on “business model innovation” and enterprise dynamic capabilities. Furthermore, enterprise dynamic capabilities have a positive impact on “business model innovation.” Moreover, digital transformation has a positive effect on “business model innovation” by mediating enterprise dynamic capabilities. At the strategic level, enterprises should prioritize digital awareness, quickly adapt to changes in both internal and external markets, and adjust their business models by emphasizing the optimization of dynamic capabilities.

Keywords: Digital Transformation, Enterprise Dynamic Capabilities, “Business Model Innovation”.

1. Introduction

When it comes to enterprise organisations, after extensive planning and guidance, many have made significant progress towards digital transformation. Implementing digital transformation strategies can provide significant benefits for enterprises, including cost reduction, improved effectiveness, and the opportunity to reassess their value proposition and business models. In today’s fast-paced business landscape, companies are encountering both exciting possibilities and daunting obstacles. The ever-changing digital landscape and constant technological advancements are reshaping the way businesses operate (Chesbrough, 2010). Enterprises must not only keep up with the ever-changing market but also continuously enhance their competitiveness through innovative business models. This type of innovation extends beyond just product or service innovation and encompasses modifications in enterprise organisational structure, value chain, and profit model (Matt, Hess, & Benlian, 2015). Businesses’ models aim to elucidate the process of value creation rather than solely focusing on value capture. These emerging themes can inspire further research on business models, fostering a more cohesive academic exploration.

However, in the past, numerous scholars have extensively researched the impact of digital transformation on “business model innovation,” while only a limited number of scholars have explored the intermediary mechanism by which

digital transformation facilitates enterprise “business model innovation.” Thus, this study aims to explore the impact of digital transformation on business model innovation by examining dynamic capabilities, drawing on previous research and dynamic capabilities theory. Simultaneously, this study developed an intermediary model using relevant theories to investigate whether dynamic enterprise capacities can mediate the impact mechanisms of digital transformation and “business model innovation.”

2. Literature Review

2.1. Digital Transformation and “Business Model Innovation.”

With the rise of informatization and digitalization, society is experiencing a shift in trends. The market ecosystem and consumer demands are constantly evolving and becoming more complex. For example, companies strive to thrive and succeed in the competitive business environment. In that case, it is essential for them to leverage digital technology to revolutionise their business models and accomplish their own transformation and advancement. Business model innovation refers to the process by which entrepreneurial enterprises develop new strategies to create and capture value for stakeholders. This comprehensive perspective on enterprise innovation has gained acceptance within academic circles (Casadesus-Masanell & Zhu, 2013; Foss & Saebi, 2018). Simultaneously, with the widespread integration of digital technology into

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innovation practices, digital innovation has emerged as a crucial concept in the realm of innovation and entrepreneurship (Fichman, Dos Santos, & Zheng, 2014). As a result, the incorporation of digital technology into activities related to “business model innovation” has brought together digital innovation theory and business model innovation theory, giving rise to the concept of digital “business model innovation” (Kraus et al., 2019). This paper explores the concept of digital transformation as a strategic shift in which an enterprise leverages digital technology to improve its business processes, prompting the enterprise to adapt its methods and boost its innovation capabilities and performance.

Digital technology plays a vital role in driving enterprise business model innovation. By leveraging digital technology, businesses have the opportunity to revolutionise their internal structure, external operations, and cost and value exchange systems, ultimately leading to groundbreaking “business model innovation” (Li, 2020). Ansong & Boateng also conducted research on this and emphasised the importance of firms promoting the renewal of organisational structure and innovation of business models through the formation of digital technology capabilities (Ansong & Boateng, 2019). The process of digital transformation has the potential to completely reshape the way an organisation produces and operates. Typically, achieving “business model innovation” is a key part of the process. According to certain experts, the core of digital transformation lies in the concept of “business model innovation” (Volberda et al., 2021). According to Warner and Wäger (2019), the digital revolution involves leveraging digital technology to improve and enhance various aspects of enterprise production and operations. This includes enhancing customer experience, optimising enterprise operations, and even innovating business models. Some individuals argue that “business model innovation” during digital transformation involves enhancing customer value through the use of digital technology (Bican & Brem, 2020). Furthermore, as enterprise digital transformation continues to progress, there is potential for enhanced data analysis capabilities. This, in turn, can lead to incremental procedure innovation within the enterprise, ultimately promoting the innovation of business models.

Firms have the ability to utilise digital technology and various other methods to enhance and streamline their production and operation models, ultimately leading to significant advancements in their business models.

This study proposes the following hypothesis based on the analysis that was conducted earlier:

H1: Digital transformation of enterprises has a positive impact on “business model innovation”.

2.2. Enterprise Dynamic Capabilities and “Business Model Innovation”

In today’s ever-changing business landscape, enterprise dynamic capabilities have emphasised the importance of “business model innovation”. Enterprise dynamical competencies refer to an organization’s capacity to respond to shifts in the external environment, efficiently allocate resources, and consistently foster innovation (Teece, 2010). This capability enables companies to stay competitive in a constantly evolving market, particularly when confronted with challenges arising from emerging technologies, market trends, and rival firms (Zott, Amit, & Massa, 2011). The importance of dynamic capabilities lies in their ability to drive innovation and facilitate adaptability and responsiveness within enterprises, as highlighted by Teece et al. Within the realm of “business model innovation,” dynamic capabilities empower companies to swiftly identify market opportunities, adapt their existing business models, or create new ones in order to better cater to customer demands (Teece, 2010). Enterprise dynamical capabilities have a significant positive influence on business model innovation. Having a strong dynamic expertise allows firms to be highly capable in discovering, designing, and implementing new models of businesses. Chesbrough introduced the concept of open innovation and emphasised the importance of dynamic experiences in the realm of business model innovation (Chesbrough, 2010).

A study conducted by Bettis and Hitt (1995) reveals that dynamic capabilities enable companies to effectively respond to market fluctuations, expedite the introduction of innovative products, and enhance their market presence and financial performance. Enterprise dynamic capabilities foster a culture of ongoing innovation in business models. A study conducted by Zahra and George (2002) discovered that dynamic capabilities allow businesses to adapt and learn in a fast-paced market, leading to continuous improvement and optimisation of business models. This ultimately enhances the competitiveness and performance of firms. Teece (2010) argue that there is a strong correlation between dynamic capabilities and “business model innovation.” The selection or design of models of

the businesses is crucial for establishing dynamic capabilities. Suppose companies strive to stay up-to-date with the evolving market and sustain their energy. Given the circumstances, it is essential to tailor market segments when undergoing the process of “business model innovation” and to adjust to and influence the evolving business market by enhancing its own dynamic capabilities. According to Carayannis, Sindakis and Walter (2015), successful business model innovation involves the strategic application of organisational design and governance capabilities. By combining resources, dynamic capabilities, and entrepreneurship, businesses can gain a competitive advantage and explore new opportunities for growth and sustainability.

Thus, considering the extensive body of literature, it becomes evident that enterprise dynamic capabilities play a crucial role in both the continuity and growth of businesses, serving as the primary catalyst for “business model innovation”. Companies must prioritise adaptability in today’s fast-paced market and consistently refine their business models through dynamic capabilities. This will enable them to effectively respond to external market changes and gain a lasting competitive edge.

This study proposes the following hypothesis based on the analysis that was conducted above:

H2: Enterprise dynamic capabilities have a positive impact on “business model innovation”.

2.3. Digital Transformation and Enterprise Dynamic Capabilities

Exploring the realm of digital transformation and the dynamic abilities of enterprises In today’s fast-paced and ever-evolving digital landscape, the market has become incredibly dynamic and complex. Companies need to effectively incorporate, develop, and reshape their internal and external resources in order to overcome established patterns and market positions, ultimately achieving long-term competitive advantages (Jiao, Wei, & Cui, 2010). It broadens the fixed research perspective of the resource-based school and addresses the fundamental challenge of limited capabilities in the capability school from an evolutionary standpoint (Barney, 1991). It can also better explain the evolutionary mechanism through which firms in the digital economy era obtain sustainable competitive advantages in a dynamic market (Leonard-Barton, 1992). For firms, improving the capabilities of the puzzle to achieve

interior and exterior synergy is an effective way to achieve successful transformation. Academic circles are increasingly paying attention to how dynamic expertise explains firms’ digital transformation. Scholars are also strongly calling for research on dynamic capabilities under digital transformation situations to explore the deconstruction, reshaping, collaboration and evolution of dynamic capabilities in the digital conversion procedure of conventional firms (Vial, 2021).

This study proposes the following hypothesis based on the analysis that was conducted earlier:

H3: Digital transformation has a positive impact on enterprise dynamic capabilities.

2.4. The Mediating Role of Enterprise Dynamic Capabilities

The business model design is determined by enterprise strategy. New general-purpose technologies create opportunities for business model changes, requiring corporate strategy to adapt (Teece, 2018). In the current era of the cardinal economy, firms require dynamic competencies to sustain competitiveness. They rely on dynamic capability systems to effectively coordinate resources and develop business models (Velu & Stiles, 2013). Digital transformation enables manufacturing companies to detect, evaluate, and optimise innovation opportunities. This includes activities such as research and development, identification of new technologies, understanding target markets and consumer demands, and identifying competitors and complementary offerings (Teece, 2007). Eisenhardt and Martin (2000) highlight the importance of firms’ ability to adapt, acquire expertise, and innovate. Enterprises must continuously modify their structures and strategies to accommodate the evolving market ecosystem. Witschel et al. (2019) developed a theoretical model to examine the relationship between dynamic abilities and business model change. They conducted an exploratory case study, considering digitalization, strategy, organisational design, and leadership factors as boundary conditions. Randhawa, Wilden and Gudergan (2021) found that dynamic expertise can lead to changes in the enterprise models of businesses. Agarwal and Helfat (2009) demonstrated that dynamic expertise serves as a mediator between company strategy and business model, confirming the strategic renewal of the organisation.

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This study proposes the following hypothesis based on the analysis that was conducted earlier:

H4: Enterprise dynamic capabilities play a mediating role in digital transformation and “business model innovation”.

3. Conceptual Framework

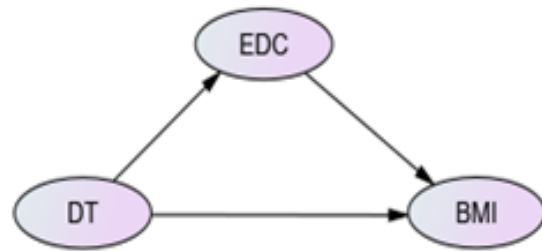


Figure 1: Conceptual Framework.

Note: Digital transformation (DT), (2) Enterprise dynamic capabilities (EDC), (3) “business model innovation” (BMI).

4. Research Results

4.1. Data Preparation

Table 1: Displays Abbreviations of Variables.

| Variable Type | Variable Name | Abbreviation |
|----------------------|-----------------------------------|--------------|
| Independent variable | Digital Transformation | DT |
| Dependent variable | “business model innovation” | BMI |
| Mediating variable | Enterprise Dynamic Capabilities | EDC |
| Observed variables | Product research and development | PRD |
| | Production and manufacturing | PM |
| | User services | US |
| | Enterprise ecological cooperation | EEC |
| | Opportunity Perception Ability | OPA |
| | Resource Integration Ability | RIA |
| | Resource Restructuring Capability | RRA |
| | Value Proposition Innovation | VPI |
| | Value Creation Innovation | VCI |
| | Value Realization Innovation | VRI |

The scale was adapted from Ji (2022) and Chen (2022).

4.2. Data Collection

Data were collected through the distribution of questionnaires. The survey participants primarily consist of companies that have implemented digital transformation strategies to adapt their business models within the last two years. The majority of respondents to the questionnaire are middle- and senior-level decision-makers, department heads, and senior critical employees of the enterprise. To ensure the questionnaire’s validity, this study initially determines the corporations’ business model adjustment status by referring to the company’s official website, news reports, and other sources. Subsequently, the study explicitly asks whether the company’s business model has undergone

adaptive adjustments in the past 2 years. In this study, a total of 460 survey questionnaires were distributed and 427 were collected. A total of 400 valid survey questionnaires were obtained after excluding random answers, missing responses, inconsistencies, and other issues. The variables are assessed using a range of 3 to 10 items in the questionnaire. The scale is presented as a Likert scale ranging from “strongly disagree” to “strongly agree”. Participants in the study rate their agreement with the item descriptions when completing the questionnaire.

The distribution and characteristics of the survey sample companies are shown in Table 2.

Table 2: Sample Feature Distribution Description.

| Characteristics | Options | Frequency | Percentage |
|-----------------------|---------------------------------|-----------|------------|
| Gender | Male | 202 | 50.50% |
| | Female | 198 | 49.50% |
| Age | 22-30 years old. | 128 | 32.00% |
| | 31-40 years old. | 172 | 43.00% |
| | 41-50 years old. | 68 | 17.00% |
| | 51 years and above | 32 | 8.00% |
| Education Level | Lower than a bachelor’s degree. | 81 | 20.30% |
| | Bachelor’s degree | 166 | 41.50% |
| | Master’s degree | 104 | 26.00% |
| | Higher than a master’s degree. | 49 | 12.30% |
| Position | Ordinary staff | 18 | 4.50% |
| | Lower-level managers | 40 | 10.00% |
| | Middle managers | 133 | 33.30% |
| | Senior managers | 209 | 52.30% |
| Company founding year | Less than 2 years | 63 | 15.80% |
| | 2-5 years | 182 | 45.50% |
| | 6-10 years | 114 | 28.50% |
| | 11-20 years | 29 | 7.20% |
| | More than 20 years | 12 | 3.00% |

4.3. Reliability Analysis

Given the nature of the variables in this study, it is essential to ensure the accuracy of the collected data before moving forward with data analysis and interpretation. Initially, we assessed the internal consistency of each factor using the Cronbach’s alpha reliability test. At the same time, the values for Cronbach’s alpha can range from 0 to 1. Furthermore, the coefficient value of a test directly relates to its dependability. Typically, a reliability coefficient below 0.6 indicates a very weak reliability. In such cases, it is necessary to either revise the questionnaire or collect and analyse new data. Subsequently, a reliability coefficient that falls anywhere from 0.6 to 0.7 is believable (relatively reliable), 0.7 to 0.8 is moderately

reliable, 0.8 to 0.9 is highly credible (intensely reliable), and 0.9 to 1 is highly plausible (excellently reliable).

Table 3: Reliability Test Results.

| Scale | Cronbach’s Alpha | Number of Items |
|-------|------------------|-----------------|
| DT | 0.944 | 19 |
| EDC | 0.927 | 12 |
| BMI | 0.942 | 18 |

The results of the reliability analysis in this study are displayed in Table 3 above. Reliability coefficients between 0.8 and 1 are observed for digital transformation, enterprise dynamic capabilities, and “business model innovation”. The study’s scales being reliable and consistent with one another is a direct outcome of this.

4.4. Validity Analysis

Table 4: CFA Model Fitting Index Measurement Model.

| Scale | CMIN/DF | RMSEA | NFI | RFI | IFI | TLI | CFI |
|-------|---------|-------|-------|-------|-------|-------|-------|
| DT | 1.108 | 0.016 | 0.967 | 0.961 | 0.997 | 0.996 | 0.997 |
| EDC | 1.637 | 0.040 | 0.972 | 0.963 | 0.989 | 0.985 | 0.989 |
| BMI | 1.324 | 0.028 | 0.961 | 0.955 | 0.990 | 0.989 | 0.990 |

The RMSEA values are within the excellent range of less than 0.05, and Table 4 shows that the CMIN/DF values fall within the range of 1 to 3. In addition, the inspection results for NFI, RFI, IFI, TLI, and CFI all exceed 0.9, which is an outstanding achievement. Consequently, the comprehensive findings of this investigation have shown that the CFA model is highly effective. Simultaneously, building upon the

assumption that the scale CFA model is a good fit, the study proceeds to conduct additional tests to ascertain the AVE and CR of each dimension of the scale. In order to evaluate the concurrent validity and combined reliability of each dimension, the inspection process utilises the established CFA model to determine the standardised factor loadings of each measurement item on its respective dimension. Following that, the

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study employs the AVE and CR calculation formulas. The standard establishes the criteria for assessing convergent validity and combination reliability, with an AVE value of 0.5 and a CR value of 0.7, respectively.

Table 5: Convergent Validity and Combined Reliability Testing of Each Dimension of the Scale

| Items | Estimate | AVE | CR |
|-------|----------|-------|-------|
| PRD3 | 0.766 | 0.614 | 0.826 |
| PRD2 | 0.720 | | |
| PRD1 | 0.859 | | |
| PM6 | 0.747 | 0.610 | 0.903 |
| PM5 | 0.735 | | |
| PM4 | 0.760 | | |
| PM3 | 0.757 | | |
| PM2 | 0.757 | | |
| PM1 | 0.915 | | |
| US6 | 0.749 | 0.598 | 0.899 |
| US5 | 0.732 | | |
| US4 | 0.767 | | |
| US3 | 0.740 | | |
| US2 | 0.767 | | |
| US1 | 0.874 | | |
| EEC4 | 0.770 | 0.646 | 0.879 |
| EEC3 | 0.754 | | |
| EEC2 | 0.790 | | |
| EEC1 | 0.894 | | |
| OPA4 | 0.753 | 0.613 | 0.863 |
| OPA3 | 0.738 | | |
| OPA2 | 0.780 | | |
| OPA1 | 0.856 | | |
| RIA4 | 0.750 | 0.634 | 0.873 |
| RIA3 | 0.763 | | |
| RIA2 | 0.758 | | |
| RIA1 | 0.904 | | |
| RRA4 | 0.778 | 0.642 | 0.877 |
| RRA3 | 0.797 | | |
| RRA2 | 0.775 | | |
| RRA1 | 0.852 | | |
| VPI5 | 0.793 | 0.580 | 0.874 |
| VPI4 | 0.733 | | |
| VPI3 | 0.735 | | |
| VPI2 | 0.768 | | |
| VPI1 | 0.778 | | |
| VCI10 | 0.748 | | |
| VCi9 | 0.785 | 0.598 | 0.937 |
| VCi8 | 0.773 | | |
| VCi7 | 0.765 | | |
| VCi6 | 0.789 | | |
| VCi5 | 0.730 | | |
| VCi4 | 0.771 | | |
| VCi3 | 0.777 | | |
| VCi2 | 0.737 | | |
| VCi1 | 0.851 | | |
| VRI3 | 0.750 | | |
| VRI2 | 0.735 | | |
| VRI1 | 0.825 | | |

The results of the validity test for the scale demonstrate that all AVE values exceeded 0.5, and all CR values were above 0.7, as presented in Table 5. Thus, the

results indicate that the convergent validity and combined reliability of each dimension are acceptable.

4.5. Discriminant Validity Analysis

Table 6: Discriminant Validity Test Results of Each Dimension of DT.

| Variable | PRD | PM | US | EEC |
|------------------------|--------------|--------------|--------------|--------------|
| PRD | 0.614 | | | |
| PM | 0.727 | 0.610 | | |
| US | 0.697 | 0.699 | 0.598 | |
| EEC | 0.733 | 0.708 | 0.706 | 0.646 |
| The square root of AVE | 0.784 | 0.781 | 0.773 | 0.804 |

Table 7: Discriminant Validity Test Results of Each Dimension of EDC.

| Variable | OPA | RIA | RRA |
|------------------------|--------------|--------------|--------------|
| OPA | 0.613 | | |
| RIA | 0.750 | 0.634 | |
| RRA | 0.727 | 0.765 | 0.642 |
| The square root of AVE | 0.783 | 0.796 | 0.801 |

Table 8: Discriminant Validity Test Results of Each Dimension of BMI.

| Variable | VPI | VCI | VRI |
|------------------------|--------------|--------------|--------------|
| VPI | 0.580 | | |
| VCI | 0.665 | 0.598 | |
| VRI | 0.694 | 0.698 | 0.595 |
| The square root of AVE | 0.762 | 0.773 | 0.771 |

The analysis findings in Tables 6, 7, and 8 show that the standardised correlation coefficients between the dimensions in this discriminant validity test are lower than the square root of the AVE value for each dimension. Each dimension demonstrates strong discriminant validity, indicating a positive outcome.

4.6. Descriptive Statistics and Normality Test

The results of the descriptive statistics and normality test for the variables used in this investigation are presented in Table 9 below. In addition, the descriptive statistics reveal that the scale scoring technique ranges from 1 to 5, and the variables have means ranging from 3 to 4. In addition, the findings indicate that the individuals involved in this study displayed a high level of understanding and proficiency in terms of enterprise performance, “business model innovation,” and enterprise dynamic capabilities.

In addition, the study employs skewness and kurtosis to assess the normal distribution of each measurement item. For example, if the skewness coefficient is below 3 and the kurtosis coefficient is below 8, then the data may be considered to meet the requirements of a nearly normal distribution, according to the criteria established by Kline (1998).

Table 9: Descriptive Statistics of Each Dimension and Normality Test Results of Measurement Items.

| Dimensions | Measurement items | M | SD | Skewness | Kurtosis |
|------------|-------------------|------|-------|----------|----------|
| PRD | PRD1 | 3.51 | 1.334 | -0.528 | -0.874 |
| | PRD2 | 3.25 | 1.141 | -0.196 | -0.594 |
| | PRD3 | 3.2 | 1.162 | -0.266 | -0.604 |
| PM | PM1 | 3.38 | 1.441 | -0.433 | -1.167 |
| | PM2 | 3.19 | 1.129 | -0.079 | -0.575 |
| | PM3 | 3.14 | 1.181 | -0.104 | -0.771 |
| | PM4 | 3.13 | 1.141 | -0.135 | -0.591 |
| | PM5 | 3.16 | 1.175 | -0.091 | -0.758 |
| | PM6 | 3.09 | 1.112 | -0.059 | -0.455 |
| US | US1 | 3.5 | 1.338 | -0.546 | -0.849 |
| | US2 | 3.19 | 1.126 | -0.146 | -0.6 |
| | US3 | 3.21 | 1.148 | -0.058 | -0.689 |
| | US4 | 3.21 | 1.143 | -0.105 | -0.66 |
| | US5 | 3.2 | 1.132 | -0.03 | -0.718 |
| | US6 | 3.19 | 1.143 | -0.119 | -0.572 |
| EEC | EEC1 | 3.41 | 1.334 | -0.453 | -0.969 |
| | EEC2 | 3.2 | 1.167 | -0.234 | -0.662 |
| | EEC3 | 3.13 | 1.17 | -0.056 | -0.718 |
| | EEC4 | 3.23 | 1.165 | -0.236 | -0.602 |
| OPA | OPA1 | 3.37 | 1.301 | -0.457 | -0.845 |
| | OPA2 | 3.2 | 1.168 | -0.135 | -0.74 |
| | OPA3 | 3.25 | 1.109 | -0.174 | -0.615 |
| | OPA4 | 3.23 | 1.146 | -0.243 | -0.586 |
| RIA | RIA1 | 3.39 | 1.38 | -0.448 | -1.036 |
| | RIA2 | 3.12 | 1.164 | -0.097 | -0.648 |
| | RIA3 | 3.12 | 1.219 | -0.111 | -0.843 |
| | RIA4 | 3.23 | 1.114 | -0.272 | -0.504 |
| RRA | RRA1 | 3.49 | 1.351 | -0.597 | -0.827 |
| | RRA2 | 3.2 | 1.21 | -0.207 | -0.778 |
| | RRA3 | 3.3 | 1.218 | -0.317 | -0.74 |
| | RRA4 | 3.33 | 1.184 | -0.278 | -0.585 |
| VPI | VPI1 | 3.59 | 1.308 | -0.639 | -0.699 |
| | VPI2 | 3.34 | 1.208 | -0.313 | -0.73 |
| | VPI3 | 3.34 | 1.108 | -0.236 | -0.544 |
| | VPI4 | 3.29 | 1.093 | -0.196 | -0.439 |
| | VPI5 | 3.35 | 1.149 | -0.344 | -0.569 |
| VCI | VCI1 | 3.54 | 1.354 | -0.614 | -0.822 |
| | VCI2 | 3.27 | 1.151 | -0.156 | -0.58 |
| | VCI3 | 3.25 | 1.227 | -0.225 | -0.775 |
| | VCI4 | 3.27 | 1.189 | -0.192 | -0.674 |
| | VCI5 | 3.28 | 1.123 | -0.099 | -0.601 |
| | VCI6 | 3.26 | 1.172 | -0.221 | -0.652 |
| | VCI7 | 3.32 | 1.219 | -0.243 | -0.795 |
| | VCI8 | 3.41 | 1.173 | -0.285 | -0.687 |
| | VCI9 | 3.29 | 1.221 | -0.247 | -0.746 |
| | VCI10 | 3.26 | 1.105 | -0.293 | -0.423 |
| VRI | VRI1 | 3.57 | 1.296 | -0.621 | -0.687 |
| | VRI2 | 3.31 | 1.165 | -0.152 | -0.746 |
| | VRI3 | 3.25 | 1.153 | -0.124 | -0.681 |

The findings of the analysis are presented in Table 9, indicating that all measurement items in this research fall within the standard range for skewness and kurtosis coefficients. Based on the analysis, it is evident that the data from each measurement item conforms to a normal distribution, at least in theory.

4.7. Relevant Analysis

This study utilised Pearson correlation analysis to examine the potential relationships between the variables. All the variables in this study exhibit significant correlations with one another, as evidenced by the findings. Furthermore, all of the variables exhibit

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statistical significance at a 99% level. Every variable in the study exhibits a positive correlation coefficient (r), as indicated by the findings of the correlation

analysis. As a result, this study demonstrates that every variable demonstrates a statistically significant positive correlation.

Table 10: Pearson Correlation Analysis Results Between Various Dimensions.

| Dimensions | PRD | PM | US | EEC | OPA | RIA | RRA | VPI | VCI | VRI |
|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|
| PRD | 1 | | | | | | | | | |
| PM | .619** | 1 | | | | | | | | |
| US | .599** | .616** | 1 | | | | | | | |
| EEC | .627** | .629** | .622** | 1 | | | | | | |
| OPA | .536** | .530** | .510** | .535** | 1 | | | | | |
| RIA | .545** | .554** | .530** | .547** | .655** | 1 | | | | |
| RRA | .543** | .539** | .532** | .551** | .636** | .668** | 1 | | | |
| VPI | .516** | .503** | .500** | .513** | .556** | .576** | .587** | 1 | | |
| VCI | .518** | .521** | .510** | .532** | .559** | .561** | .551** | .601** | 1 | |
| VRI | .518** | .525** | .502** | .537** | .565** | .574** | .562** | .584** | .609** | 1 |

4.8. Structural Equation Model

Table 11: SEM Model Fitness Test.

| Index | Reference standards | Measured Results |
|---------|-----------------------------------|------------------|
| CMIN/DF | 1-3 is excellent, 3-5 is good. | 1.305 |
| RMSEA | <0.05 is excellent, <0.08 is good | 0.028 |
| NFI | >0.09 is excellent, >0.8 is good | 0.896 |
| RFI | >0.09 is excellent, >0.8 is good | 0.891 |
| IFI | >0.09 is excellent, >0.8 is good | 0.974 |
| TLI | >0.09 is excellent, >0.8 is good | 0.972 |
| CFI | >0.09 is excellent, >0.8 is good | 0.974 |

The results of the model adaption test, as shown in Table 11 above, suggest that the CMIN/DF value of 1.305 falls within the acceptable range of 1-3. Additionally, the RMSEA value of 0.027 indicates an exceptionally good

fit, as it is below the threshold of 0.05. All the inspection values, including NFI, RFI, IFI, TLI, and CFI, are above 0.8. Therefore, it is evident from the comprehensive findings of the analysis that the SEM model is a good fit.

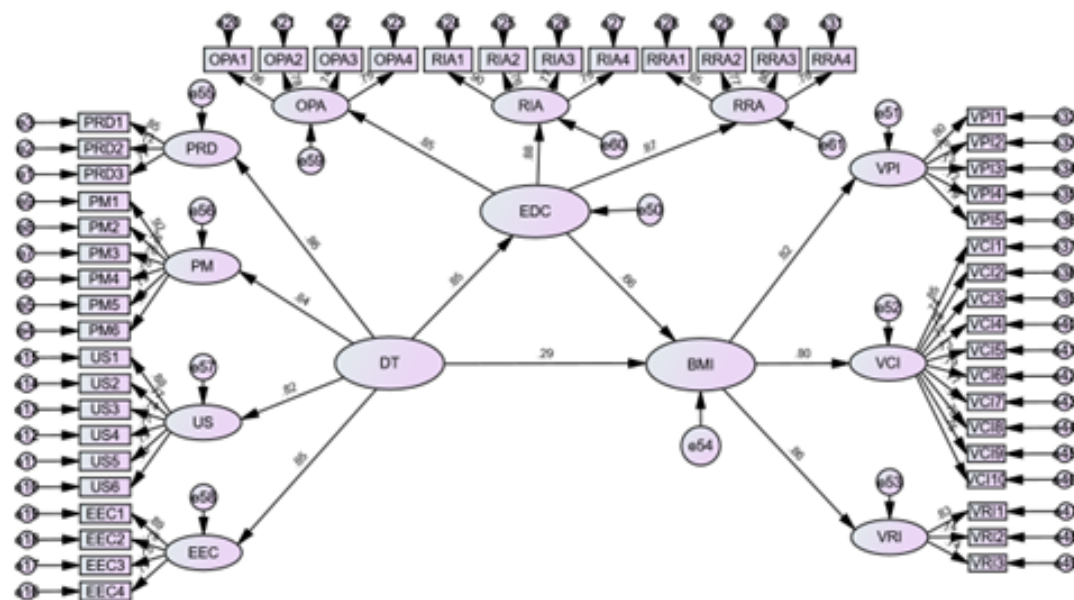


Figure 2 SEM Analysis Model.

4.9. Path Relationship Hypothesis Test Results

Table 12 shows the findings of the investigation, which prove that H1 is true since DT strongly predicts BMI in this study's route hypothesis association test ($\beta=0.288$,

$P<0.05$). It is concluded that H2 is true since EDC is a strong predictor of BMI ($\beta=0.663$ $P<0.05$). the result also include tha H3 is true since DT strongly predicts EDC ($\beta=0.849$ $P<0.05$).

Table 12: Path Relationship.

| Path Relationship | Estimate | S.E. | C.R. | P |
|-------------------|----------|-------|--------|-------|
| EDC <--- DT | 0.849 | 0.088 | 11.869 | *** |
| BMI <--- EDC | 0.663 | 0.094 | 6.375 | *** |
| BMI <--- DT | 0.288 | 0.106 | 3.033 | 0.002 |

4.10. Mediating Effects Test

This study employed the Bootstrap approach of the Amos programme to assess the mediating impact. Typically, research studies necessitate a larger sample size, which is commonly set at 5,000. The confidence level of the interval is typically set to 95% (sometimes 90%, 95%, or 99%). The 95% confidence interval is determined by accounting for bias and considering its

range. Mediating effects occur when the confidence interval of the indirect effect, after bias correction, does not encompass the value of 0. The mediation effect is considered incomplete when the bias-corrected confidence interval of the direct impact does not encompass 0. A value of 0 may indicate a complete mediation effect. The direct effect is significant when the confidence interval does not include 0.

Table 13: Mediating Effects Test.

| Path | Effects | Estimate | Lower | Upper | P |
|-------------------|------------------|----------|--------|-------|-------|
| DT --->EDC--->BMI | Indirect effects | 0.562 | 0.263 | 0.896 | 0.002 |
| | Direct effects | 0.288 | -0.047 | 0.643 | 0.087 |
| | Total effects | 0.850 | 0.736 | 0.936 | 0.001 |

According to the results in Table 13, the indirect effect value of the mediating path “DT --->EDC--->BMI” is 0.850; the upper and lower limits of the corresponding Bootstrap confidence interval are [0.736,0.939]; the confidence interval does not contain 0. At this time, the direct effects value of “DT --->BMI” is 0.288; the Bootstrap confidence interval for the mediating effect of EDC in the path of DT and BMI is [-0.047, 0.643]. The fact that the confidence interval includes 0 indicates a significant full mediating effect of EDC. The establishment of H4 is confirmed.

dynamic capabilities, and business model innovation. The value of enriching, advancing, and developing the theory of “business model innovation” to promote enterprise digital transformation and enhance enterprise dynamic capabilities, ultimately improving enterprise efficiency, is significant.

Through in-depth research, this study reveals the interrelated and mutually reinforcing relationship between digital transformation, enterprise dynamic capabilities, and “business model innovation”.

5. Discussion and Conclusions

5.1. Discussion

Currently, there is a lack of comprehensive research on the potential impact of digital transformation and enterprise dynamic capabilities on “business model innovation.” This study developed a theoretical model of digital transformation, enterprise dynamic capabilities, business model innovation, and enterprise performance based on literature research and theoretical discussion. It also refined relevant propositions. This research incorporates primary inputs that differ from previous studies: This study aims to provide insights into the relationship between digital transformation, enterprise

Enterprises can enhance their ability to capture new market opportunities by improving their sensitivity and timely perception of external opportunities within the context of their dynamic capabilities. This capability allows companies to rapidly adapt strategic directions and offer substantial backing for “business model innovation”. Companies that possess a high level of opportunity awareness are more likely to differentiate themselves in fiercely competitive markets. They possess the ability to seize opportunities and adapt to market changes, enabling the successful implementation of “business model innovation”.

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The resource integration capability in an enterprise's dynamic capabilities allows for the effective utilisation of both internal and external resources. This capability facilitates the innovation and optimisation of business processes, thereby providing a strong foundation for business model innovation. Companies that possess robust resource integration capabilities are more likely to attain high levels of performance and innovation. Effective resource integration capabilities enhance enterprises' ability to adapt to market demand changes, establish a foundation for business model flexibility and adaptability, and ultimately improve overall performance.

Enterprise dynamic competencies refer to the ability of businesses to rapidly adjust their organisational structures, business models, and value chains in response to changing market ecosystems. Companies that possess strong capabilities for reorganising resources are more likely to achieve competitive advantages in turbulent markets. This capability enables enterprises to adapt to changes in the digital era, facilitating the implementation of business model innovation and enhancing overall performance.

In general, the shift towards digitalization in organisations and the development of dynamic capabilities within enterprises have a positive effect on the innovation of business models. By enhancing organisations' digital transformation and dynamic capabilities, they can more effectively adjust to the evolving market ecosystem and foster “business model innovation,” thus enhancing the competitiveness and overall efficiency of their digital transformation efforts.

6. Conclusion

Finally, this paper examines the impact of DT on BMI and the role of EDC as a mediator between DT and BMI. This paper employs quantitative analysis methods to examine the research hypotheses put forth in this study. This study gathered 400 primary data through questionnaires and utilised AMOS and SPSS statistical software to process and analyse the data. The empirical analysis of this study supports the validity of all hypotheses.

6.1. Significance of this Study

This study uncovers the interconnections between digital transformation, enterprise dynamic capabilities, and business model innovation through a comprehensive examination of their relationship. Highlighting the significant role of digital transformation and enterprise dynamic capabilities offers a fresh outlook on the theory of enterprise digital transformation and dynamic capabilities. Through the implementation of digital transformation and

the development of dynamic capabilities, organisations can effectively adapt to market fluctuations, foster innovation in their business models, and enhance overall corporate performance. This offers practical recommendations for businesses' strategy development and implementation in the digital age. This research offers a thorough exploration of the theoretical and practical implications in the field, providing valuable insights for enhancing dynamic capabilities theory, driving corporate practice, and informing strategic decision-making. Companies can improve their performance by enhancing their dynamic capabilities, effectively adapting to evolving market ecosystems, and achieving “business model innovation.”

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