

Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China

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Abstract

The Hotel Industry in Henan, China plays a crucial role in the economic development of Henan Province, China. This study examines the factors influencing innovation-oriented organizations among The Hotel Industry in Henan, China, focusing on digital technology adoption, business transformation, and organizational structure and culture. The research utilizes a quantitative approach, collecting data from 400 The Hotel Industry in Henan, China through structured questionnaires. The findings indicate that digital technology ($B = 0.38$) and business transformation ($B = 0.25$) are the most Affecting Employee Engagement in the Hotel Industry in Henan, China". Larger and older businesses tend to be more Employee Engagement, while managerial education level does not significantly impact Employee Engagement. The study highlights the challenges The Hotel Industry in Henan, China face, including financial constraints, talent shortages, and competitive pressure. Based on these insights, recommendations include enhancing digital transformation initiatives, promoting business transformation strategies, strengthening organizational culture, and improving policy support and infrastructure. These findings provide valuable guidance for policymakers and business leaders to enhance the Employee Engagement of The Hotel Industry in Henan, China, ensuring long-term growth and sustainability.

Keywords: The Hotel Industry in Henan, China, Employee Engagement, Digital Transformation, Business Transformation,

Background and Statement of the problem

The cost-benefit status of in the Hotel Industry in Henan, China presents many characteristics: Economic growth is good but still under pressure. From January to August 2024, the number of small and medium-sized industrial enterprises above the designated size in Henan Province increased by 7.9% year-on-year, operating income increased by 6.5% year-on-year, and total profit increased by 33.7% year-on-year, continuing the stable and sound development trend. According to the November 2021 data of the Hotel Industry in Henan, China Association, the efficiency index of the Hotel Industry in Henan, China is 61.2, which is a historically low level, and the profit differentiation of upstream and downstream industries has not improved significantly; downstream the Hotel Industry in Henan, China are still under tremendous pressure, and downward pressure on corporate efficiency still exists—higher financing costs. In the first half of 2011, in the Hotel Industry in Henan, China interest expenses increased by 50.1%, nearly 80% of the Hotel Industry in Henan, China reflected the shortage of liquidity and capital chain tension, and almost 90% of enterprises admitted that there were difficulties in financing. However, from the overall economic environment and enterprise feedback, financing is still an important factor restricting the development of misprediction costs, which have eased but remain high. In November 2021, the cost index was 113.1, although the increase of 0.2 points from the previous month indicates that the cost has decreased. However, it is still at the highest level of the eight sub-indexes. Ichsan et al. (2025) However, ensuring supply and price stability initially curbed the rise in energy and raw material prices, and small and medium-sized enterprises' production and operating costs have slowed. The tax burden has been reduced. The state has recently continued implementing tax and fee reduction policies. For example, in 2020, China successfully issued and implemented seven batches of 28 tax and fee reduction policies. In 2021, tax support for small and micro enterprises, manufacturing enterprises, and scientific and technological innovation enterprises will be increased the Hotel Industry in Henan, China will benefit from this, and the tax burden will be reduced to a certain extent. Aslam et al. (2023) Innovation input and output

benefits gradually emerge. The innovation ability of the Hotel Industry in Henan, China has been continuously enhanced, and 40 provincial industrial research institutes have been built. There are 27 manufacturing innovation centers and 1,698 R&D centers jointly built by universities and enterprises, which have promoted Zhengzhou, Hibi, and Xinxiang to be selected as pilot cities of MIIT for the digital transformation of the Hotel Industry in Henan, China and laid a foundation for long-term development and efficiency improvement of enterprises. Chowdhury et al. (2024) The transformation of the Hotel Industry in Henan, China into innovation-driven organizations has been a focal point of provincial and national strategies. The Hotel Industry in Henan, China are recognized for their role in boosting local economies, and in Henan, the focus has been on fostering innovation through technological advancements, financial support, and infrastructure development. For example, Henan Province has seen a rise in innovation hubs, including R&D centers and manufacturing innovation centers. The establishment of industrial research institutes, collaborative R&D efforts between universities and businesses, and the promotion of digital transformation have all played a part in elevating the region's the Hotel Industry in Henan, China toward more incredible innovation. Moreover, the province has encouraged the Hotel Industry in Henan, China to engage in intellectual property (IP) financing, which supports their growth by leveraging IP assets as collateral. Several initiatives have been launched to ease financial constraints and provide more accessible funding options for innovative enterprises. The broader national strategy also supports this shift, focusing on increasing the capabilities of the Hotel Industry in Henan, China through targeted assistance in digital transformation, financing, and market expansion. The government has implemented initiatives to support the Hotel Industry in Henan, China, including those focused on technological breakthroughs and specialized industries. These policies help the Hotel Industry in Henan, China expand their markets, improve competitiveness, and promote long-term sustainability through innovation. Yusrifalda et al. (2024) The challenges for the Hotel Industry in Henan, China in becoming innovation-driven organizations include a few critical areas: Financing Difficulties: Many the Hotel Industry in Henan, China face high financing costs and liquidity shortages. Many enterprises report challenges in securing adequate funding, which hinders their ability to invest in innovation and technological advancements. (2) Talent Shortage: Despite efforts to improve digital transformation, lacking skilled human resources remains a barrier for the Hotel Industry in Henan, China. This limits their ability to adopt advanced technologies and innovate effectively (3). Competitive Pressure: With Henan's proximity to economically advanced provinces the Hotel Industry in Henan, China face intense competition, which can both motivate innovation and place additional pressure on resources. (4) Innovation Environment: Although efforts are being made to improve the innovation ecosystem, the pace of technological advancement and digital infrastructure remains uneven, limiting the overall effectiveness of innovation initiatives. These efforts in Henan reflect China's broader ambition to stimulate innovation within the Hotel Industry in Henan, China nationwide, aligning with initiatives to build "little giant" firms and strengthen the tech sector. (Galushast, 2022)

Based on the literature review mentioned above, the researcher is interested in studying " Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China."

Objective

1. To study the level of Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China.
2. To compare the differences Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China
3. To study factors Affecting Employee Engagement in the Hotel Industry in Henan, China

Expected benefits

1. Promoting the Development of Innovation-Oriented Organizations in The Hotel Industry in Henan, China. The research helps understand the factors that influence the development of innovation-oriented organizations in The Hotel Industry in Henan, China, such as access to financial resources, risk management, and government support. This contributes to the long-term growth and competitiveness of The Hotel Industry in Henan, China.
2. Developing Support Strategies from the Government and Related Agencies. The research findings can assist the government and relevant agencies in developing policies or programs to support SME development.

These programs should focus on promoting investment in innovation and new technologies to enhance competitiveness in the market

3. Enhancing the Competitiveness of The Hotel Industry in Henan, China. This research can help The Hotel Industry in Henan, China identify key factors that drive innovation within the organization, such as developing employee skills, adopting new technologies, or collaborating with partners to strengthen their competitiveness in local and global markets.

Conceptual Framework:

1. Independent variables include:

1.1 The Digital Technology, the researcher utilized the concepts and theories of John Loonam (2018), which include four aspects: (1) The ability to acquire technology, (2) The ability to utilize technology in operations, (3) The ability to adapt technology appropriately, and (4) the ability to innovate with technology.

1.2 The Business Transformation, the researcher applied the concepts and theories of Sune Dueholm Muller (2014), which include four aspects: (1) Marketing transformation, (2) Financial transformation, (3) Personnel transformation, and (4) Operational transformation.

2. Dependent variables include:

Employee Engagement in the Hotel Industry in Henan, the researcher adopted the concepts and theories of Steers (1977) identified (1) Acceptance of the organization, (2) Utilization of abilities for the organization and (3) The desire to remain a member of the organization.

3. Conceptual framework

This research is " Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China." Involved in a review of relevant documents and studies. Which can be used as a framework for this study as follows:

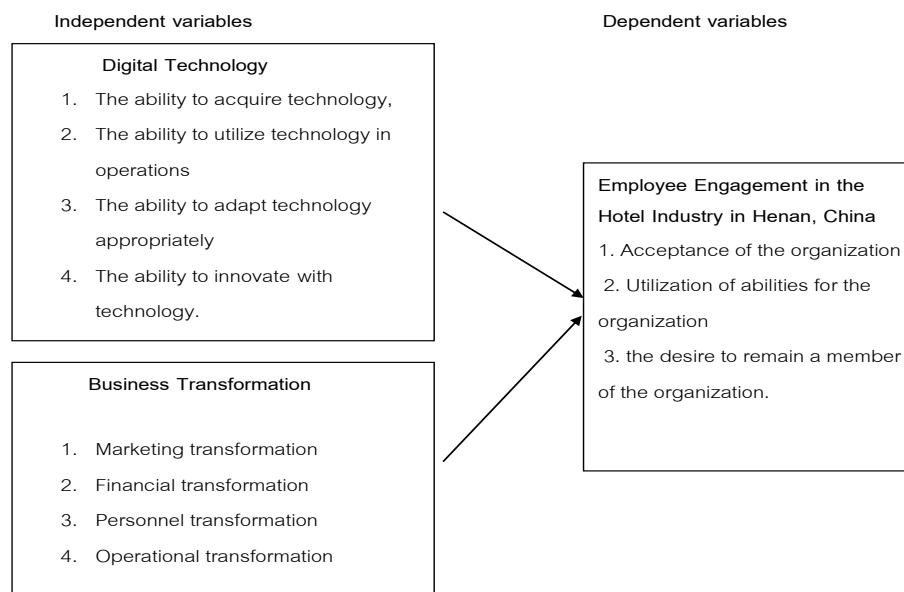


Figure 1: Research Conceptual Framework

Research Methodology

1. Population and Sample

Research population

The population used in this study consists of 16,527 people in the Hotel Industry in Henan, China. National Bureau of Statistics of China (2025)

Sample

The researcher determined the sample size for this study using the Krejcie and Morgan (1970) sample size determination table, which has a margin of error of 0.05 or a 95% confidence level. As a result, the required sample size for this study was 384 participants. Additionally, since data collection was conducted through online

questionnaires, which often receive limited cooperation from respondents—meaning the response rate tends to be relatively low—precautions were taken to minimize data collection errors. The researcher increased the sample size to compensate for potential non-responses or incomplete questionnaires and to ensure the data collected was complete and reliable. Therefore, the total sample size used in this study was 400 participants by purposive sampling

2. Research Instruments

The data collection instrument used in this study was a questionnaire designed by the researcher. The questionnaire was developed based on the study of relevant concepts, theories, and research findings. It was divided into three sections as follows:

Section 1: Questions related to the personal factors of the respondents, including:

1. Gender
2. Age,
3. Marital status
4. Education level,
5. Monthly income

Section 2: Questions regarding the digital technology factor, the researcher utilized the concepts and theories of John Loonam (2018), which include four aspects:

1. The ability to acquire technology,
2. The ability to utilize technology in operations
3. The ability to adapt technology appropriately
4. The ability to innovate with technology.

Section 3: Questions about the level of the business transformation factors, the researcher applied the concepts and theories of Sune Dueholm Muller (2014), which include four aspects:

1. Marketing transformation
2. Financial transformation
3. Personnel transformation
4. Operational transformation

Section 4: Questions Employee Engagement in the Hotel Industry in Henan, China, the researcher adopted the concepts and theories of Steers (1977) identified

1. Acceptance of the organization
2. Utilization of abilities for the organization
3. The desire to remain a member of the organization.

3. Validation of Research Instruments

Instrument Validity

The researcher submitted the questionnaire to three experts and specialists for review to assess its content validity. The validity was determined by calculating the Index of Item-Objective Congruence (IOC), which measures the alignment between each question and the research objectives and the alignment with the definitions of specific terms (Hambleton, 1984). The following formula was used:

$$IOC = \frac{\sum R}{N}$$

where IOC Index of Item-Objective Congruence between the question and the definition.
 $\sum R$ Total scores assigned by the experts.
 N Number of experts.

The scoring criteria for the IOC system, as provided by each expert, are as follows:

- +1: Confident that the question aligns with the specific definition.
- 0: Uncertain whether the question aligns with the specific definition.
- 1: Confident that the question does not align with the specific definition.

Questions with an IOC score greater than or equal to 0.6 were selected. Questions with an IOC score below 0.6 were excluded unless they were revised and improved according to the experts' recommendations (Hambleton, 1984).

Instrument Reliability

To determine the reliability of the questionnaire, the researcher used the version of the questionnaire that had been validated for content validity by experts and specialists. The validated questionnaire was then tested (Try-out) with 30 individuals whose job characteristics were like those of the sample group (but who were not part of the sample group). The data obtained from the try-out were used to calculate Cronbach's Alpha Coefficient (α -Coefficient) for reliability measurement (Hambleton, 1984). The formula used for this calculation is as follows:

$$\alpha = \frac{n}{n-1} \left[1 - \frac{\sum S_i^2}{S_t^2} \right]$$

where α represents the reliability coefficient.
 n represents the number of items in the instrument.
 S_i^2 represents the variance of each item.
 S_t^2 represents the variance of the entire instrument.

4. Data Collection Methods

4.1 The researcher collected data by distributing questionnaires to the sample group online. The sample selection method was simple random sampling, and the survey was distributed only to managerial or higher individuals, with one person per the Hotel Industry in Henan, China

4.2 The researcher reviewed all the returned questionnaires.

4.3 The researcher then gathered all the completed questionnaires for data analysis to calculate the relevant statistics.

5. Data Analysis Methods

The researcher analyzed the data collected from the sample group using statistical software to compute the relevant statistics as follows:

Questionnaire Review and Scoring

5.1 The researcher reviewed the completeness and accuracy of all 400 questionnaires related to the Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China.

5.2 The levels of personal factors, Digital technology factors, Business transformation factors, and Employee Engagement factors were measured using a 5-point Likert-type rating scale as follows:

Strongly agree:	Score 5
Agree:	Score 4
Neutral:	Score 3
Disagree:	Score 2
Strongly disagree:	Score 1

Score Interpretation

The researcher calculated the average scores and standard deviations using statistical software and compared the results with the interpretation criteria (Gillham (2001) as follows:

Mean 4.51 – 5.00:	Strongly agree
Mean 3.51 – 4.50:	Agree
Mean 2.51 – 3.50:	Neutral
Mean 1.51 – 2.50:	Disagree
Mean 1.00 – 1.50:	Strongly disagree

6. Statistics Used for Data Analysis

The researcher analyzed the data collected from the returned questionnaires using statistical software in this study. A significance level of 0.05 was set, and the following statistics were used for data analysis: Frequency and Percentage: These were used to analyze essential personal factors, such as:

6.1 Frequency and Percentage: These were used to analyze essential personal factors, such as:

- Gender
- Age
- Marital status
- Education level
- Monthly income

6.2 Mean (Average) and Standard Deviation (S.D.): These were used to analyze the level of opinions regarding Digital technology, Business transformation, and Employee Engagement

6.3 Comparing Opinion Levels Between Genders or Variables with Two Categories: This was tested using the independent t-test.

6.4 Comparing Opinions Between Age, Marital Status, Education Level, Monthly Income, or Variables with More Than Two Categories: This was tested using One-way ANOVA (F-test). The researcher conducted pairwise comparisons using the Scheffe method when the test results showed significant statistical differences.

6.5 The analysis of the Study of Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China. Using statistics can be structured as follows: Multiple Regression.

Research Results

Objective 1: To study the level of Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China.

Factor	Mean	Standard Deviation (S.D.)	Opinion Level
Digital Technology	4.15	0.85	Agree
Business Transformation	3.95	0.78	Agree
Organizational Structure	4.05	0.80	Agree
Organizational Culture	4.20	0.82	Agree
Strategy and Vision	4.10	0.79	Agree

Summary: The results indicate that The Hotel Industry in Henan, China have a high awareness of factors related to i Employee Engagement, especially in organizational culture (4.20) and digital technology (4.15), which play significant roles in fostering innovation-driven organizations.

Objective 2: To compare the differences Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China

Variable	F Value (ANOVA)	p-Value
Business Age	3.25	0.042*
Business Size	4.80	0.015*
Managerial Education Level	2.90	0.067

Note: *p < 0.05 indicates statistical significance.

Summary: Larger and older businesses tend to be more Employee Engagement. However, the education level of managers does not show a statistically significant impact

Objective 3: Digital Technology and Business Transformation Affecting Employee Engagement in the Hotel Industry in Henan, China

Independent Variable	Coefficient (B)	t-Value	p-Value
Digital Technology	0.38	5.12	<0.001*
Business Transformation	0.25	3.98	<0.001*
Organizational Structure	0.15	2.45	0.018*
Organizational Culture	0.22	3.78	<0.001*
Strategy and Vision	0.20	3.50	<0.001*

Note: *p < 0.05 indicates statistical significance.

Summary: The most influential factors in driving Employee Engagement are digital technology (B = 0.38) and business transformation (B = 0.25). This suggests that The Hotel Industry in Henan, China that effectively adopt technology and implement strategic business changes are more likely to become innovation-driven organizations.

Summary of the Study

1. The Hotel Industry in Henan, China Province demonstrate a strong presence of Employee Engagement.
2. Business size and age significantly impact Employee Engagement.
3. Digital technology and business transformation are the most influential factors in fostering Employee Engagement.

These findings can serve as a foundation for policies and strategies to enhance The Hotel Industry in Henan, China'

Discussions

The findings highlight the crucial role of digital technology and business transformation in fostering Employee Engagement the Hotel Industry in Henan, China. The high awareness of these factors suggests that businesses recognize their significance but may still face challenges in fully leveraging them. Future research could explore the specific barriers preventing The Hotel Industry in Henan, China from fully utilizing digital advancements. The comparison of different business characteristics further supports the notion that older and larger businesses have greater innovation potential. This may be due to their established resources and market experience. However, the lack of a statistically significant impact of managerial education on innovation orientation suggests that other factors, such as leadership style or industry dynamics, may play a more prominent role. Policy implications of this study suggest that government and business support organizations should focus on encouraging digital transformation and strategic business changes. Providing financial incentives, technology training, and infrastructure support can help The Hotel Industry in Henan, China bridge the gap in innovation readiness. In conclusion, while The Hotel Industry in Henan, China in Henan Province already exhibit strong innovation-oriented characteristics, there is still room for growth. Addressing technological adoption challenges and supporting strategic transformations will be key to further fostering innovation-driven enterprises.

Recommendations

1. **Enhancing Digital Transformation Initiatives**
 - Establish government-funded programs to support The Hotel Industry in Henan, China in adopting digital technologies.
 - Provide training programs for business owners and employees to improve digital skills.
 - Develop incentives, such as tax breaks, for companies investing in digital infrastructure.
2. **Encouraging Business Transformation**
 - Facilitate access to financial support to help The Hotel Industry in Henan, China implement strategic business transformations.
 - Promote partnerships between The Hotel Industry in Henan, China and large enterprises to foster innovation and knowledge sharing.
 - Encourage The Hotel Industry in Henan, China to adopt flexible business models that allow for continuous improvement and adaptation.
3. **Strengthening Organizational Culture and Structure**
 - Promote a culture of innovation within The Hotel Industry in Henan, China by implementing reward systems for innovative ideas.
 - Encourage collaborative work environments that support teamwork and knowledge exchange.
 - Provide leadership training to enhance managerial capacity in driving innovation.
4. **Improving Policy Support and Infrastructure**
 - Develop policies that reduce regulatory burdens on The Hotel Industry in Henan, China to encourage entrepreneurial activity.
 - Invest in research and development (R&D) hubs to provide The Hotel Industry in Henan, China with access to advanced technologies.
 - Establish innovation incubation centers to support start-ups and emerging businesses.
5. **Addressing Financial Barriers**
 - Create more accessible funding options, including low-interest loans and grants for innovative projects.
 - Implement financial literacy programs to help The Hotel Industry in Henan, China manage resources effectively.

- Promote intellectual property (IP) financing as an alternative funding source for innovation-focused The Hotel Industry in Henan, China.

By implementing these recommendations, Henan Province can further strengthen the innovation capabilities of its The Hotel Industry in Henan, China, ensuring long-term competitiveness and sustainable growth.

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