# The Influencing Factors Affecting Low-Code Technology Adoption: A Case Study of the Small and Medium-Sized Advertising Agencies in China

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Received : September 30, 2024; Revised October 13, 2024; Accepted : October 14, 2024

## Abstract

Low-code development platforms (LCDPs) were transforming software development by enabling individuals with limited coding skills to create applications. This was particularly relevant for Small and Medium-Sized Advertising Agencies (SMAs) striving for efficiency, agility, and digital innovation in a competitive market. However, the adoption of LCDPs in SMAs was influenced by various technological, organizational, and economic factors.

This study aimed to identify the key factors influencing the adoption of LCDPs in SMAs and provide practical guidance for their implementation. A mixed-methods approach was employed, incorporating both quantitative and qualitative research methods. Data were collected from 112 respondents, comprising IT developers and non-IT personnel in SMAs, through a questionnaire and in-depth interviews. Multiple linear regression analysis was conducted to determine the significant predictors of LCDP adoption.

The results revealed that cost considerations ($\beta$ = 0.211) and perceived security risks ($\beta$ = 0.260) emerged as the most significant factors influencing LCDP adoption in SMAs. While perceived efficiency, ease of use, and reduced IT dependency were also contributing factors, their influence was less pronounced than cost and security concerns.

The study concluded that SMAs were increasingly recognizing the potential of LCDPs to enhance digital innovation and operational efficiency. However, successful adoption hinged on addressing economic factors, such as providing affordable pricing models, and fostering trust by prioritizing robust security features and transparent communication about data protection. These findings provided valuable insights for LCDP providers and SMAs,

guiding the development and implementation of these platforms to maximize their potential in the dynamic advertising industry.

**Keywords**: Low-Code Development Platforms, Factors Affecting, Small and Medium-Sized, Low-Code Technology Adoption

## Introduction

The accelerating pace of digital transformation significantly increased the demand for software development across industries. Traditional programming methods often struggled to keep up with the rapidly changing market due to a shortage of skilled professionals and time constraints (CAICT, 2023). Low-Code Development Platforms (LCDPs) emerged as a solution, streamlining development processes and enabling non-technical personnel to participate in application creation, thereby improving efficiency. However, limitations in scalability and customization capabilities persisted, leading to cautious adoption by some organizations. Recent studies (Gartner, 2023) indicated that while 85% of IT decision-makers viewed low-code as a crucial trend, 40% remained concerned about its effectiveness in handling complex enterprise applications. This suggested that there were still gaps in research related to the adoption and implementation of low-code technology.

This study focused on the adoption of LCDPs within small and medium-sized advertising companies in the context of digital transformation. It aimed to explore the challenges and opportunities these companies faced when implementing low-code technology and analyzed the key factors influencing its adoption. The research team had extensive experience in this field, having been involved in digital projects within various advertising companies and possessing deep insights into the practical application of these technologies. While existing studies addressed the advantages and challenges of low-code technology, specific research on its application within small and medium-sized enterprises (SMEs) in the advertising sector remained scarce. The target audience for this study included technology professionals, business managers in the advertising industry, and academic researchers and decision-makers interested in enterprise digital transformation.

While the adoption of low-code development platforms (LCDPs) held significant promise for Small and Medium-Sized Advertising Agencies (SMAs) in China seeking to enhance their digital capabilities, existing research revealed critical gaps in understanding the specific factors driving this adoption within the unique context of the Chinese advertising industry. A review of recent literature indicated the following key research gaps: First, there

was a limited focus on the Chinese context. While studies explored LCDP adoption in general business settings (Alsamhi et al., 2023), there was a lack of research specifically examining the unique challenges and opportunities faced by Chinese SMAs, such as the influence of government policies, local market dynamics, and cultural nuances. Second, existing research often prioritized technical aspects of LCDP adoption, overlooking crucial organizational and social factors, such as leadership support, employee attitudes towards technology adoption, and the role of organizational culture in facilitating or hindering LCDP implementation (Oliveira et al., 2022). Finally, many studies relied heavily on quantitative data, neglecting the rich qualitative data that could provide deeper insights into the lived experiences and perspectives of SMA professionals regarding LCDP adoption (Hashim et al., 2022).

The objective of this study was to systematically analyze the key drivers and barriers influencing the adoption of Low-Code Development Platforms among small and medium-sized advertising companies, with the goal of providing practical guidance for these enterprises during their digital transformation. Through surveys and in-depth interviews conducted across multiple companies in the advertising industry, this research gathered data on the actual experiences and technological needs of these firms in their use of low-code platforms. The findings helped businesses better understand the application scenarios of low-code technology and offered insights for future technology selection and implementation. The structure of this research paper included a literature review, research methodology, data analysis, and research conclusions, aiming to provide a theoretical foundation and practical recommendations for the adoption of LCDP by enterprises.

## Research Objective

1. To systematically analyze the key drivers and barriers influencing the adoption of Low-Code Development Platforms among small and medium-sized advertising companies.

## Literature Review

### Small and Medium-Sized Advertising Agencies (SMAs) Background

Small and medium-sized advertising agencies (SMAs) in China navigated a dynamic and challenging environment characterized by rapid technological advancements, evolving consumer behavior, and intense competition. These agencies constituted a crucial component of China's advertising industry, exhibiting flexibility and innovation to cater to

the diverse needs of local businesses. However, they also encountered substantial obstacles in their pursuit of growth and sustainability. Recent research illuminated the increasing adoption of digital technologies by Chinese SMAs, particularly in response to the COVID-19 pandemic, which accelerated the shift towards online platforms (Li et al., 2022). Social media marketing, e-commerce advertising, and digital content creation became increasingly critical for these agencies to reach target audiences and maintain a competitive edge. However, a significant digital divide persisted, with many SMAs encountering difficulties in acquiring the necessary digital skills and resources (Zhang & Li, 2023). This disparity was particularly pronounced in less developed regions and among smaller agencies, hindering their capacity to effectively leverage digital tools and platforms. Furthermore, SMAs in China often faced challenges related to talent acquisition and retention, financial constraints, and navigating complex regulatory landscapes. Building and maintaining a skilled workforce was essential for innovation and service delivery, yet many SMAs struggled to compete with larger agencies and technology companies for top talent (Wang, 2022). Limited access to financing could also constrain their ability to invest in new technologies, expand operations, and withstand economic downturns. Despite these challenges, Chinese SMAs demonstrated resilience and adaptability. Many actively pursued strategies such as specialization, collaboration, and internationalization to enhance their competitiveness. By focusing on niche markets, forging strategic partnerships, and exploring overseas opportunities, these agencies could differentiate themselves and access new sources of growth. Overall, the landscape for SMAs in China was complex and dynamic, presenting both opportunities and challenges amidst digital transformation and evolving market demands.

**Small and Medium-Sized Advertising Agencies (SMAs) in China and the Role of Low-Code Development Platforms (LCDPs)**

While scholarly inquiry specifically addressing the intersection of small and medium-sized advertising agencies (SMAs) in China and Low-Code Development Platforms (LCDPs) remained limited, nascent evidence suggested a burgeoning trend of LCDP adoption within this sector. This trend was driven by the escalating necessity for SMAs to adapt to the rapidly evolving digital landscape and augment their operational efficiency. LCDPs presented a promising solution by facilitating expedited application development with diminished reliance on traditional coding, thereby potentially empowering smaller agencies with constrained IT resources to engage in digital transformation initiatives. However, the adoption

of LCDPs by Chinese SMAs was not devoid of challenges. Research indicated that concerns regarding data security, integration with extant systems, and the perceived limitations of LCDPs in managing complex functionalities persisted as significant impediments (Chen & Wang, 2022). Furthermore, a deficit of awareness and comprehension of LCDP capabilities among SMA leaders and employees could hinder adoption. This underscored the necessity for targeted training and education programs to bridge the knowledge gap and facilitate effective implementation. Despite these challenges, several studies alluded to the potential benefits of LCDPs for Chinese SMAs. For instance, research by Liu et al. (2023) revealed that LCDPs could significantly enhance the efficiency of marketing campaign development and execution in SMAs, enabling them to respond more expeditiously to market demands and client needs. Moreover, by empowering non-technical personnel to participate in application development, LCDPs could foster amplified collaboration and innovation within these agencies (Zhang, 2022). This could culminate in the creation of more customized and engaging digital experiences for clients. In summation, while the adoption of LCDPs among Chinese SMAs was still in its nascent stages, the potential for these platforms to propel digital transformation and amplify competitiveness was evident. Addressing concerns related to data security, integration, and functionality, while concurrently promoting awareness and providing adequate training, would be pivotal in facilitating broader adoption and maximizing the benefits of LCDPs for this dynamic sector.

**Roles of Non-Technical Personnel in Application Development Enabled by LCDPs.**

Low-code development platforms (LCDPs) transformed the landscape of application development by empowering non-technical personnel, often termed "citizen developers," to actively participate in the creation of software solutions. This democratization of application development was achieved through user-friendly visual interfaces, drag-and-drop functionalities, and pre-built components that abstracted away the complexities of traditional coding. By reducing the technical barrier to entry, LCDPs enabled individuals with diverse skill sets and domain expertise to contribute to the development process, fostering greater collaboration and innovation within organizations (Laato et al., 2022). This not only alleviated the burden on IT departments but also accelerated the delivery of applications, enabling businesses to respond more agilely to evolving market demands (Gartner, 2023). Research indicated that LCDPs empowered citizen developers to play a variety of roles in application development, ranging from ideation and prototyping to testing and deployment.

For instance, citizen developers could leverage LCDPs to translate their intimate understanding of business processes and user needs into functional prototypes, effectively bridging the gap between business and IT (Richardson & Rymer, 2022). Furthermore, by enabling rapid experimentation and iterative development, LCDPs empowered citizen developers to actively participate in the refinement and improvement of applications, ensuring that the final product aligned with business objectives and user expectations (Wong, 2023). However, it was crucial to acknowledge that the successful integration of citizen developers required careful planning, governance, and support. Organizations needed to provide adequate training, establish clear guidelines, and foster a collaborative environment to ensure that citizen developers could effectively contribute to the development process while maintaining quality and security standards (Mendix, 2022). As shown in Table 1

**Table 1** Roles of Non-Technical Personnel in Application Development Enabled by LCDPs.

| Role | Description |
|---|---|
| Ideation & Conceptualization | Contributing ideas for new applications and features based on their understanding of business needs and user requirements. |
| Prototyping | Building functional prototypes and mockups to visualize and test application concepts. |
| Development | Creating and modifying application components using visual development tools and pre-built modules. |
| Testing | Participating in user acceptance testing (UAT) to identify bugs and provide feedback on usability. |
| Deployment | Assisting with the deployment and configuration of applications in specific environments. |
| Maintenance | Performing basic maintenance tasks and updates to ensure ongoing functionality. |

Source: (Richardson & Rymer, 2022)

**The Impact of LCDPs on Software Development Efficiency and Cost Reduction in SMEs**

Recent research suggested that Low-Code Development Platforms (LCDPs) were having a significant impact on software development efficiency and cost reduction in small and medium-sized advertising agencies (SMAs). By enabling faster development cycles, reducing the need for specialized coding skills, and streamlining deployment processes,

LCDPs empowered SMAs to optimize their resources and enhance their competitiveness in the digital landscape. Studies showed that LCDPs could significantly reduce development time, with some estimates suggesting up to a 90% reduction compared to traditional methods (OutSystems, 2023). This accelerated development pace allowed SMAs to respond more quickly to market demands and client needs, enabling them to deliver innovative solutions and gain a competitive edge. Furthermore, LCDPs contributed to cost reduction by minimizing the reliance on expensive IT personnel and reducing development-related expenses. By empowering citizen developers within SMAs to create and deploy applications, LCDPs alleviated the need for large, specialized development teams, leading to significant cost savings (Mendix, 2022). Additionally, the streamlined development process and reduced maintenance requirements associated with LCDPs contributed to lower overall project costs. However, it was important to note that the successful implementation of LCDPs required careful planning and integration with existing systems to fully realize the efficiency and cost benefits (Kissflow, 2022).

**Table 2** LCDPs and SME Efficiency: Past Impacts on Software Development and Costs

| Impact Area | Description |
|---|---|
| Development Efficiency | Faster development cycles, reduced time-to-market, increased agility. |
| Cost Reduction | Lower development costs, reduced reliance on expensive IT personnel, minimized maintenance expenses. |

Source: (OutSystems, 2023; Kissflow, 2022; Mendix, 2022)

**Factors Influencing the Adoption of LCDPs in Small and Medium-Sized Advertising Agencies (SMAs)**

The adoption of Low-Code Development Platforms (LCDPs) in Small and Medium-Sized Advertising Agencies (SMAs) was driven by a confluence of factors related to efficiency, agility, and cost-effectiveness. Research indicated that SMAs were increasingly drawn to LCDPs due to their ability to accelerate application development, reduce reliance on specialized coding skills, and empower citizen developers within the agency (Sauer et al., 2022). This allowed agencies to rapidly create and deploy custom applications tailored to their specific needs and workflows, such as campaign management tools, client portals, or

interactive content experiences (Haghighi et al., 2023). Furthermore, the visual development environment and pre-built components of LCDPs simplified the development process, enabling faster turnaround times and reducing development costs (Al-Shboul et al., 2022). This was particularly crucial for SMAs that often operated with limited budgets and resources. Additionally, the flexibility and scalability of LCDPs allowed agencies to adapt quickly to evolving client demands and market trends, which was essential in the dynamic advertising landscape (Larivière et al., 2022). However, factors such as concerns about vendor lock-in, data security, and integration with existing systems could influence the adoption decision (Micu & Micu, 2022). By understanding these influencing factors, SMAs could make informed decisions about LCDP adoption and leverage these platforms to enhance their operational efficiency, agility, and competitiveness in the digital era. These factors influencing LCDP adoption in SMAs are shown in Table 3.

**Table 3** Factors Influencing LCDP Adoption in SMAs.

| Factor Category | Specific Factors |
|---|---|
| Technological | Ease of use, speed of development, flexibility and customization, integration capabilities, security features |
| Organizational | Need for rapid application development, availability of internal technical expertise, management support for LCDP adoption, organizational culture towards innovation |
| Economic | Cost-effectiveness, return on investment (ROI), budget constraints, access to affordable LCDP solutions |
| Environmental | Competitive pressure, client demands for digital solutions, industry trends towards low-code development |

**Source:** (Al-Shboul et al., 2022; Haghighi et al., 2023)

**The future trends and potential of Low-Code Development Platforms (LCDPs) in SMAs**

Low-Code Development Platforms (LCDPs) were emerging as a significant force in the digital transformation of Small and Medium-Sized Advertising Agencies (SMAs). By offering intuitive interfaces and pre-built modules, LCDPs empowered these agencies to rapidly develop and deploy custom applications without extensive coding expertise (Sauer et al.,

2022). This allowed SMAs to streamline workflows, automate tasks, and respond quickly to evolving client needs and market trends (Micu & Micu, 2022). For example, agencies could leverage LCDPs to build bespoke campaign management tools, interactive client dashboards, or automated content delivery systems. This agility and responsiveness were crucial in the fast-paced advertising landscape, where personalized experiences and rapid campaign iterations were increasingly vital (Larivière et al., 2022). Furthermore, the accessibility of LCDPs democratized application development, enabling non-technical staff to actively participate in creating digital solutions. This fostered a culture of innovation and collaboration, enabling SMAs to leverage the diverse skills and perspectives within their teams (Haghighi et al., 2023). The integration of AI and machine learning capabilities within LCDPs promised to further enhance automation and personalization, enabling SMAs to deliver even more targeted and effective advertising campaigns (Saura et al., 2023). These future trends and the potential of LCDPs in SMAs are shown in Table 4.

**Table 4** Future Trends and Potential of LCDPs in SMAs

| Trend | Potential Impact on SMAs |
|---|---|
| Increased automation and efficiency | Streamlined workflows, reduced manual effort, faster campaign deployment |
| Enhanced agility and responsiveness | Rapid adaptation to market changes, quicker response to client needs, accelerated innovation cycles |
| Democratization of application development | Empowered non-technical staff, increased collaboration, fostered innovation culture |
| AI and ML integration | Improved campaign targeting, enhanced content personalization, data-driven decision making |
| Cost-effectiveness | Reduced development costs, optimized resource allocation, improved ROI on technology investments |

Source: (Al-Shboul et al., 2022; Saura et al., 2023; Larivière et al., 2022)

However, SMAs needed to address potential challenges, such as ensuring data security, integrating LCDPs with existing systems, and providing adequate training to staff (Al-Shboul et al., 2022). By proactively addressing these considerations, SMAs could fully harness

the transformative potential of LCDPs to drive growth, innovation, and competitive advantage in the digital age.

## Conceptual Framework

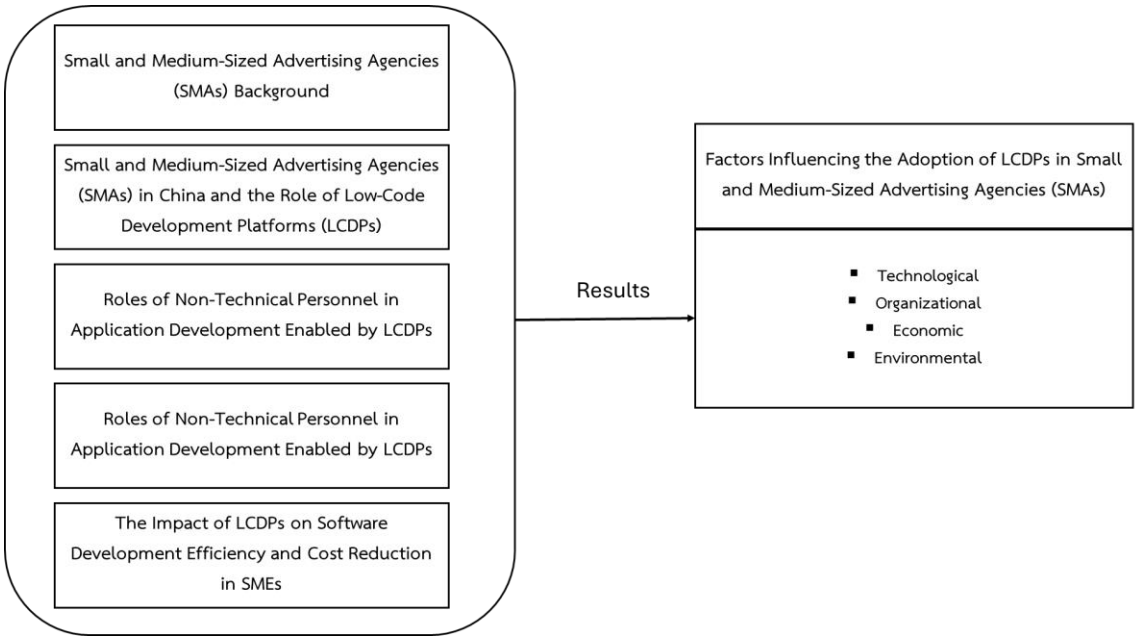


**Figure 1** Conceptual Framework of Research

## Research Methods

This research study employed a mixed-methods approach, incorporating both quantitative and qualitative research methodologies. The sample consisted of 112 participants, including professional IT developers with at least five years of experience and non-IT personnel such as managers, and finance and sales management professionals from various small and medium-sized advertising companies. Purposive sampling was utilized to select participants. Data were collected through a questionnaire with a reliability level of 0.93. Descriptive statistics, including mean and percentage, were used to summarize the data, while multiple linear regression analysis was conducted to examine the relationships between variables.

## Research Results

**General information of the respondents** shown in Table 5

**Table 5** General information of the respondents

| Frequency | | | |
|---|---|---|---|
| **Items** | **Categories** | **N** | **Percent (%)** |
| Your company's founding years | 1-3 Years | 31 | 27.68 |
| | 4-7Years | 36 | 32.14 |
| | 8-10Years | 24 | 21.43 |
| | More than 10 years | 21 | 18.75 |
| | **Total** | **112** | **100.00** |
| Your job | Professional IT developers | 78 | 69.64 |
| | Non-professional IT developers | 34 | 30.36 |
| | **Total** | **112** | **100.00** |
| Your working years | Within 1 year | 36 | 32.14 |
| | 1-3 years | 26 | 23.21 |
| | 3-5 years | 16 | 14.29 |
| | 5-10 years | 16 | 14.29 |
| | 10 years and more | 18 | 16.07 |
| | **Total** | **112** | **100** |
| Level of experience in programming languages | No prior experience | 22 | 19.64 |
| | Beginner | 50 | 44.64 |
| | Intermediate | 27 | 24.11 |
| | Expert | 13 | 11.61 |
| | **Total** | **112** | **100.00** |
| Level of knowledge about LCDP | No prior experience | 23 | 20.54 |
| | Limited knowledge | 48 | 42.85 |
| | Good knowledge | 31 | 27.68 |
| | Excellent knowledge | 10 | 8.93 |
| | **Total** | **112** | **100.00** |
| Has your company already adopted the low-code or zero-code technology? | Yes | 26 | 23.21 |
| | NO & In consideration | 86 | 76.79 |
| | **Total** | **112** | **100.00** |

Table 5 presented the general information of the 112 respondents who participated in the study. Most of the respondents' companies were established within the past ten years (71.43%), with a slightly higher proportion (32.14%) founded between 4 and 7 years prior. Most respondents were professional IT developers (69.64%), and a significant portion had been working in their roles for less than three years (55.35%). While over half of the respondents possessed some level of programming language experience (68.75%), a considerable number (63.39%) had limited or no prior knowledge of LCDPs. Notably, despite the growing interest in low-code/no-code solutions, only 23.21% of respondents indicated that their companies had already adopted this technology.

**The Influencing Factors Affecting Low-Code Technology Adoption**

From the analysis of factors affecting the adoption of Low-Code technology in organizations by multiple linear regression analysis, it is shown in Table 6

**Table 6** The Influencing Factors Affecting Low-Code Technology Adoption Multiple.

| | Unstandardized Coefficients | | Standardized Coefficients | t | p | collinearity diagnostics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | VIF | tolerance |
| Constant | 0.226 | 0.296 | - | 0.766 | 0.446 | - | - |
| Perceived Efficiency Improvement: The degree to which individuals believe low-code technology can enhance software development and organizational efficiency. | 0.054 | 0.086 | 0.058 | 0.626 | 0.533 | 1.951 | 0.513 |
| Perceived Ease of Use: The extent to which individuals perceive low-code technology as easy to learn and utilize. | 0.099 | 0.086 | 0.108 | 1.155 | 0.251 | 1.989 | 0.503 |

| | Unstandardized Coefficients | | Standardized Coefficients | t | p | collinearity diagnostics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | VIF | tolerance |
| Perceived Reduction in IT Dependency: The degree to which individuals believe low-code adoption can decrease reliance on internal and external IT developers. | 0.128 | 0.085 | 0.144 | 1.519 | 0.132 | 2.050 | 0.488 |
| Cost Considerations: The importance individuals place on the cost of low-code platforms in adoption decisions. | 0.213 | 0.091 | 0.211 | 2.340 | 0.021* | 1.839 | 0.544 |
| Security and Compliance Importance: The level of importance individuals attribute to security and compliance aspects of low-code technology. | 0.171 | 0.103 | 0.170 | 1.667 | 0.099 | 2.376 | 0.421 |
| Perceived Scalability Concerns: The extent to which individuals perceive limitations in the scalability of low-code platforms. | -0.071 | 0.079 | -0.065 | -0.900 | 0.370 | 1.167 | 0.857 |
| Perceived Functionality Limitations: The extent to which individuals perceive limitations in the functionality of low-code platforms. | -0.002 | 0.089 | -0.002 | -0.026 | 0.979 | 2.075 | 0.482 |
| Perceived Compatibility Concerns: The degree to | 0.020 | 0.104 | 0.020 | 0.195 | 0.846 | 2.318 | 0.431 |

| | Unstandardized Coefficients | | Standardized Coefficients | t | p | collinearity diagnostics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | VIF | tolerance |
| which individuals perceive challenges in integrating low-code platforms with existing systems. | | | | | | | |
| Perceived Scalability Concerns: The extent to which individuals perceive limitations in the scalability of low-code platforms. | 0.049 | 0.090 | 0.053 | 0.537 | 0.592 | 2.192 | 0.456 |
| Perceived Security Risks: The level of concern individuals has regarding security, compliance, and privacy risks associated with low-code platforms | 0.262 | 0.102 | 0.260 | 2.560 | 0.012* | 2.339 | 0.428 |
| Perceived Training Challenges: The degree to which individuals perceive difficulty in providing staff training and support for low-code technology. | 0.039 | 0.114 | 0.034 | 0.339 | 0.735 | 2.316 | 0.432 |
| Perceived Knowledge Gap: The extent to which individuals perceive a lack of knowledge about low-code platforms among staff. | -0.051 | 0.088 | -0.053 | -0.582 | 0.562 | 1.858 | 0.538 |
| Vendor Lock-in Concerns: The degree of concern individuals have about become dependent on a | 0.001 | 0.101 | 0.001 | 0.013 | 0.990 | 2.606 | 0.384 |

| | Unstandardized Coefficients | | Standardized Coefficients | t | p | collinearity diagnostics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | VIF | tolerance |
| specific low-code platform vendor. | | | | | | | |
| Perceived Vendor Support Importance: The importance individuals place on technical support and customer service from low-code platform providers for successful adoption. | -0.009 | 0.106 | -0.009 | -0.089 | 0.929 | 2.132 | 0.469 |
| $R^2$ | | | 0.573 | | | | |
| Adj $R^2$ | | | 0.511 | | | | |
| F | | | F (14,97) = 9.286, p=0.000 | | | | |
| D-W | | | 1.999 | | | | |
| Dependent Variable: the application of low code technology in the advertising industry has innovative potential. | | | | | | | |
| * p<0.05 ** p<0.01 | | | | | | | |

Multiple linear regression analysis was conducted to examine the factors influencing the adoption of low-code technology in organizations, with the results presented in Table 2. The model, with an adjusted R-squared of 0.511 (51.10%), significantly predicted the perceived innovative potential of low-code technology in the advertising industry ($F(14, 97) = 9.286$, $p = .000$). Two factors emerged as significant predictors: Cost Considerations ($\beta = 0.211$, $p = .021$) and Perceived Security Risks ($\beta = 0.260$, $p = .012$). These findings suggested that while perceived efficiency, ease of use, and reduced IT dependency contribute to the perceived potential of low-code technology, the cost of platforms and concerns about security risks were the most influential factors driving adoption decisions.

**Research Discussion**

Most of the respondents' companies were established within the past ten years (71.43%), with a slightly higher proportion (32.14%) founded between 4 and 7 years prior. Most respondents were professional IT developers (69.64%), and a significant portion had been working in their roles for less than three years (55.35%). While over half of the respondents possessed some level of programming language experience (68.75%), a considerable number (63.39%) had limited or no prior knowledge of LCDPs. Notably, despite the growing interest in low-code/no-code solutions, only 23.21% of respondents indicated that their companies had already adopted this technology. This relatively low adoption rate might be indicative of several factors, including a lack of awareness, concerns about platform capabilities, or perceived challenges in integrating LCDPs with existing systems. Multiple linear regression analysis was conducted to examine the factors influencing the adoption of low-code technology in organizations, with the results presented in Table 2. The model, with an adjusted R-squared of 0.511 (51.10%), significantly predicted the perceived innovative potential of low-code technology in the advertising industry ($F(14, 97) = 9.286$, $p = .000$). Two factors emerged as significant predictors: Cost Considerations ($\beta = 0.211$, $p = .021$) and Perceived Security Risks ($\beta = 0.260$, $p = .012$). These findings suggested that while perceived efficiency, ease of use, and reduced IT dependency contribute to the perceived potential of low-code technology, the cost of platforms and concerns about security risks were the most influential factors driving adoption decisions. This emphasis on economic factors aligned with recent research on technology adoption in SMEs. Al-Shboul et al. (2022) highlighted the crucial role of cost-effectiveness and return on investment in influencing technology adoption decisions by SMEs in Jordan. Similarly, Micu and Micu (2022) found that financial constraints and access to affordable solutions significantly impacted the adoption of digital marketing technologies by SMEs. The significant influence of cost considerations in this study underscored the need for low-code platform providers to offer pricing models that are both competitive and transparent, particularly when targeting SMAs with limited budgets. Furthermore, the strong impact of perceived security risks highlighted the critical role of trust and transparency in fostering LCDP adoption. Sauer et al. (2022), in their systematic literature review of low-code platforms, emphasized the importance of addressing security concerns, including data protection, access control, and compliance with relevant regulations. Building confidence in the security and reliability of low-code platforms

is essential for encouraging wider adoption, especially in industries like advertising where data security and privacy are paramount. While previous studies have identified perceived ease of use and usefulness as key drivers of technology acceptance (Larivière et al., 2022), these factors did not emerge as significant predictors in this analysis. This might be attributed to the increasing user-friendliness and intuitive nature of modern low-code platforms, potentially diminishing the perceived challenges associated with learning and use (Haghighi et al., 2023). However, further research is needed to explore this observation and investigate the evolving role of usability in the context of rapidly advancing low-code development platforms. This mapping illustrated how the regression analysis considered factors from multiple categories, providing a more holistic understanding of the drivers of low-code technology adoption in SMAs. The identified factors influencing LCDP adoption were mapped to the categories of technological, organizational, economic, and environmental factors, as shown in Figure 2.

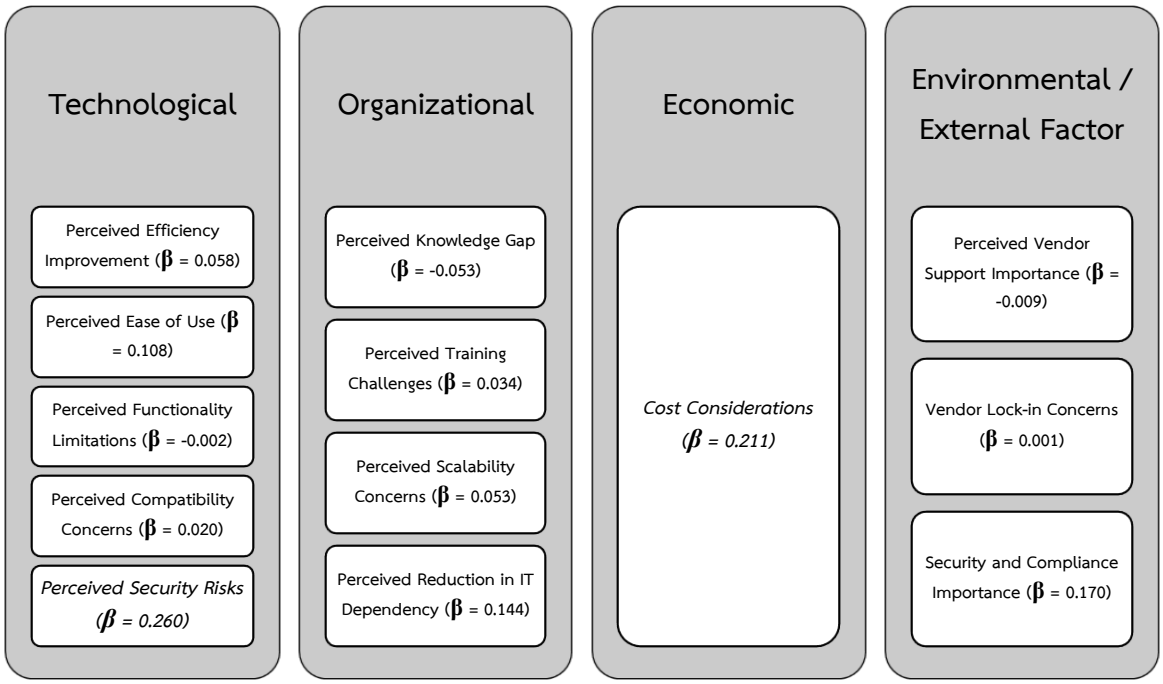


**Figure 2** Mapping Findings to Factor Categories Influencing LCDP Adoption in SMAs.

This study contributed to the understanding of LCDP adoption in SMAs by highlighting the key role of economic considerations and security perceptions. By addressing these

factors, low-code platform providers and advertising agencies could work together to unlock the full potential of this technology for driving innovation and growth in the digital age.

**Research Suggestions**

1. Adoption Considerations: SMAs should consider factors such as company size, application complexity, development speed, customization, and scalability when assessing low-code adoption.

2. Integration with Traditional Development: Integrating low-code with traditional development allows SMAs to optimize processes by using each approach for tasks of suitable complexity.

3. Outlook: Low-code development offers a promising future for SMAs by increasing efficiency and reducing costs, thereby accelerating application development.

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