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Special Issue Editorial: Transforming Business with Low-Code and No-Code

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EDITORS' COMMENTS

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The Rise of Low-Code and No-Code

As businesses increasingly recognize the benefits of going digital, senior leaders are striving to reimagine every process in their organization.[1] They are making new investments in information technology (IT) and, increasingly, in artificial intelligence (AI). These investments are typically driven by the pressing need for responsiveness, agility and efficiency.

Innovative methods have emerged for developing information systems. Among these are Rapid Application Development (RAD), Joint Application Design, Scrum, and, more recently, the rise of citizen development through low-code/no-code (LCNC) platforms. "Citizen development" hides the sophistication and complexity of coding through LCNC platforms while empowering subject matter experts to design, develop, and deploy applications as though they were experienced coders.[2,3]

Business leaders are adopting LCNC platforms to accelerate how they digitally transform business, reduce development costs, and enhance agility. In December 2022, Gartner predicted that hyper-automation would propel global low-code development, with AI playing a crucial role in advancing this type of coding. Gartner's report indicated that by 2024, low-code application development would be responsible for more than 65% of application development activity and would generate revenues just under $12.3 billion, up from $6.3 billion in 2021.[4]

The rise of LCNC platforms marks a paradigm shift in business and software development, blurring the boundaries between technical and non-technical roles, enabling a broader range of employees to contribute to application development and digital innovation. LCNC platforms achieve this by empowering employees to build sophisticated applications rapidly through visual interfaces, pre-built components, and drag-and-drop functionalities to create applications. LCNC platforms also support organizations in streamlining coding processes, automating testing and deployment, and eliminating the need to set up a development environment enabling faster innovation and greater agility in response to evolving business needs.[5,6,7] Examples include Bubble, Siemens-Mendix, Microsoft PowerApps, OutSystems, Salesforce Lightning, and Zoho Creator. It is important, however, to distinguish between low-code and no-code platforms.

Low-code platforms require minimal coding skills and are designed for developers who need to build applications quickly while retaining the flexibility to add some custom code. They offer pre-built components and drag-and-drop functionality; they also allow for some manual coding. No-code platforms, on the other hand, are intended for non-programmers. They provide a fully visual interface with drag-and-drop tools and pre-configured templates, eliminating the need for any coding and related skills. While no-code platforms are ideal for simple applications and workflows, low-code platforms are better suited for more complex projects that may require some degree of custom development.

1   Sebastian, I. M., Ross, J. W., Beath, C., Mocker, M., Moloney, K. G., and Fonstad, N. O. (2020). How big old companies navigate digital transformation. *MIS Quarterly Executive*, 16(3), pp. 197-213

2   Carroll, N., and Maher, M. (2023). How Shell fueled digital transformation by establishing DIY software development. *MIS Quarterly Executive*, 22(2), 99-127.

3   Biedova, O., Ives, B., Male, D., and Moore, M. (2024). Strategies for Managing Citizen Developers and No-Code Tools. *MIS Quarterly Executive*, 23(2), p.147-165

4   Gartner Forecasts Worldwide Low-Code Development Technologies: https://www.gartner.com/en/newsroom/press-releases/2022-12-13-gartner-forecasts-worldwide-low-code-development-technologies-market-to-grow-20-percent-in-2023

5   Carroll, N., Móráin, L. Ó., Garrett, D., and Jamnadass, A., The importance of citizen development for digital transformation, *Cutter IT Journal*, (34:3), 2021, pp. 5-9.

6   Binzer, B., and Winkler, T. J., Democratizing Software Development: A Systematic Multivocal Literature Review and Research Agenda on Citizen Development, *International Conference on Software Business*, 2022, (pp. 244-259). Cham: Springer International Publishing.

7   Carroll, N. and Ajimati, M., Unleashing the Power of Hyperagility in Citizen Development. Citizen Development Lab: Technical Report, University of Galway, 2024.

LCNC platforms deliver significant value to organizations by democratizing application development, fostering innovation, and enhancing operational efficiency. For example, a business unit within a retail company can use a no-code platform to quickly create a custom inventory management system, reducing reliance on the IT department and accelerating time-to-market. This agility is important to develop new capabilities around hyper-automation to better respond to market changes and customer demands. Hyper-automation refers to the use of advanced technologies such as LCNC platforms to automate complex business processes and tasks and to do so at scale. Unlike traditional automation, which focuses on automating individual tasks, hyper-automation aims to automate entire workflows and end-to-end processes.

LCNC platforms also reduce development costs by minimizing the need for extensive coding expertise. A healthcare provider, for example, can leverage low-code tools to develop patient portals and scheduling applications, streamlining operations without the expense of hiring specialized developers. Forrester[8] also reports that organizations using low-code platforms can achieve a 70% reduction in development time compared to traditional methods. Forrester identified incremental cost savings from faster time-to-value for operational efficiency initiatives (ranging from cost savings for application development, continuous change and maintenance, increased revenue-generating business initiatives, and cost savings from improved operational efficiency). Furthermore, LCNC platforms enhance collaboration between business and IT teams. For example, in a financial services firm, business analysts can use no-code solutions to prototype new services, which IT can then refine and deploy, ensuring alignment with business goals. This collaborative approach not only accelerates development but also ensures that solutions are closely aligned with business needs, driving greater overall value for the organization.

LCNC platforms do not automatically translate into tangible values for the organization.

Mastering LCNC platforms can involve a significant learning curve, and practitioners may mistakenly view LCNC as a solution that effortlessly generates results. Organizations can struggle to use the tools effectively. The key challenges in making LCNC initiatives successful lie in aligning them with the overall business strategy, establishing robust governance, data management, and managing the learning curve required for LCNC platforms. Without alignment, the benefits of LCNC platforms will be undermined by security vulnerabilities and technical debt,[9] ultimately limiting their impact on organizational value creation. LCNC can help to address many of these issues. However, despite the recent surge in LCNC adoption, research is required on its practical benefits, drawbacks, challenges, and opportunities. This motivated us to create this Special Issue of *MIS Quarterly Executive*.[10]

Five Unique Explorations of LCNC

This Special Issue is dedicated to the study of LCNC in contemporary organizations. Specifically, we set out to provide a foundation for organizations' successful adoption and use of LCNC and citizen development. Submissions were evaluated based on eight criteria: relevance, inclusion of a case study, focus on practice, interest to practitioners, a well-defined problem, actionable recommendations, a strong link between evidence and recommendations, and clarity in writing. Each article was peer-reviewed by two experts in the field and underwent three rounds of review.

The five articles recommend ways for organizations to commence their citizen development journey, optimize the use of LCNC platforms and AI, and avoid pitfalls. In Article 1, "*Establishing a Low-Code/No-Code-Enabled Citizen Development Strategy,*" authors Binzer, Elshan, Fürstenau and Winkler discuss how LCNC platforms aim to modernize traditional software delivery by empowering

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8   Forrester, The Total Economic Impact of OutSystems: Cost Savings and Business Benefits Enabled by Low-Code Application Development, 2020: https://www.outsystems.com/1/low-code-roi-tei/

9   Technical debt refers to the future cost of reworking code when an organization has opted for quick, limited solutions over those that take more time but are better designed.

10   Carroll, N., Holmström, J., and Matook, S., Call for Papers - The Rise of Low-Code/No-Code: Accelerating Digital Transformation, *MIS Quarterly Executive* (https://tinyurl.com/4jxm4mxe), 2023.

citizen developers to rapidly build their own digital solutions. They find success requires a thoughtful approach that addresses security, compliance, and organizational alignment. Drawing on insights from 24 organizations that have implemented citizen-driven LCNC initiatives, their article highlights critical design choices. It presents a seven-step framework and five recommendations to help organizations effectively leverage LCNC for digital strategy success, with a particular focus on fostering the creativity of citizen developers to stimulate grassroots innovation.

In Article 2, "*The Promise and Perils of Low-Code AI Platforms*" authors Kandaurova, Skog and Bosch-Sijtsema examine how businesses integrate AI into their operations for process automation and the hurdles encountered during implementation. This study, centered on the implementation of a low-code conversational AI platform within four organizations, uncovers three challenges. By examining the strategies employed to address those challenges, the authors present key recommendations aimed at optimizing the potential and adoption endeavors of low-code conversational AI platforms.

In Article 3, "*Combining Low-Code/No-Code with Noncompliant Workarounds to Overcome a Corporate System's Limitations*," authors Davison, Wong and Alter examine how employees perform specific tasks using LCNC and create software-based workarounds. The authors explain how workarounds are often neither compliant with organizational norms nor sanctioned by management yet can prove essential to organizational effectiveness. The authors analyze the implications of using LCNC and the potential contributions it can offer in practice, concluding with recommendations for practice and highlighting the need for further research in the area of employee behavior.

In Article 4, "*Governing Citizen Development to Address Low-Code Platform Challenges*," authors Viljoen, Radić, Hein, Nguyen and Krcmar explain how low-code development platforms provide citizen developers with the ability to rapidly create software solutions with minimal expertise. However, delegating software development tasks to individuals without professional experience poses risks, including the creation of low-quality software, shadow IT, and technical debt. This study presents recommendations for managing citizen development to mitigate these risks. The authors highlight the essential role of technical experts and the unique characteristics of low-code development platforms in governing citizen development and illustrate how governance in citizen development differs from traditional software development practices.

In Article 5 of the Special Issue, "*How GuideCom Used the Cognigy.AI Low-Code Platform to Develop an AI-Based Smart Assistant*," Grashoff and Recker present findings from a 16-month observational study conducted at Guidecom, a medium-sized software vendor based in Germany. The authors examine Guidecom's strategic decision to use Cognigy.AI, a low-code development platform, and explore how this choice facilitated and constrained their efforts to develop an AI-powered chatbot solution. Their research presents several recommendations on how organizations can use low-code development platforms to integrate diverse expertise required for AI development. The article also highlights how organizations may consider scalability and security concerns to maintain autonomy.

What LCNC Can Do for an Organization—and What to Watch Out For

The table summarizes the common themes found in the Special Issue articles—the benefits, challenges, and opportunities. When segmented by people, process, and technology, the table highlights LCNC's transformative potential to reshape organizations, promote citizen development, and drive digital transformation.

When Low-Code/No-Code Meets AI

The integration of AI into LCNC platforms reveals a landscape rich with opportunities for the future of software engineering and AI integration. Companies can deploy AI-driven chatbots via LCNC platforms to enhance customer service without needing extensive programming skills. These chatbots can handle common inquiries, freeing human agents for more complex issues. Additionally, AI can be integrated into LCNC platforms to automate data analysis and generate actionable insights, empowering businesses to make data-driven decisions. For example, the evolution of

Table 1: Common Themes Found in the Special Issue Articles

Benefits	Description
People	• LCNC empowers non-technical users to actively participate in application development and to automate processes, reducing reliance on IT teams (see articles 1, 2, 3, 4 and 5) • Enhances decision-making through AI-driven insights and predictive analytics (see articles 2 and 5). • Facilitates collaboration between business and IT stakeholders, supporting better communication and alignment of objectives (see articles 1, 2, 3, 4 and 5) • Streamlines cross-functional teamwork by providing a common platform for ideation, development, and deployment of applications (see articles 1, 2, 4 and 5)
Process	• LCNC accelerates application development cycles, reducing time-to-market for new products and services (see articles 1 and 5) • Improves agility and flexibility in responding to changing business requirements and market demands (see articles 1 and 5) • Enhances process visibility and transparency, enabling stakeholders to track progress and identify bottlenecks in real time (see articles 1 and 2) • Modernizes traditional software delivery and supports the integration of AI for process automation (see articles 2, 3 and 5)
Technology	• LCNC reduces dependency on traditional coding expertise, allowing users to build applications with intuitive visual interfaces and pre-built components (see articles 1, 2, 3, 4 and 5) • Enables rapid prototyping and experimentation with new ideas and concepts, fostering innovation and creativity in solution design (see articles 1, 2 and 5) • Facilitates continuous integration and delivery practices, automating the build, test, and deployment processes for faster and more reliable software releases (see articles 1, 2, 3, 4 and 5) • Examines shadow IT within an organization and empowers employees to access new technology capabilities for low-code development and AI product development (see articles 1, 2, 3, and 4)

Challenges	Description
People	• Implementing change and the need to deliver value with LCNC (see articles 1, 2, 3, 4 and 5) • Bridging the skills gap by providing adequate training and support to users unfamiliar with LCNC platforms (see articles 1, 2 and 4) • Ensuring data privacy and compliance with regulatory requirements when non-technical users handle sensitive information (see articles 1 and 2) • Identifying risks of delegating software development tasks to non-professionals (see article 3) • Complexity in managing and maintaining AI models within LCNC platforms (see articles 2 and 5) • Examining customer and employee experiences through personalized interactions and intelligent automation (see articles 1, 3 and 5)
Process	• Overcoming resistance to change in established processes, workflows or workarounds which may hinder the adoption of LCNC methodologies (see articles 1 and 3) • Ensuring alignment of processes between LCNC initiatives and overall business operations to maximize value and impact (see articles 1, 2, 3 and 4) • Addressing scalability challenges as LCNC platforms and processes expand to support larger projects and enterprise-wide deployments, especially with AI-driven applications (see articles 2 and 5) • Data management, ensuring data security, and establishing compliance processes across LCNC and AI-driven applications (see articles 2, 3, 4 and 5) • Security and compliance process concerns regarding data privacy and regulatory requirements (see articles 1, 2, 3 and 5) • Ensuring the quality and reliability of AI models integrated into LCNC processes and applications (see article 5)

Table 1: Common Themes Found in the Special Issue Articles (Continuation)

Challenges	Description
Technology	• Integrating LCNC platforms with existing IT infrastructure and legacy systems, ensuring seamless inter-operability and data exchange (see articles 1, 2 and 3) • Ensuring the security and robustness of applications developed on LCNC platforms to protect against cyber threats and vulnerabilities (see articles 1, 2, 3, 4 and 5) • Addressing vendor lock-in concerns and ensuring the portability and flexibility of applications developed on proprietary LCNC platforms (see article 3) • Implementing governance frameworks that provide a set of guardrails to manage LCNC platforms and maximize value (see articles 1, 2, 3, 4 and 5) • Implementation and integration between LCNC platforms and emerging AI technologies (e.g., GenAI) (see articles 2, 3 and 5) • Scalability and performance limitations in complex, enterprise-level applications (see articles 1, 2, 3, 4 and 5)

Opportunities	Description
People	• Supporting citizen developers and business users to contribute to digital initiatives, fostering a culture of innovation and collaboration (see articles 1, 2, 3 and 4) • Empowering employees to take ownership of digital transformation initiatives, driving organizational agility and responsiveness to customer or market changes (see articles 1, 3, 4 and 5) • Fostering a culture of continuous learning and skill development, enabling employees to adapt to new technologies and stay competitive in the market (see articles 2, 3, 4 and 5) • Harnessing AI for data-driven decision-making and strategic planning to gain competitive advantage (see articles 2 and 5) • Developing data-driven insights and predictive analytics to anticipate market trends and customer preferences (see article 2)
Process	• Enabling agile and iterative development methodologies, facilitating rapid prototyping and experimentation to refine solutions based on user feedback (see articles 1, 2 and 5) • Enhancing process efficiency and effectiveness through automation of repetitive tasks and workflows, freeing up resources for more strategic initiatives (see articles 1, 2, 3, 4 and 5) • Facilitating cross-functional collaboration and communication, breaking down silos, and promoting a unified approach to solving business challenges (see articles 2, 3, 4 and 5) • Accelerating innovation processes and agility by enabling rapid prototyping and experimentation with LCNC solutions (see articles 1, 2 and 3) • Leveraging AI for intelligent automation of repetitive tasks and processes in LCNC development to improve operational efficiency and reduce costs (see articles 2 and 5)
Technology	• Supporting the integration of emerging technologies such as AI to enhance the functionality and value of LCNC solutions (see articles 2 and 5) • Facilitating the adoption of cloud computing and hybrid deployment models, offering scalability, flexibility, and cost-effectiveness for deploying LCNC solutions (see articles 3, 4 and 5) • Driving digital transformation initiatives by providing a foundation for building agile, scalable, and innovative solutions that meet evolving business needs and customer expectations (see articles 1, 2, 3, 4 and 5) • Leveraging AI for enhanced user experiences and personalized interactions in LCNC applications (see articles 2 and 5) • Examining new approaches to capture the value of adopting LCNC, data-driven innovation, and AI technological capabilities for an organization (see articles 1, 2, 3, 4 and 5)

Generative AI (GenAI) for LCNC platforms marks a significant leap in technological advancement with machine-learning capabilities[11], enabling even more sophisticated and intuitive applications.

AI typically refers to technologies that simulate human intelligence, such as machine learning and natural language processing. GenAI is a subset of AI focused on creating new content, such as text, images, or code. In a LCNC context, AI might automate workflows or predict trends, while GenAI can assist users by generating code snippets, templates, or even entire applications based on user prompts, streamlining development by those without deep coding expertise. The integration of AI and LCNC presents organizations with the opportunity to explore how these technologies can drive efficiency, creativity, and competitive advantage in many industries.

The integration of AI into LCNC platforms allows citizen developers to achieve sophisticated results with unprecedented speed and ease, thus harnessing a broader workforce in the search for innovation and increased productivity. This integration opens opportunities for novel approaches in application development and prompt engineering, offering developers and organizations new tools and methods to drive innovation. For example, marketing teams can leverage GenAI within LCNC platforms to automatically generate personalized content for campaigns, such as tailored email newsletters or social media posts, based on customer data analysis. In software development, GenAI can assist in creating application prototypes by generating code snippets or entire modules, drastically reducing development time and errors (although not always error-free). Additionally, GenAI-powered LCNC tools can automate complex data transformations and visualizations, enabling businesses to gain insights with minimal manual intervention. This advancement democratizes access to powerful AI, driving innovation and efficiency across various industries.

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11 Sundberg L. and Holmström J., "Democratizing artificial intelligence: How no-code AI can leverage machine learning operations," *Business Horizons*, 66(6), 2023, pp. 777-788.

A Powerful Intersection of Technology Tools

The intersection of AI, digital transformation, low-code, and no-code is reshaping the landscape of modern business and technology. AI drives intelligent automation and decision-making, while digital transformation leverages technology to fundamentally change how organizations operate and deliver value. LCNC platforms democratize development, enabling non-technical users to create applications quickly. At their intersection, these elements empower businesses to innovate faster, improve efficiency, and respond with agility to market demands, creating a synergistic environment where advanced technologies and user-friendly tools combine to drive transformative change.

Vision and strategy are the foundation at the intersection of AI, digital transformation, no-code, and low-code. The vision and strategy focus on implementing citizen development, encouraging non-IT-trained employees to become application developers. A clear vision aligns technology with business goals, guiding how AI and digital tools can be leveraged for innovation and competitive advantage. Strategy defines the roadmap for implementing citizen development, AI-driven automation and digital transformation initiatives that unlock innovation and realize new business value through empowered and collaborative initiatives. Together, vision and strategy ensure these technologies are effectively integrated to drive sustainable growth and transformation.

Decisions must be made about which LCNC platforms best support an organization's vision and strategy to enable rapid, agile development, allowing businesses to quickly adapt and scale solutions. The integration of AI technologies enhances the functionality and sophistication of LCNC platforms, allowing for the development of more intelligent and dynamic applications. The intersection of AI and no-code platforms simplifies application development, democratizing access to AI-driven capabilities for a broader audience of users.

Digital transformation represents the execution of the strategy as an overarching process of leveraging digital technologies to change business operations, culture, and value delivery. AI and LCNC platforms play pivotal roles in driving this transformation

for continuous improvement and providing opportunities for employees to contribute to the transformation process. AI utilizes algorithms and computational methods to mimic human intelligence, enabling tasks such as data analysis, pattern recognition, and decision-making. Integrating AI with LCNC platforms enhances digital capabilities and expands their potential applications.

DesignOps focuses on optimizing and streamlining design processes, enhancing team collaboration and improving efficiency by integrating tools and workflows. AI can also enhance workflows by automating repetitive tasks or suggesting design enhancements. For example, companies such as Adobe integrate AI into their design tools to assist designers in creating compelling visual content efficiently. This ensures high-quality design output and faster delivery times. LCNC platforms are designed to enhance operational alignment, foster deep collaboration, and drive ongoing innovation at the product level. This also enables enterprise user experience (UX) and product delivery teams to harmonize efforts between UX, product management, and product development. LCNC platforms can also facilitate collaboration with stakeholders and allow for user testing with detailed analytics and image-based prototyping.

AIOps leverages AI capabilities to automate and streamline IT workflows, enhancing operational efficiency, reducing downtime, and providing predictive insights for proactive issue resolution and improved system performance. AIOps merges AI and IT operations, employing machine learning to detect anomalies, predict issues, and automate incident management. Leading technology organizations such as Google employ AIOps to enhance the reliability and performance of their cloud services. The convergence of low-code development and AI technologies has attracted considerable attention in recent years, offering opportunities for developers and organizations to streamline software development processes and drive innovation. Companies such as Siemens utilize low-code platforms (such as Mendix) integrated with AI to develop innovative solutions for industrial automation, optimizing manufacturing processes and enhancing productivity. No-code AIOps leverages AI and machine learning to automate and enhance IT processes. This

technology can allow IT teams to concentrate on strategy and innovation, freeing them from manual, time-consuming tasks.

DevOps emphasizes collaboration between development and operations teams,[12] with AI supporting automation in testing, deployment, and monitoring, thereby enhancing DevOps practices. Companies such as Microsoft utilize AI to automate software testing processes, ensuring faster and more reliable software releases. DevOps within a LCNC context integrates software development and IT operations, emphasizing collaboration, automation, and continuous improvement to enhance efficiency, ensure quality, and accelerate the delivery of reliable software products. LCNC platforms create a shared space where technical and non-technical stakeholders can work together effortlessly, effectively bridging the gap between these traditionally separate roles.

BizOps within a LCNC context focuses on the business aspects of citizen development delivery, emphasizing alignment with organizational goals, optimization of processes, and maximizing value to ensure successful outcomes and strategic impact. BizOps bridges business and IT operations, where AI-driven analytics can optimize processes, enhance efficiency, and facilitate informed decision-making. Companies such as Salesforce leverage AI to analyze customer data and provide actionable insights for improving sales and marketing strategies. LCNC platforms can support BizOps with their ease of use and short time-to-value. These approaches streamline workflows and eliminate inefficiencies, allowing companies to quickly validate new ideas without wasting time or money. By sharing the positive results achieved through LCNC platforms, companies can further demonstrate their value and encourage broader adoption within the organization.

Customer experience (CX) is key metric to gauge success in citizen development. Within a LCNC context, growing demands will be placed on CX specialist to ensure that customers have positive interactions with a digital solution at every stage of their journey. They are key in identifying and eliminating obstacles in the

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12 Maruping, L. M., and Matook, S., "The evolution of software development orchestration: Current state and an agenda for future research," *European Journal of Information Systems* (29:5), 2020, pp. 443-457.

user experience, thereby enhancing customer satisfaction and retention. CX specialists will also focus on optimizing user experience and maximizing "return on experience" from LCNC solutions. It ensures usability, satisfaction, and value in alignment with user needs and business objectives. In addition, DataOps through LCNC platforms can ensure effective data governance, resource management, orchestration and modeling, while monitoring performance, opportunities, and risks within the data and analytics lifecycle. This ensures data quality, reliability, and agility to support business objectives and decision-making processes.

Business Competitiveness and the Future of LCNC

Looking ahead, the rise of LCNC platforms presents both significant demands and opportunities for companies. CIOs and other IT executives must anticipate these future demands emerging through advancements in LCNC and AI. As businesses increasingly adopt citizen development to accelerate innovation and streamline processes, they must prioritize several key areas to successfully scale their operations. First, companies need to invest in robust training programs to empower non-technical users, ensuring they have the skills necessary to build effective applications. Establishing clear governance frameworks is also crucial to maintain security and compliance while fostering innovation. Additionally, organizations should focus on integrating LCNC solutions with existing systems to create a seamless operational flow. By addressing these priorities, companies can leverage LCNC platforms to enhance agility, reduce development time, and drive strategic growth. The ability to scale effectively while managing these demands will be pivotal for organizations aiming to harness the full potential of LCNC technologies and stay competitive in an evolving digital landscape.

The insights provided by the studies in this Special Issue are crucial for practitioners as they offer practical guidance on leveraging LCNC and AI to enhance innovation, efficiency, and responsiveness in leveraging value from LCNC. Researchers and practitioners alike should continue to investigate the advantages, disadvantages, challenges, and potential

opportunities in real-world applications. We hope you find the Special Issue insightful and inspiring!

About the Special Issue Editors

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Noel Carroll is an Associate Professor in Business Information Systems in the School of Business & Economics, University of Galway and is a Funded Investigator at the Lero, the Science Foundation Ireland Research Centre for Software. He founded the Citizen Development Lab (citizendevelopmentlab.com) at the University of Galway which focuses on low-code/no-code for digitization, innovation, and digital transformation within organizations. His principal research expertise straddles across three key domains of research: (i) information systems; (ii) health informatics; and (iii) software engineering and has published in high quality journals and conferences. Noel enjoys industry engagement, and his interests include seeking ways to support organisations in developing transformation strategies in software development, digital innovation, and health informatics for multinationals, SMEs, and start-ups. He has published in leading international journals and conferences.

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