

ISRG Journal of Multidisciplinary Studies (ISRGJMS)



ISRG PUBLISHERS

Abbreviated Key Title: isrg j. multidiscip. Stud.

ISSN: 2584-0452 (Online)

Journal homepage: <https://isrgpublishers.com/isrgjms/>

Volume – IV, Issue - IV (April) 2026

Frequency: Monthly



INTEGRATION OF ARTIFICIAL INTELLIGENCE IN CONTENT CREATION IN NIGERIA: ISSUES AND PROSPECTS

Somtoo Obiefuna Arinze-Umobi, PhD

Department of Theatre and Film Studies, Nnamdi Azikiwe University, Awka.

| **Received:** 15.04.2026 | **Accepted:** 20.04.2026 | **Published:** 23.04.2026

*Corresponding author: Somtoo Obiefuna Arinze-Umobi, PhD

Abstract

This paper explored the transformative impact of Artificial Intelligence (AI) on Nigeria's creative economy, specifically in Nollywood, the music industry, and social media content creation. The study adopted the Technology Acceptance Model (TAM), Diffusion of Innovations Theory (DOI), and Creative Destruction as its theoretical framework. As Nigeria integrated Generative AI into various production stages, the sector faced a "double-edged sword" of rapid evolution. On the one hand, AI offered significant prospects, including reduced production costs, increased technical efficiency, and the democratization of content tools for small-scale creators. On the other hand, the study identified critical issues, such as potential job displacement for crew members, the risk of cultural homogenization due to Western-centric data biases, and a possible decline in professional integrity. The research further examined the future of displaced artists, proposing a shift toward "The Great Forced Upskilling," where creators had to adapt through prompt engineering, digital asset management, and motion capture. Highlighting indigenous solutions like the N-ATLAS project, the paper concluded that while AI was an inevitable fixture of the industry, a "cautious, hybrid evolution" was essential to balance technological speed with the preservation of authentic Nigerian cultural expression.

Keywords: Artificial Intelligence, Nollywood, Nigerian Creative Economy, Generative AI, Job Displacement, Cultural Preservation, N-ATLAS.

INTRODUCTION

Content creation spans the entertainment sectors, including films, music, podcasts, vlogs, and documentaries. The substratum of these contents deals with what fascinates the mind, relatable experiences that could ignite emotions, historical events that could

foretell tomorrow, and accounts that could rebrand society. This makes content creation a product of the society, by the society, and for the society. Creating content has been part of human existence, predating civilization. Creating content usually requires a

collaboration of different artistic and technical teams. Art requires people functioning in their various departments. Therefore, content creation, apart from being people and society-centered, is a serious means of livelihood for all stakeholders involved.

The Nigerian creative economy, colloquially defined by the global hegemony of Nollywood and the infectious reach of Afrobeats, stands at the precipice of a profound technological metamorphosis. Over the years, the creation of films, music, and other forms of content in Nigeria has been in constant evolution, from live staged performances with traditional instruments to technologically sophisticated gadgets and devices, and now to more automated forms of content creation. Although in existence for quite some time already, Artificial Intelligence (AI) began gaining significant traction in Nigeria around 2019–2020, marked by the creation of dedicated government bodies like the National Centre for Artificial Intelligence and Robotics (NCAIR) in 2020, the rise of local AI startups, and its integration into corporate world like LEO in UBA bank (Usman, 2021; Adeoye, 2025). AI is multifaceted, having a subset known as Generative AI, which is more predominantly used across all societal levels for tasks as simple as generating common images. Gen AI, as it is so called, is a subset of AI that uses neural networks to identify the patterns and structures within existing data to generate new and original content (NVIDIA, 2025), and it has found its way into the creative space in Nigeria.

As the second-largest film industry in the world by volume, Nollywood has become a vibrant, yet contested site for technological experimentation where AI tools are being integrated across pre-production, production, post-production, and distribution phases (Bello et al., 2025). Just as everything else, AI has its pecks and its downside in the Nigerian creative sector. For Nigeria, the integration of these technologies represents a critical intersection of technological optimism and structural fragility.

Theoretical Framework

The integration of Artificial Intelligence (AI) into content creation is reshaping the creative economy in Nigeria, introducing new possibilities while also raising critical concerns. To properly interrogate this development, three theoretical lenses—Technology Acceptance Model (TAM), Diffusion of Innovations Theory (DOI), and Creative Destruction—provide a comprehensive framework for analysis.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), explains the determinants of technology adoption at the individual level. The model emphasizes that perceived usefulness and perceived ease of use are the primary factors influencing users' acceptance of new technologies. As Davis (1989) notes, "perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance". Similarly, perceived ease of use refers to the extent to which a person believes that using a system will be free of effort.

In the Nigerian context, AI tools such as automated writing assistants, video editing software, and design generators are increasingly being adopted by content creators seeking efficiency and competitiveness. However, the acceptance of these tools is not uniform. Issues such as digital literacy gaps, infrastructural limitations, and concerns about authenticity influence user attitudes. Supporting this view, Venkatesh and Davis (2000) argue that "user acceptance is a pivotal factor determining the success or failure of information systems".

Thus, TAM provides a useful framework for examining both the enabling and constraining factors affecting AI adoption among Nigerian creators. It highlights that beyond availability, the perceived value and usability of AI tools ultimately determine their integration into everyday creative practices.

Diffusion of Innovations Theory (DOI)

The Diffusion of Innovations Theory, proposed by Rogers (1962/2003), offers insight into how new technologies spread across societies. Rogers (2003) defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system". The theory categorizes adopters into innovators, early adopters, early majority, late majority, and laggards, emphasizing that adoption is a gradual and socially influenced process. Within Nigeria's content creation ecosystem, AI adoption reflects this diffusion pattern. Early adopters (often urban-based), digitally literate creators, are experimenting with AI tools and showcasing their benefits on platforms such as YouTube and TikTok. These individuals serve as opinion leaders who influence broader adoption. However, the spread of AI is uneven, shaped by factors such as access to technology, education, and socio-economic conditions. Rogers (2003) further explains that "the perceived attributes of innovations... determine their rate of adoption". In Nigeria, attributes such as relative advantage (e.g., faster content production) and compatibility with existing workflows significantly affect how quickly AI tools are embraced. DOI, therefore, provides a strong basis for understanding the prospects of AI integration, particularly in predicting its long-term diffusion across diverse creative communities.

Creative Destruction

The concept of Creative Destruction, introduced by Schumpeter (1942), describes the transformative impact of innovation on economic systems. Schumpeter (1942) famously states that "the process of creative destruction is the essential fact about capitalism", highlighting how innovations continuously replace outdated practices.

In Nigeria's creative industry, AI exemplifies this process. Traditional methods of content creation, such as manual editing, scriptwriting, and graphic design, are increasingly being supplemented or replaced by automated systems. While this shift raises concerns about job displacement, it simultaneously creates new opportunities for innovation and skill development. AI is enabling content creators to produce more content in less time, experiment with new formats, and reach wider audiences. At the same time, it is redefining the nature of creative labor, requiring practitioners to develop hybrid skills that combine creativity with technological proficiency. This aligns with Schumpeter's view that innovation is both disruptive and generative.

Consequently, Creative Destruction offers a critical lens for examining the broader structural implications of AI in Nigeria's content creation landscape. It underscores the dual reality of technological change, where loss and opportunity coexist, and highlights the need for adaptive strategies within the industry.

The integration of AI into content creation in Nigeria is a complex and evolving phenomenon.

Through the lens of the Technology Acceptance Model, Diffusion of Innovation, and Creative Destruction, it becomes evident that AI adoption is influenced by individual perceptions, social dynamics, and broader economic transformations. While challenges such as

limited access and resistance to change continue, the prospects for innovation and growth remain significant. Together, these theoretical frameworks provide a robust foundation for understanding both the issues and opportunities associated with AI-driven content creation in Nigeria.

Overview of Artificial Intelligence

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think, learn, and make decisions. The concept of AI has evolved significantly since its formal introduction in the mid-20th century, becoming one of the most transformative technologies of the modern era. Today, AI is applied across various sectors, including healthcare, education, finance, entertainment, and security, fundamentally reshaping human interaction with technology.

The term Artificial Intelligence was first coined by John McCarthy in 1956 during the Dartmouth Conference, which marked the beginning of AI as an academic discipline (Russell & Norvig, 2021). Early AI research focused on problem-solving and symbolic methods, often referred to as “good old-fashioned AI” (GOFAI). However, limitations in computing power and data availability slowed progress during the early years. The resurgence of AI in recent decades has been driven by advancements in machine learning, increased computational capacity, and the availability of large datasets.

AI can broadly be categorized into two main types: narrow AI and general AI. Narrow AI, also known as weak AI, is designed to perform specific tasks such as facial recognition, language translation, or recommendation systems. Examples include virtual assistants like Siri and Alexa, as well as recommendation algorithms used by platforms such as Netflix and Amazon. General AI, on the other hand, refers to machines that possess the ability to perform any intellectual task that a human can do. While general AI remains largely theoretical, ongoing research continues to explore its feasibility (Kaplan & Haenlein, 2019).

A major subset of AI is machine learning (ML), which involves the use of algorithms that enable machines to learn from data without being explicitly programmed. Machine learning itself includes supervised learning, unsupervised learning, and reinforcement learning. Deep learning, a more advanced form of machine learning, utilizes artificial neural networks modeled after the human brain to process complex data such as images, speech, and text. These technologies have enabled breakthroughs in areas like natural language processing (NLP), computer vision, and autonomous systems.

The applications of AI are vast and continually expanding into so many sectors, such as healthcare, finance, education, etc. Additionally, AI plays a critical role in content creation, including automated writing, video editing, and digital marketing strategies. These applications demonstrate AI's ability to improve efficiency, accuracy, and productivity across industries (Brynjolfsson & McAfee, 2017).

Despite its numerous benefits, AI also presents several ethical and societal challenges. Issues such as data privacy, algorithmic bias, job displacement, and lack of transparency have raised concerns among scholars and policymakers. For instance, biased training data can lead to discriminatory outcomes in AI systems, particularly in areas like hiring and law enforcement. Furthermore, the automation of tasks traditionally performed by humans may

lead to job losses in certain sectors, necessitating the need for reskilling and policy interventions.

Artificial Intelligence represents a powerful and rapidly evolving field that continues to shape the future of human society. While its potential benefits are immense, it is crucial to address the ethical and social implications associated with its use.

AI IN NOLLYWOOD, NIGERIAN MUSIC, AND CONTENT CREATION IN GENERAL

The Nigerian film industry is a contested site for technological experimentation. Currently, 35% of stakeholders in the film and television industry already utilize AI in their workflows, while an additional 35% are actively considering its adoption (Oyewole et al., 2025). This integration spans the entire filmmaking lifecycle, fundamentally altering how stories are developed, produced, and distributed. AI algorithms now play a crucial role in the spread and distribution of music by Nigerian artists across streaming platforms like Apple Music, Spotify, etc. This is in line with the study by Taofeek et al. (2025), which revealed that artificial intelligence technology has transformed the music marketing and distribution in Nigeria, enabling Artists to reach broader and global audiences. Creatively, musicians are experimenting with AI to generate beats that blend modern technology with traditional heritage.

Gone are the days when content solely depended on films or the musical industries. The emergence of social media has transformed the general public into active content creators. AI has made it possible for content to be created without the need to show one's face, but by mere instructions to an AI model, and a virtual artist is created. AI is rapidly transforming Nigerian individuals into content creators by reducing barriers to entry, enabling faster production, and offering new monetization paths.

THE PROSPECTS OF ARTIFICIAL INTELLIGENCE IN CONTENT CREATION IN NIGERIA

Reduction in Technicality and Speed of Production

Incorporating AI into content creation has impacted how fast a project can move from pre-production to post-production of content. This is due to the fact that most editing activities could automatically be created by simple instructional keywords called prompts, thereby reducing the time used to create such activities from scratch. Sun (2024) agrees that AI technology has its advantages in increasing efficiency and cost-effectiveness in film production and also enhancing the overall quality of films, impressing the audience by generating special effects and providing filmmakers with new tools and techniques to explore and experiment with. It equally makes content creation among all levels less technical or difficult. Tools like Storyfit are used to analyze scripts for character depth and audience engagement, while other platforms assist with storyboarding and production scheduling, significantly reducing the time required for ideation. A survey conducted among members of the Actors Guild of Nigeria (AGN), Association of Movie Producers (AMP), and Directors Guild of Nigeria (DGN) revealed a growing acceptance of AI-generated film scripts (Anunike & Onyejelem, 2025).

Reduced Production Cost

The advent of AI makes it possible for one AI tool to perform the tasks of multiple crew members, such as the editor, sound engineers, and VFX artists, thereby reducing the cost of hiring these crew members. This encourages an increased amount of released content from a financial perspective. Bello et al. (2025)

state that software such as Topaz Video Enhance AI for upscaling and DaVinci Resolve for noise reduction and automated color grading allow filmmakers to achieve high-fidelity visuals on restricted budgets. Distribution is now largely controlled by algorithmic gatekeepers on platforms like Netflix and Amazon Prime, where AI-driven recommendation systems shape content visibility and influence storytelling choices toward global genres (Bello et al., 2025). This has also led to the democratization of content creation tools by reducing production budgets, creating an enabling environment for small-scale productions to thrive.

THE ISSUES OF ARTIFICIAL INTELLIGENCE IN CONTENT CREATION IN NIGERIA

Job Displacement

This is one of the major issues faced with the integration of AI into content creation in Nigeria, and this is due to the automation of routine, repetitive, and lower-level tasks. Ruff (2025) states that it can create a "labor precarity" for several crew roles that have traditionally served as entry-level positions in Nollywood. Several vulnerable roles are at risk of displacement and, in turn, lead to loss of job and possibly an increase in the already high unemployment rate in Nigeria. These vulnerable roles may include editors, VFX artists, location scouts, background actors/extras, etc. Despite these advancements, some roles requiring high levels of emotional intelligence, nuanced leadership, and physical artistry remain largely secure. Ruff (2025) points out that Directors are viewed as indispensable because AI cannot replicate the ability to inspire actors or manage complex on-set dynamics. Similarly, lead actors are prized for their authenticity and ability to connect emotionally with an audience, which AI-generated "pseudo actors" still lack.

Cultural Homogenization

Most of the AI models are trained using Western data and cultural standards. This will be a great challenge for a country as culturally diverse as Nigeria. For instance, it will be a challenge for AI to create subtitles in local languages in Nigeria or craft scripts that are tribally and culturally set. Bello et al (2025) agree that the shortage of high-quality datasets in indigenous languages like Hausa, Igbo, and Yoruba means that models trained on Western data often fail to understand local cultural contexts or "Nigerian Pidgin," leading to cultural "flattening". Concerns are already emerging within the global film industry about the risk of cultural homogenization driven by AI-generated content. Scholars such as Eshun (2020), Ekpe (2016; 2018), and Bassey (2025) argue that many AI technologies—largely developed in the Global North—embed implicit cultural biases. These biases can shape and potentially distort representations of non-Western identities and lived experiences. In the context of Nollywood, which serves as a vital platform for Nigerian and broader African cultural expression, the growing influence of AI may pose significant challenges. Specifically, it could undermine traditional storytelling practices and produce narratives that are misaligned with indigenous values, norms, and social realities. AI-generated content may tend to favor globally marketable narratives rather than themes that resonate locally, thereby risking the marginalization of stories that authentically reflect the African experience.

Decline in Professional Integrity

The introduction of AI that makes processes like scripting and editing easy can, in the long run, lead to a decline in critical and professional thinking. This is due to the gradual shift into letting AI think of them. Agbakoba-Onyejiana et al. (2025) stress that over-reliance on these generative tools could lead to formulaic, soulless

content, undermining the very creativity that defines cinema. The need to strike a balance and limit how far AI contributes to the creative process is non-negotiable because, if filmmakers stop challenging themselves and use AI as a shortcut, creativity could suffer.

THE FATE OF ARTIST AND CREW MEMBERS WHO MAY BE DISPLACED BY THE ADVENT OF ARTIFICIAL INTELLIGENCE

It is undeniable to say that AI has come to stay, just as the internet and social media have grown into our daily lives. It is paramount that we change with the changing times. Definitely, people and jobs will be affected, but the only solution is adaptation. This is a loud cry for reskilling, to enable one to thrive in this new wave called Artificial Intelligence. Odunubi (2025) agrees that the shift caused by the evolution into the AI wave forces a "Great Forced Upskilling," where workers must either adapt to managing AI tools or face obsolescence. The call for upskilling falls on both vulnerable/displaced roles and roles that seem to be resilient. These skills mostly centre on prompt engineering, which deals with mastering the art of giving instructions to AI models to perform specific tasks accurately.

If actors are unable to find traditional acting work due to AI taking charge of the film and television industry, their careers and roles are expected to undergo a profound transformation rather than entirely vanish. This still agrees with upskilling to adapt to the new norm. Drawing on insights from Paisley (2026) and Global Fact Checking (2026), it identifies several pathways through which actors can evolve to maintain relevance, including:

- **Shift to Live Performance (Theater):** As digital/AI performances become mainstream in film, live theater is expected to make a comeback, acting as a "pure" form of human performance. Live theater will likely become more popular as audiences seek the authenticity of human interaction that AI cannot replicate.
- **Transformation into "Digital Asset" Managers:** Actors may move from an active role to a passive one, where they sell or license their digital likeness (voice and image) to studios. They might record a "full vocal and emotional range" to create a digital double that acts in movies, reducing the actor's job to that of a digital model.
- **Role as Biological Armatures (Motion Capture):** Actors might be hired for their bodies, not their faces, serving as physical, "human armature" (or "meat puppets") to drive 3D characters, while a digital skin or another actor's likeness is placed over them.
- **Rise of Niche and Voice Work:** Human actors might become niche performers, specializing in specific high-emotion roles that require genuine human experience. Voice actors may focus on audiobooks or performances where human nuance is critical, although this field is also threatened by AI.

INDIGENOUS INNOVATION: THE N-ATLAS PROJECT

Organizations in Nigeria have already started making moves to keep up with the new developments in technology. The launch of N-ATLAS, Nigeria's first open-source, multilingual LLM, represents a significant prospect for cultural preservation. Built locally for Nigerians, N-ATLAS ensures that the nation's rich

linguistic diversity is embedded in the digital era, allowing developers to build tools for education, health, and governance that reflect local identity (Awarri, 2025). Startups like Awarri are also training a local AI workforce, with 90% of their personnel coming from the local community, demonstrating a model for "ethical data at scale".

CONCLUSION

The integration of AI in Nigerian content creation is a double-edged sword. It offers the prospect of global competitiveness, democratic access to tools, and enhanced productivity, but it also presents issues of labor displacement, regulatory gaps, and infrastructure deficits. These are in line with the Technology Acceptance Model (TAM), Diffusion of Innovations Theory (DOI) and Creative Destruction which form the theoretical framework of this study. The "fate" of artists and crew members is not predetermined by the technology itself, but by the strategic choices made by policymakers, educators, and the creators themselves, and this revolves around upskilling. The major focus is the cautious effort by humans to make sure that AI isn't giving the utmost power to influence creative activities, rather than being a tool in enhancing or speeding up what has been provided by human impact. By embracing a "cautious, hybrid evolution," Nigeria can harness the transformative potential of AI to cement its position as a global hub of diverse storytelling and innovation.

REFERENCES

1. Adeoye, D. (2025, October 31). *AI evolution in Nigeria: Opportunities, gaps, and local champions*. BusinessDay. <https://businessday.ng/opinion/article/ai-evolution-in-nigeria-opportunities-gaps-and-local-champions/>
2. Agbakoba-Onyejiana, B., Akinade, S., & Saibu, A. (2025, September 26). *AI in filmmaking: The impact of generative content in filmmaking*. Olisa Agbakoba Legal. <https://oal.law/ai-in-filmmaking-the-impact-of-generative-content-in-filmmaking/>
3. Anunike, O. W., & Onyejelem, T. E. (2025, December). *Artificial intelligence (AI) generated film scripts: Acceptance and use in Nollywood: Views of the industry practitioners*. Paper presented at the 5th International Conference & Annual General Meeting of the Association of Media and Communication Researchers of Nigeria (AMCRON), University of Lagos, Lagos, Nigeria. https://www.researchgate.net/publication/398531337_Artificial_Intelligence_AI_Generated_Film_Scripts_Acceptance_and_Use_in_Nollywood_Views_of_the_Industry_Practitioners
4. Awarri. (2025). *AI products: Frontier AI models and data platforms in Africa*. <https://www.awarri.com/ai-product>
5. Bassey, B. E. (2025). Nigerian Classics and Digital Culture: Reframing Things Fall Apart as a Digital Story. In L. o.-R. Technology (Ed.), *Literature of an Era - Reimagining with Digital Technology* (pp. 85-97). QTanalytics Publication (Books). doi:<https://doi.org/10.48001/978-81-980647-8-3-9>
6. Bello, R.-W., Ogundokun, R. O., Owolawi, P. A., van Wyk, E. A., Tu, C., & Imoru, O. (2025). *Emerging AI regimes and contemporary filmmaking in Nigeria: Governance, practice, and creative futures*. *Architecture Image Studies*, 6(3), 1056–1063
7. Brynjolfsson, E., & McAfee, A. (2017). *Machine, Platform, Crowd: Harnessing our Digital Future*. W. W. Norton & Company.
8. Davis, F. D. (1989). *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*. *MIS Quarterly*, 13(3), 319–340.
9. Eshun, K. (2020). AI and Cultural Homogenization: The Risks of Globalization in Nollywood. *International Journal of Cultural Studies*, 22(1), 45-60.
10. Global Fact Checking. (2026). *How AI is replacing actors: The ethics and future of deepfakes in cinema*. https://globalfactchecking.com/learning_articles/how-ai-is-replacing-actors-the-ethics-and-future-of-deepfakes-in-cinema/
11. Kaplan, A., & Haenlein, M. (2019). *Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence*. *Business Horizons*, 62(1), 15–25. <https://doi.org/10.1016/j.bushor.2018.08.004>
12. NVIDIA. (2025). *Generative AI*. <https://www.nvidia.com/en-us/glossary/generative-ai/>
13. Odunubi, O. (2025, November 4). *AI will kill more jobs than it creates in Africa — and that's a good thing*. Medium. <https://medium.com/@olutomiodunubi/ai-will-kill-more-jobs-than-it-creates-in-africa-and-thats-a-good-thing-4b8ef4311e96>
14. Oyewole, S., Nmeribe, C., & Abubakar, H. (2025, December 12). *Artificial intelligence in the Nigerian film and TV industry: Opportunities, challenges, and future outlook*. DLA Piper Africa (Olajide Oyewole LLP). <https://www.dlapiperafrica.com/en/nigeria/insights/2025/ai-in-nigeria-film-and-tv>
15. Paisley, J. (2026, March 5). *AI and the future of artistic labor*. Tech Policy Press. <https://www.techpolicy.press/ai-and-the-future-of-artistic-labor/>
16. Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press. (Original work published 1962)
17. Ruff, N. (2025, June 25). *AI's impact on the film industry and film schools*. Film Connection. <https://filmconnection.com/reference-library/ais-impact-on-the-film-industry-and-film-schools/>
18. Russell, S., & Norvig, P. (2021). *Artificial intelligence: A modern approach* (4th Ed.). Pearson.
19. Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. Harper & Brothers.
20. Sun, P. (2024). *A study of artificial intelligence in the production of film*. SHS Web of Conferences, 183, 03004. <https://doi.org/10.1051/shsconf/202418303004>
21. Taofeek, O. K., Mande, S., & Oko, F. A. (2025, May 30). *The Influence of Artificial Intelligence Powered Technology on Music Marketing and Distribution in Nigeria (Study of Nigerian Music Industry Association, Lagos)* [Conference paper]. 2nd School of Media and Communication Music Business Conference (AI-MPOWERING – Creatives), Lagos Business School (Pan-Atlantic University), Lagos, Nigeria. <https://www.researchgate.net/publication/392263868>
22. Usman. (2021, April 16). *Artificial intelligence (AI) in Nigeria*. Medium.

<https://usmanbiu.medium.com/artificial-intelligence-ai-in-nigeria-c3e8349a8067>

23. Venkatesh, V., & Davis, F. D. (2000). *A Theoretical Extension of the Technology Acceptance Model: Four longitudinal field studies*. Management Science, 46(2), 186–204.