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RESEARCH ARTICLE

Increasing appreciative behaviors of government administrators towards ICT based services

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ABSTRACT

In today's digital era, governments worldwide are transitioning towards ICT-integrated systems to enhance public service efficiency. However, despite its numerous benefits, the adoption of ICT among government administrators remains inconsistent due to resistance to change, lack of self-efficacy, and inadequate motivation. This study is driven by the urgent need to identify and implement strategies that will foster a proactive appreciation and adoption of ICT-based services. Understanding the psychological factors—mindset shift and self-efficacy—will enable the formulation of policies that enhance digital readiness and long-term engagement with ICT in government operations. The research involved interviews with 30 government leaders directly involved in ICT integration efforts in the Philippines, aiming to understand their perspectives, motivations, and challenges in adopting these technologies. The study is guided by the following research questions: 1.) What are the key psychological and organizational barriers preventing government administrators from adopting ICT in their services? 2.) What strategic interventions can effectively facilitate a mindset shift among government administrators towards ICT adoption? 3.) How can government institutions sustain long-term behavioral and attitudinal changes to ensure continuous ICT integration in public service delivery? Using a qualitative case study approach, the research explores the complex interplay of security concerns, financial constraints, resistance to change, and the vital role of tangible success stories in fostering ICT appreciation. The findings highlight the need for a holistic approach that addresses both psychological and organizational barriers to ICT integration. The research emphasizes the importance of inclusive consultation, continuous feedback mechanisms, and targeted training programs to empower administrators and build their confidence in leveraging ICT for effective governance. The study concludes by emphasizing the need for government support through financial allocation, capacity building initiatives, and clear

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policy frameworks that encourage ICT integration, ultimately fostering a digitally adaptive and inclusive governance system.

Keywords: appreciative behaviors; government administrators; ICT-based services

1. Introduction

The acronym ICT, which stands for information and communication technology or, alternatively, information and communications technology, signifies more than just technological tools; it represents a profound transformation in governance processes rooted in psychological and organizational dynamics. At the core of this transformation lies the need for a mindset shift, urging government administrators to embrace progressive attitudes toward ICT solutions. Cognitive reframing and participatory decision-making are pivotal strategies for overcoming resistance to change in the integration of ICT within governance[1]. By highlighting long-term benefits and sharing success stories, governments can build a persuasive narrative that aligns ICT adoption with institutional goals and public expectations. Furthermore, ICT literacy frameworks underline the critical role of cognitive skills in utilizing technology efficiently, thus reinforcing the necessity of comprehensive ICT integration strategies[2,3]. These initiatives demand not only structural changes but also deliberate attention to psychological factors that shape administrators' attitudes and readiness for change.

Self-efficacy, defined as confidence in one's ability to execute tasks and achieve desired results, is another essential factor. For government administrators, self-efficacy is crucial in determining their capacity to adopt and effectively utilize ICT solutions. This belief system focuses on individuals' confidence in their abilities rather than expectations of outcomes[4]. A strong sense of self-efficacy equips administrators to navigate the complexities of ICT systems, overcome resistance, and adopt innovative practices. Moreover, self-efficacy is closely linked to transformational leadership, which fosters organizational improvements and drives public administration toward effective change[5]. Building self-efficacy requires targeted efforts, such as training programs, workshops, and hands-on experiences, which empower administrators to transition from passive participants to active drivers of digital transformation[6]. Addressing self-efficacy gaps is fundamental to cultivating a culture of technological adaptability and fostering innovation within government institutions.

Motivation theory offers further insights into the intrinsic and extrinsic factors that influence administrators' behaviors. Intrinsic motivators, such as the desire for efficiency and improved public service, align with governance's foundational principles, while extrinsic motivators, including recognition and public trust, reinforce commitment to ICT adoption. To balance these motivators, organizations must emphasize transparent communication, celebrate accomplishments, and clearly demonstrate the tangible benefits of ICT[7,8]. By creating an environment that effectively addresses these motivational factors, governments can ensure sustained engagement and cultivate a proactive approach to technological advancements.

The integration of ICT in governance must tackle broader psychological and organizational challenges, including resistance to change and bounded rationality in decision-making. Resistance often stems from fear of the unknown, concerns about job security, or deeply ingrained habits associated with traditional governance practices[9]. Additionally, decision-making processes, often constrained by limited resources and competing priorities, need to be reframed to align with long-term institutional objectives. This reframing highlights ICT's transformative potential to enhance efficiency, transparency, and inclusivity. ICT has demonstrated rapid advancements in innovation and adoption across social, professional, and educational

sectors[10]. Overcoming these barriers requires cultural shifts, robust support systems, and evidence-based strategies that emphasize ICT's critical role in modern governance.

The digital transformation of governance is a global trend, and the Philippines is no exception. While ICT integration promises to enhance public service efficiency, resistance to change, lack of self-efficacy, and inadequate motivation among government administrators continue to hinder its full adoption. This study is driven by the urgent need to bridge this gap by identifying and implementing strategies that foster a proactive appreciation and adoption of ICT-based services among government administrators in the Philippines. Understanding the psychological factors—mindset shift and self-efficacy—will enable the formulation of policies that enhance digital readiness and long-term engagement with ICT in government operations.

Through deliberate efforts addressing resistance to change, motivational drivers, and self-efficacy gaps, governments can foster an environment where ICT adoption becomes integral to achieving enhanced transparency, efficiency, and inclusivity in governance systems. This study underscores the necessity of a holistic approach that not only considers technological advancements but also emphasizes the psychological and organizational readiness of administrators. Exploring the interplay of mindset shifts, self-efficacy, and motivational factors, it highlights the critical need

2. Literature

Mindset Shift is a pivotal psychological element in adopting ICT-based services, especially within government systems that have long relied on traditional processes[11]. Changing administrators' perspectives requires addressing ingrained habits and attitudes that view manual processes as reliable while perceiving ICT as disruptive. In the Philippines, where many government offices operate with decades-old systems, encouraging a mindset shift is critical. Strategies to achieve this include fostering digital literacy, creating public-private partnerships, and promoting innovation within public institutions to help administrators view ICT as a tool for progress and modernization[12,13].

ICT has become an indispensable tool in sustaining businesses, prompting organizations to invest in it as a strategic resource that directly influences performance[14]. Over time, ICT has evolved from being an administrative support function to a competitive strategic asset[15,16]. This evolution allows organizations to not only optimize existing operations but also innovate new business strategies. Several studies have analyzed ICT's impact on organizational performance[17-19], highlighting its crucial role in improving the quality, quantity, and dissemination of information[20,21]. Such advancements enable organizations to maximize resource allocation toward achieving their goals. Laban and Deya[22] simplify these assertions, explaining that organizations use innovation-driven ICT to commercialize their products and enhance their competitive edge.

Administrators must be shown the value of ICT not only as a tool for efficiency but also as a solution to longstanding governance challenges, including slow service delivery and limited transparency. This mindset shift can be facilitated through workshops, exposure to successful ICT initiatives, and demonstrations of how technology benefits governance and citizens alike. Establishing a forward-thinking perspective allows administrators to embrace ICT as a catalyst for progress, fostering innovation within public institutions[23].

Self-Efficacy is another psychological factor influencing ICT adoption. It refers to an individual's belief in their ability to achieve specific goals, such as effectively implementing and using ICT systems. In the Philippine government, disparities in technological infrastructure between urban and rural areas create unique challenges. Administrators without confidence in their technical skills or understanding of ICT's relevance to their roles may feel resistant to change. Research shows that self-efficacy significantly impacts

ICT adoption, particularly in contexts where uneven infrastructure creates obstacles[24-26]. Building self-efficacy involves more than technical training; it requires consistent support, practical applications, and opportunities for administrators to witness ICT's transformative potential. For example, showcasing successful e-governance implementations from other regions can inspire confidence and adoption[27]. Empowering administrators to navigate ICT systems not only builds their confidence but also transforms them into active leaders in digital transformation efforts.

In the Philippines, digital transformation is a key government priority. According to International Trade Administration (IAT)[28], Philippine micro, small, and medium enterprises (MSMEs) are actively encouraged and supported by the government to embrace digitalization and innovation. Sustaining administrators' motivation to adopt ICT involves emphasizing measurable benefits such as faster processing times, increased transparency, and improved public trust. When administrators see tangible results from their efforts, their commitment to ICT strengthens, driving innovation in governance[29].

ICT integration in governance represents a shift not only in tools but also in how public services are conceptualized and delivered. The rapid advancement of technology has driven global transformation in public service delivery. In the Philippines, digitalizing public services is crucial for achieving inclusive development and efficient governance[30]. ICT offers significant opportunities to streamline operations, reduce corruption, and foster citizen engagement. However, financial constraints, resistance to change, and uneven infrastructure present significant barriers to widespread adoption. To address these challenges, government agencies must adopt a holistic approach, integrating technological solutions with strategies that address psychological and organizational obstacles.

E-governance initiatives, such as online tax filing systems and disaster response platforms, demonstrate ICT's potential to improve public service delivery in the Philippines[31]. However, their success heavily depends on the active participation of government administrators. Administrators' abilities to navigate new systems, manage change within their teams, and engage with the public are critical determinants of effective ICT adoption. E-governance encompasses digital tools that streamline administrative processes, facilitate government-citizen communication, and improve service delivery. It includes digitizing records, automating workflows, and offering online services[32]. Tailored programs that address local needs and capacity gaps are essential for ensuring effective implementation. Localized approaches bridge the gap between national goals and regional realities, fostering inclusivity and long-term success.

As global digital transformation continues to accelerate, the Philippines must prepare its governance systems to meet the demands of a tech-savvy population[33]. This preparation requires investments in infrastructure, technology, and capacity-building for administrators. Addressing factors such as mindset shifts and self-efficacy ensures that ICT adoption represents not just procedural changes but sustainable governance evolution. By empowering administrators to lead ICT integration, the government enhances trust, efficiency, and its position as a model for innovative governance in the region.

3. Methodlogy

3.1. Research design

This research employed a qualitative design utilizing a case study approach to thoroughly examine the intricate factors shaping government administrators' attitudes toward ICT-based services in the Philippines. Such an exploratory framework is particularly beneficial in the initial stages of research, where the goal is to gain a comprehensive understanding of complex issues or explore under examined topics[34]. This study

aimed to delve into the administrators' unique perspectives, motivations, and the challenges they face in adopting these technologies.

3.2. Purposive sampling

A purposive sampling technique was adopted, selecting 30 government leaders directly involved in ICT integration efforts. The selection focused on their expertise and firsthand experiences with the hurdles and opportunities of implementing ICT-based services. Unlike random sampling, purposive sampling intentionally identifies individuals with specific characteristics or relevant experiences, ensuring the collection of insightful and pertinent information on the subject matter[35,36]. This method ensured the inclusion of participants who could provide detailed and nuanced insights into the study's objectives.

3.3. Instrument

Semi-structured interviews served as the primary data collection tool, crafted in alignment with the study's goals and supported by a thorough review of existing literature. This approach, commonly employed in qualitative research, significantly influences the quality of outcomes[37,38]. The interview questions centered on crucial topics such as mindset changes, self-efficacy, motivation, and challenges related to ICT adoption. The semi-structured format enabled a reciprocal and in-depth exploration of the participants' perspectives, fostering rich, detailed discussions.

Table 1. Interview guide.

Objectives	Interview questions	Participants
Determine strategies to change the mindset of government administrators in terms of adapting ICT in their services.	1. What could be some factors why government services are not yet fully appreciative of ICT technology services 2. Is it still possible to change the mindset of government administrators in terms of prioritizing ICT being integrated in their government services? Explain how. 3.What strategy can increase the appreciation of government administrators in terms of actualizing the integration of ICT in the government services? Explain further.	Government leaders
Determine long term mindset shift of government administrators in implementing ICT integrated services.	1. What is the best approach in terms of changing the mindset of the administrators for them to fully look into the long term benefits of the ICT integrated services. 2. What are the potential benefits of government administrators proactively advocating ICT based services? 3. What government support should be made to government agencies for their administrators to fully prioritized ICT integrated.	

3.4. Data gathering procedure

Interviews were meticulously organized, with all participants answering a consistent set of core questions. Sessions were audio-recorded and transcribed verbatim to ensure precise analysis. Conducted as face-to-face, one-on-one interactions, the process included clear pre-interview instructions and opportunities for participants to seek clarifications[39]. This systematic approach captured the depth and richness of responses accurately.

3.5. Data analysis

Thematic analysis was employed to interpret the interview data, a method highly regarded among qualitative researchers for managing descriptive data effectively[40]. This involved a detailed review of

transcripts, identification of major themes and sub-themes, and analysis of patterns to understand how ICT adoption can be encouraged among government administrators. The qualitative data collected was analyzed using NVivo software, a specialized tool for qualitative research analysis. NVivo facilitated thematic coding, cluster analysis, and trend identification, ensuring an in-depth and systematic examination of interview responses[41]. This approach provided clarity on the recurring themes and patterns that shape government administrators' perspectives on ICT adoption. Additionally, the study explored the long-term effects of ICT integration on their attitudes and practices.

3.6. Ethical considerations

Ethical protocols were rigorously followed throughout the study. Participants were fully informed about the research objectives, procedures, and potential risks, with consent obtained beforehand. Ensuring confidentiality and anonymity was a priority, as breaches could harm participants and undermine the study's credibility[42]. Participants' identities and responses were safeguarded, and respect and dignity were upheld at every stage of the research process to ensure a positive and ethical experience.

4. Results

Research Objectives 1. Determine strategies to change the mindset of government administrators in terms of adapting ICT in their services.

Question No. 1. What could be some factors why government services are not yet fully appreciative of ICT services?

1.1. Concerns about security

Twenty five (25) respondents expressed that the main issue is security. Integrating ICT systems poses risks like data breaches or cyberattacks. Until they ensure airtight cybersecurity, adopting advanced ICT services feels risky, especially when sensitive public data is at stake. The sophistication of cyberattacks grows faster than their ability to counter them. Hackers, state actors, and criminal organizations are constantly finding new vulnerabilities. They can't fully trust their systems without robust and evolving security protocols. Many ICT solutions are developed by private companies, including foreign vendors. They must carefully vet these systems to ensure they don't contain backdoors or vulnerabilities that could be exploited by malicious actors.

> "The main issue is security. Integrating ICT systems poses risks like data breaches or cyberattacks. Until we ensure airtight cybersecurity, adopting advanced ICT services feels risky, especially when sensitive public data is at stake."

> "ICT adoption increases our vulnerability to foreign interference. Cyberattacks could disrupt critical infrastructure, from healthcare to national defense, and this risk is too significant to overlook without robust cybersecurity measures in place."

1.2. Financial constraints

Twenty (20) respondents expressed that ICT upgrades require significant upfront investment, from infrastructure to training personnel. Budget constraints often force them to prioritize short-term needs, leaving ICT modernization projects underfunded or delayed. ICT upgrades often require long-term financial planning, but their budgets are usually allocated annually. There are numerous examples of large-scale ICT initiatives going over budget or being abandoned midway. The fear of wasting public funds on unsuccessful projects discourages us from taking bold steps. In conclusion, these perspectives reflect the complex trade-

offs governments face when trying to balance ICT investment with competing priorities and limited resources. Financial constraints, hidden costs, and public perception remain significant barriers.

> "ICT upgrades require significant upfront investment, from infrastructure to training personnel. Budget constraints often force us to prioritize short-term needs, leaving ICT modernization projects underfunded or delayed. ICT upgrades often require long-term financial planning, but our budgets are usually allocated annually."

> "ICT upgrades are not just about buying hardware and software. We need to invest heavily in training and hiring skilled personnel to operate and maintain these systems. These costs are often underestimated and can quickly spiral beyond initial projections."

1.3. Resistance to change

Twelve (12) respondents expressed that many government institutions have been operating in the same way for decades. Transitioning to ICT requires a cultural shift, and some employees and stakeholders are resistant to learning new systems or changing established processes. The resistance often comes from fear of the unknown. Without comprehensive training and support, employees perceive ICT systems as overly complex or a threat to their job security. Addressing these fears is as important as introducing the technology itself. A significant portion of the government workforce is nearing retirement.

> "Many government institutions have been operating in the same way for decades. Transitioning to ICT requires a cultural shift, and some employees and stakeholders are resistant to learning new systems or changing established processes."

> "Resistance often comes from fear of the unknown. Without comprehensive training and support, employees perceive ICT systems as overly complex or a threat to their job security. Addressing these fears is as important as introducing the technology itself. A significant portion of the government workforce is nearing retirement."

Question No. 2. Is it still possible to change the mindset of government administrators in terms of prioritizing ICT being integrated in their government services? Explain how.

2.1. Change is constant

Twenty two (22)) respondents expressed that change is inevitable, and governments must lead, not follow. ICT integration enhances efficiency, transparency, and citizen satisfaction. Demonstrating success through pilot projects and data-driven outcomes can win over skeptics. They cannot rely on outdated systems to meet the demands of a modern population. ICT integration is not just about technology, it's about creating a government that listens, responds, and evolves with its citizens. Showcasing successful ICT initiatives in similar contexts and focusing on measurable outcomes like reduced service delivery time and cost savings. This helps build trust in the technology's value. Highlighting how ICT investment can spur economic development, attract foreign investment, and foster a tech-savvy workforce. Leading in this space elevates their standing in the global community.

> "Change is inevitable, and governments must lead, not follow. ICT integration enhances efficiency, transparency, and citizen satisfaction. Demonstrating success

through pilot projects and data-driven outcomes can win over skeptics. We cannot rely on outdated systems to meet the demands of a modern population."

"By leading in ICT, governments can unlock new opportunities for businesses and create an ecosystem for innovation and growth. Highlighting how ICT investment can spur economic development, attract foreign investment, and foster a tech-savvy workforce."

2.2. Beneficial but budget constraint

Nineteen (19) respondents expressed that ICT can be beneficial, but budget constraints and staff training challenges limit its feasibility. That is why highlighting cost-effective ICT solutions and partnerships with private sectors or international agencies to reduce financial burden is important. Collaborating with the private sector can bridge resource gaps. Partnerships ensure access to cutting-edge technology while reducing financial risks for the government. Offering phased integration and prioritizing user-friendly tools to ease training concerns for the employees should be addressed properly. Leveraging grants, international funding, and public-private partnerships can unlock resources for ICT projects. Staff training is not just a cost, it's an investment in the success of ICT projects.

"ICT can be beneficial, but budget constraints and staff training challenges limit its feasibility. That is why highlighting cost-effective ICT solutions and partnerships with private sectors or international agencies to reduce financial burden is important. "

"Budget constraints require creativity. Leveraging grants, international funding, and public-private partnerships can unlock resources for ICT projects. Staff training is not just a cost, it's an investment in the success of ICT projects. Let's make learning accessible, engaging, and aligned with their daily tasks."

2.3. Citizen's feedback

Thirteen 13) respondents mentioned that their citizens demand better services. So for them ICT is no longer optional, it's a necessity. Using citizen feedback to advocate for ICT as a means to improve public satisfaction and trust in government services helps them realize that accepting ICT innovation is a must. The people they serve expect fast, reliable, and accessible services. ICT allows them to meet these expectations and build trust by delivering on their promises. Presenting ICT as a tool for equity and inclusion in governance. They cannot rely on analog systems to meet the demands of a tech-savvy population. Leveraging ICT to meet citizen expectations and ensure inclusivity, governments can strengthen public trust and satisfaction while addressing the diverse needs of their populations.

"Our citizens demand better services. So for us ICT is no longer optional, it's a necessity. Using citizen feedback to advocate for ICT as a means to improve public satisfaction and trust in government services helps us realize that accepting ICT innovation is a must."

"Every citizen deserves access to government services, regardless of their abilities or location. ICT is our most powerful tool for ensuring no one is left behind. With ICT, citizens become partners in governance. By giving them access to information and tools to monitor their performance, we ensure accountability at every level."

Question No. 3. What strategy can increase the appreciation of government administrators in terms of actualizing the integration of ICT in the government services? Explain further.

3.1. Inclusive consultation

Twenty six (26) respondents expressed that involving them early in the ICT integration process to ensure their perspectives are valued. Creating safe spaces for them to share their opinions or concerns anonymously. Engaging them in setting measurable outcomes, ensuring alignment with their objectives and the public's needs. If they can share insights on how ICT reduces operational costs and improves efficiency without compromising quality, it aligns well with our fiscal responsibility. Anonymous insights have shown them how ICT can simplify processes like tax collection or permit approvals, making services faster and more transparent for the public. Engagement ensures ICT initiatives focus on tangible public benefits, like shorter service wait times or improved access to information.

> "Involving us early in the ICT integration process to ensure our perspectives are valued. Creating safe spaces for us to share opinions or concerns anonymously. This promotes honesty and participation. Engaging us in setting measurable outcomes, ensuring alignment with our objectives and the public's needs."

> "Local governments face unique challenges, including budget constraints and direct interaction with citizens. Anonymous insights have shown us how ICT can simplify processes like tax collection or permit approvals, making services faster and more transparent for the public."

3.2. Tangible success stories

Ten (10) respondents expressed that they highlight real-life examples where ICT integration has transformed service delivery. Showcasing clear benefits like reduced wait times, cost savings, or higher citizen satisfaction. Seeing ICT streamline the permit approval process helped them appreciate its potential for reducing bottlenecks in large-scale projects. When citizens commend faster service through e-governance platforms, it strengthens their commitment to expanding ICT tools. Participants mentioned that using ICT-based early warning systems, they were able to alert communities about impending floods, reducing casualties and property damage. Showcasing this success convinced other regions to invest in similar technologies, prioritizing citizen safety. When they implemented an ICT-based GIS system for urban development planning, it reduced the approval time for zoning requests by 40%.

> "We highlight real-life examples where ICT integration has transformed service delivery. Showcasing clear benefits like reduced wait times, cost savings, or higher citizen satisfaction. Seeing ICT streamline the permit approval process helped us appreciate its potential for reducing bottlenecks in large-scale projects."

> "Using ICT-based early warning systems, we were able to alert communities about impending floods, reducing casualties and property damage. Showcasing this success convinced other regions to invest in similar technologies, prioritizing citizen safety."

3.3. Continuous feedback and improvement

Five (5) respondents expressed that setting up mechanisms for regular feedback from administrators on ICT systems' usability and impact. Integrating feedback mechanisms ensures they are not just adopting

technology for its sake but continuously aligning it with governance goals. Incorporating feedback revealed that some automated workflows in their licensing system were too rigid for unique cases. Allowing for exceptions based on feedback, they made the system more adaptable and improved user satisfaction. Regular feedback from administrators using their small business grants platform showed that certain steps were redundant. Simplifying the process reduced approval times and made the system more user-friendly, ultimately benefiting both administrators and grant applicants. Establishing a culture of feedback and continuous improvement ensures ICT systems address real-world challenges, fostering trust and long-term success in governance initiatives.

> "Setting up mechanisms for regular feedback from administrators on ICT systems' usability and impact. Integrating feedback mechanisms ensures us are not just adopting technology for its sake but continuously aligning it with governance goals."

> "Feedback mechanisms revealed resistance to our employee performance tracking system due to concerns about privacy. By addressing these concerns transparently and incorporating safeguards, we boosted trust and compliance with the system."

Research Objectives 2. Determine long term mindset shift of government administrators in implementing ICT integrated services.

Question No. 1. What is the best approach in terms of changing the mindset of the administrators for them to fully look into the long term benefits of the ICT integrated services.

1.1. Policy-driven perspective

Eighteen (18) respondents expressed that the integration of ICT must align with national priorities and policy goals. Framing ICT initiatives as enablers for achieving broader government objectives, such as economic development, improved education, and efficient public services. Using evidence-based arguments to showcase successful implementations in other regions or countries. Additionally, they mentioned that ICT enables them to harness data for informed decision-making. It emphasizes how integrated ICT systems can provide real-time data analytics to monitor the effectiveness of policies, identify gaps, and predict future trends. Highlighting case studies where data-driven strategies improved governance efficiency.

> "The integration of ICT must align with national priorities and policy goals. Framing ICT initiatives as enablers for achieving broader government objectives, such as economic development, improved education, and efficient public services."

> "ICT enables us to harness data for informed decision-making. It emphasizes how integrated ICT systems can provide real-time data analytics to monitor the effectiveness of policies, identify gaps, and predict future trends."

1.2. Community impact perspective

Eleven (11) respondents expressed that ICT improves the lives of citizens, particularly the underserved. They emphasize how ICT can expand access to education, healthcare, and government services. Sharing testimonials or pilot program outcomes that demonstrate tangible benefits for communities. By highlighting initiatives like low-cost internet solutions, mobile connectivity, and public access points (e.g., community ICT centers) that bring technology to marginalized areas ICT can connect even the most remote and underserved communities to essential services. These inputs reflect diverse ways ICT initiatives can directly benefit underserved communities, fostering equity and inclusivity.

> "ICT improves the lives of citizens, particularly the underserved. We emphasize how ICT can expand access to education, healthcare, and government services. Sharing testimonials or pilot program outcomes that demonstrate tangible benefits for communities."

> "ICT ensures healthcare reaches those who need it the most. Showcasing how telemedicine platforms and mobile health (mHealth) applications connect remote communities to medical professionals."

1.3. Educational and cultural perspective

Twenty (20) respondents expressed that change starts with understanding and awareness. So investing in workshops, training programs, and conferences for them to understand ICT's potential. Encouraging knowledge exchange with countries or regions leading in ICT integration. Empowering leaders with ICT knowledge enables informed decision-making. Participants mentioned that workshops should address the unique needs of different sectors. Conducting targeted training for specific areas like healthcare, education, agriculture, and public service delivery. These strategies reinforce the critical role of understanding and awareness in driving ICT adoption. Tailoring workshops to the specific challenges and opportunities within each sector, governments can maximize ICT's impact.

> "Investing in workshops, training programs, and conferences for them to understand ICT's potential. Encouraging knowledge exchange with countries or regions leading in ICT integration."

> "Workshops should address the unique needs of different sectors. Conducting targeted training for specific areas like healthcare, education, agriculture, and public service delivery. Example: Train healthcare administrators on telemedicine and data-driven decision-making. "

Question No. 2. What are the potential benefits of government administrators proactively advocating ICT based services?

2.1. Economic growth

Twenty three (23) respondents expressed that ICT-based services streamline operations, reduce costs, and open up new economic opportunities. Digitizing public services, they attract tech investments, promote entrepreneurship, and create jobs in the ICT sector. It's a win-win for the economy and public service efficiency. Startups see opportunities in developing apps and platforms for public use, while establishing firms gain contracts for infrastructure and maintenance, stimulating the digital economy. Additionally, they mentioned that ICT adoption creates high-demand roles in programming, cybersecurity, data analytics, and system management. It also encourages skills development among youth, ensuring a future-ready workforce that can meet the needs of a rapidly digitizing world. ICT services encourage digital inclusion, ensuring everyone, especially marginalized groups, can participate in the economy.

> "ICT-based services streamline operations, reduce costs, and open up new economic opportunities. By digitizing public services, they attract tech investments, promote entrepreneurship, and create jobs in the ICT sector. It's a win-win for the economy and public service efficiency."

> "ICT adoption creates high-demand roles in programming, cybersecurity, data analytics, and system management. It also encourages skills development among

youth, ensuring a future-ready workforce that can meet the needs of a rapidly digitizing world."

2.2. Citizen's accessibility

Twenty seven (27)) respondents expressed that proactive ICT adoption enhances transparency and accessibility. Enabling online access to services, citizens can avoid long queues and unnecessary travel, fostering trust in government processes. Online services provide citizens with the convenience of accessing government services 24/7, which improves the efficiency of service delivery. With the ability to apply for permits, renew licenses, or pay taxes online, we reduce unnecessary physical paperwork and waiting time. This empowerment is particularly crucial for individuals in rural areas, as it allows them to engage more effectively with governance. ICT adoption allows citizens to participate more actively in governance. Through online platforms, people can voice their concerns, provide feedback, and contribute to decision-making processes, making governance more inclusive and responsive. Transparency is at the heart of good governance. The more transparent our processes, the more we strengthen the social contract with the public.

"Proactive ICT adoption enhances transparency and accessibility. By enabling online access to services, citizens can avoid long queues and unnecessary travel, fostering trust in government processes."

"ICT adoption allows citizens to participate more actively in governance. Through online platforms, people can voice their concerns, provide feedback, and contribute to decision-making processes, making governance more inclusive and responsive. Transparency is at the heart of good governance."

2.3. Enhancement security

Fourteen (14)) respondents expressed that ICT-enabled systems improve security and data management. Advanced technologies like blockchain or AI, they can enhance fraud detection, ensure data integrity, and protect sensitive government and citizen information. Implementing AI-powered systems for monitoring and threat detection helps them proactively identify potential security breaches before they escalate. These systems learn from data patterns, providing real-time alerts and automated responses to safeguard sensitive information. This allows to meet international data protection standards and maintain public confidence. In summary, these perspectives demonstrate how advanced technologies like blockchain and AI can significantly improve security, data integrity, and public trust in government services. These technologies enhance fraud detection, ensure secure data management, and protect sensitive information, leading to a more resilient digital governance system.

"ICT-enabled systems improve security and data management. By implementing advanced technologies like blockchain or AI, we can enhance fraud detection, ensure data integrity, and protect sensitive government and citizen information."

"ICT-enabled systems ensure data privacy by implementing strong encryption methods and secure data storage protocols. This allows us to meet international data protection standards and maintain public confidence."

Question No. 3. What government support should be made to government agencies for their administrators to fully prioritized ICT integrated.

3.1. Financial support

Twenty two (22) respondents expressed that the government should allocate sufficient funding to modernize infrastructure, adopt new technologies, and ensure ongoing maintenance. They can only prioritize ICT if the necessary financial resources are available for training, hardware, and software upgrades. ICT integration is not a one-time expense. It requires sustainable budgeting to cover ongoing costs, such as system upgrades, cybersecurity measures, and technical support. They must be given access to a consistent and predictable budget that accounts for long-term digital needs. The backbone of ICT integration is the infrastructure itself. Without a modern, reliable internet connection, data centers, and cloud services, any initiative will struggle. Agencies need funding to upgrade their networks and systems to handle increased data loads and provide seamless service delivery to the public.

> "The government should allocate sufficient funding to modernize infrastructure, adopt new technologies, and ensure ongoing maintenance. We can only prioritize ICT if the necessary financial resources are available for training, hardware, and software upgrades."

> "The backbone of ICT integration is the infrastructure itself. Without a modern, reliable internet connection, data centers, and cloud services, any initiative will struggle."

3.2. Training and capacity building

Twenty (20) respondents expressed that they must invest in the continuous development of their staff. Administrators should be trained not only in managing ICT systems but also in understanding how to leverage technology for effective governance and improved citizen services. To successfully integrate ICT, it's essential that digital literacy is built across all levels of government. This includes not just technical training for managing systems but also equipping staff with the skills to understand how technology can streamline processes, improve communication, and enhance decision-making. Must be skilled in how to share data, resources, and insights, enabling integrated solutions that improve efficiency and service delivery. Investing in continuous professional development, leaders can ensure that administrators are well-equipped not only to manage ICT systems but also to strategically leverage technology to improve governance, streamline processes, and enhance citizen services.

> "We must invest in the continuous development of our staff. Administrators should be trained not only in managing ICT systems but also in understanding how to leverage technology for effective governance and improved citizen services."

> "ICT is constantly evolving, so it's crucial that training programs are not one-off events but part of an ongoing professional development strategy. This means providing opportunities for continuous learning, certifications, and access to online courses that enable staff to keep up with technological advances."

3.3. Policy and regulatory frameworks

Ten (10) respondents mentioned that there needs to be a clear, cohesive policy that encourages ICT integration. Policies should be flexible enough to adapt to the rapidly changing tech landscape while ensuring that all digital initiatives comply with security and privacy regulations. Given the rapid pace of technological change, policies should be designed to be agile. This means creating frameworks that can easily adapt to new technologies and innovations. They need to establish a process for regularly reviewing and updating policies to ensure they stay relevant and responsive to emerging digital trends. The participants

emphasized that there must be clear, universally accepted standards that guide the integration of ICT across all government sectors. These standards should cover everything from infrastructure requirements to the minimum technical specifications for systems and platforms, ensuring consistency and compatibility across government services. Government policies should include provisions for transparency and accountability in ICT-related projects. Clear reporting mechanisms need to be in place to track the progress, costs, and effectiveness of digital initiatives.

> "There needs to be a clear, cohesive policy that encourages ICT integration. Policies should be flexible enough to adapt to the rapidly changing tech landscape while ensuring that all digital initiatives comply with security and privacy regulations."

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5. Discussion

This study sought to explore strategies to increase the appreciation of ICT-based services among government administrators by focusing on the psychological factors of mindset shift and self-efficacy. The findings identified key themes, including security concerns, financial constraints, and resistance to change, providing actionable insights to align with the study's objectives of fostering mindset transformation and achieving sustained ICT integration.

The factors influencing ICT adoption in government settings can be classified into two key psychological constructs: self-efficacy and motivation. Self-efficacy factors encompass technical competence, digital literacy, confidence in using ICT tools, problem-solving capabilities, and adaptability to evolving technologies[43]. These aspects determine an individual's ability to effectively integrate ICT into daily tasks. Meanwhile, motivational factors include recognition and rewards, career advancement opportunities, organizational support, and encouragement from government leadership[44]. These elements contribute to the intrinsic and extrinsic motivation of employees, directly impacting their willingness to adopt and sustain ICT-driven initiatives. Understanding these classifications provides a structured framework for analyzing ICT adoption challenges and formulating targeted interventions.

Security concerns emerged as a critical theme in the results, with participants emphasizing risks such as data breaches, cyberattacks, and foreign interference. These concerns highlight the need for a mindset shift that reframes ICT as a safeguard for governance rather than a liability. Technologies such as blockchain for data integrity and AI-powered fraud detection systems provide practical solutions to mitigate these risks[45]. The multifaceted nature of security concerns—including technical, financial, and geopolitical dimensions—underscores the necessity of cognitive reframing. Participatory decision-making processes, as discussed by Olubudo [46], can highlight ICT's long-term benefits and enhance trust in its integration. Administrators who embrace ICT's role in modern governance are better equipped to lead its adoption effectively, as affirmed by Van et al.[47].

Financial constraints were frequently cited as barriers to ICT integration, particularly regarding the costs of infrastructure, training, and ongoing maintenance. These challenges require connecting self-efficacy to financial creativity and resource management. For instance, leveraging partnerships with private sectors and international funding opportunities can help alleviate budgetary pressures, as noted by UNESCO[48] and

Johnson et al.[49]. The study also emphasized the importance of targeted training programs to empower administrators to advocate for cost-effective ICT solutions. Such programs, supported by Ghavifekr and Rosdy[50], build administrators' confidence in implementing scalable and innovative approaches. Administrators with robust self-efficacy are more likely to navigate financial limitations effectively, fostering a culture of sustainability in ICT integration.

Resistance to change, rooted in entrenched traditional practices and fears of job displacement, was another prominent theme. Inclusive consultation and participatory strategies were identified as essential in overcoming these barriers. Creating platforms for administrators to voice concerns encourages transparency and alignment with institutional goals[51]. Additionally, continuous feedback mechanisms were highlighted as a means to address resistance and refine ICT systems. By exposing administrators to successful ICT initiatives and providing hands-on experiences, these strategies alleviate fears and build confidence in ICT's transformative potential[52]. These approaches align with fostering a mindset shift that supports modern governance practices.

The role of tangible success stories in fostering ICT appreciation was emphasized in the results. Examples such as reduced service delivery times and improved citizen satisfaction illustrate the benefits of digital transformation[53]. These outcomes connect to intrinsic motivators like public service improvement and extrinsic rewards such as recognition, which drive long-term engagement. *Motivation theory* suggests that combining these factors strengthens administrators' commitment to ICT integration. Witnessing its impact on efficiency and transparency encourages continued advocacy for ICT-driven governance, ensuring alignment with organizational objectives and societal needs.

ICT's potential to address sector-specific challenges, such as healthcare and education, was another key finding. Initiatives like telemedicine and mobile health (mHealth) applications enhance inclusivity and trust, particularly in underserved areas[54]. Such strategies demonstrate ICT's role as a strategic asset that bridges national priorities and local realities. The study aligns with Jerab[55] emphasis on ensuring ICT initiatives are integrated with broader institutional goals. Administrators who leverage ICT for equitable service delivery contribute to impactful governance reforms, supporting sustainable development goals as advocated

6. Conclusion

The success of ICT integration in the Philippines hinges on a fundamental shift in how government administrators perceive and engage with technology. This study reveals that addressing psychological barriers, such as fear of change and lack of self-efficacy, is as critical as addressing technical challenges. Fostering a culture of continuous learning, collaboration, and transparency, governments can create an environment where administrators embrace ICT as a tool for progress and innovation. This shift will not only modernize governance but also empower citizens and contribute to a more inclusive and prosperous Philippines. The study highlights the importance of addressing psychological barriers, and emphasizes the need for a mindset shift, acknowledging that ICT is not merely a technical tool, but a transformative force that requires a re-evaluation of traditional governance practices. This is reflected in the findings related to resistance to change and concerns about job security. The role of self-efficacy in successful ICT integration aligns with the study's findings on the importance of targeted training programs, hands-on experiences, and mentorship opportunities to build confidence in using ICT effectively. The study also emphasizes the need for robust support systems to help administrators overcome challenges and navigate the complexities of digital transformation. The research highlights the need for ongoing training, knowledge exchange, and inclusive consultation to empower administrators and foster a culture of innovation. The study advocates for

a more transparent and accountable approach to ICT integration, with clear reporting mechanisms and a focus on aligning digital initiatives with broader government objectives.

Conflict of interest

The authors declare no conflict of interest.

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