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AI and IoT Integration for Enhanced Guidance and Counseling Services in Malaysia: A Technological Approach to Well-Being

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Abstract: - This paper offers a comprehensive examination of the impact of Artificial Intelligence (AI) and the Internet of Things (IoT) on transforming guiding and counselling services in Malaysia. This paper concentrates on enhancing the subjective well-being (DSWBs) of guidance and counselling teachers (GACTs) by analysing the effects of life satisfaction, pleasant emotions, and negative emotions on their professional efficacy. This paper suggests creative methods to address the emotional and professional requirements of educators by using the synergy between AI and IoT. The document examines ethical considerations, evaluates existing literature, and delineates approaches for the implementation of these technologies to promote a more inclusive, efficient, and impactful educational environment.

Keywords: Artificial Intelligence, Counseling Services, Guidance and Counseling Teachers, GACTs, Internet of Things, Subjective Well-Being, Education

I. INTRODUCTION

Guidance and counselling teachers (GACTs) are an essential component of Malaysia's educational system, significantly aiding pupils in addressing intricate emotional, social, and academic difficulties [1]. Their duties encompass a broad spectrum of matters that directly impact student welfare and achievement [2], [3].The increasing incidence of mental health issues among students has heightened the need for assistance, placing additional pressure on an already burdened system [4]. The ongoing scarcity of resources and systemic support for GACTs exacerbates this difficulty, leading to emotional exhaustion, overwhelming workloads, and restricted access to professional development opportunities [5]. These problems not only affect the efficacy of GACTs but also compromise the general well-being and resilience of these vital educators [6].

In this environment, nascent technologies such as artificial intelligence (AI) and the Internet of Things (IoT) provide novel methods to mitigate these constraints [7]. Modern financial institutions across the world are increasingly leveraging the significant potential and the immense opportunities associated with artificial intelligence (AI) (Chin et al., 2024). These technologies are distinctly equipped to tackle the complex issues encountered by GACTs, facilitating more efficiency and improving service quality. AI-driven solutions may analyse extensive data to provide insights into student behaviours, forecast possible challenges, and suggest customised treatments, thereby alleviating the cognitive and administrative load on GACTs [8]. IoT devices, including wearables and smart classroom sensors, provide real-time monitoring of student engagement, stress levels, and ambient variables, yielding usable data to inform decision-making [9]. Collectively, these technologies has the capacity to cultivate a more supportive and data-informed atmosphere, enabling GACTs to concentrate on their primary objective of promoting student development and well-being [10].

This article examines the revolutionary potential of AI and IoT in improving guidance and counselling services in Malaysia's educational system. It emphasises that these technologies can both reduce the workloads of GACTs and enhance their decision-making powers by delivering timely, data-driven insights. The paper highlights the significant consequences of integrating AI and IoT, stressing their ability to boost the subjective well-being of GACTs, improve student outcomes, and transform the educational landscape to effectively tackle modern challenges. This article seeks to outline a strategy for utilising AI and IoT to develop a more robust, egalitarian, and efficient guidance and counselling system in Malaysia through the analysis of these breakthroughs.

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II. Literature Review

A thorough literature study was performed to establish the framework and identify research gaps, utilising articles from Google Scholar, ResearchGate, and Academia. The review examined the correlation between dimensions of subjective well-being (life satisfaction, positive emotions, and negative emotions) and professional efficacy within educational settings, the implementation of AI and IoT in education and healthcare, and the cultural influences affecting GACTs' experiences in Malaysia. The literature provides significant insights into the psychosocial dynamics of educators and technology breakthroughs; nevertheless, there is a conspicuous deficiency of study focussing on the incorporation of AI and IoT into Malaysian guidance and counselling services. This gap underscores the necessity for focused research to investigate how these technologies can mitigate obstacles encountered by educators and improve their professional effectiveness.

III. Methodology

This paper utilises a conceptual framework to examine the amalgamation of Artificial Intelligence (AI) and Internet of Things (IoT) technologies in improving guiding and counselling services in Malaysia. A thorough literature review was performed utilising sources such as Google Scholar, ResearchGate, and Academia, concentrating on the correlation between dimensions of subjective well-being (life satisfaction, positive emotions, and negative emotions) and professional efficacy, as well as the applications of AI and IoT in education and contextual factors affecting GACTs in Malaysia. The literature was synthesised into a conceptual model emphasising IoT for real-time data collection through wearable devices and classroom sensors, AI for predictive analytics and behavioural recommendations, and feedback mechanisms such as mobile applications providing actionable insights to educators. Proposed implementation pathways include pilot initiatives, stakeholder participation, and ethical measures to assure scalable and culturally sensitive deployment. Continuous assessment and feedback mechanisms were highlighted to enhance these technologies, guaranteeing their efficacy and adaptability to the changing requirements of educators and students.

IV. Dimensions of Subjective Well-Being

Guidance and Counselling Teachers (GACTs) are crucial in influencing the emotional, social, and intellectual well of students [11]. Their professional effectiveness is intricately linked to their subjective well-being [12], which includes three main dimensions: life satisfaction [13], positive emotions [14], and negative emotions [15]. These dimensions affect both the GACTs' capacity to fulfil their responsibilities effectively and the kind of support they offer to their students.

The integration of Artificial Intelligence (AI) and Internet of Things (IoT) technology provides novel methods to improve aspects of subjective well-being. AI and IoT technologies enhance GACTs' life satisfaction by automating tasks, promoting positive emotions through personalised support tools, and alleviating negative emotions with real-time monitoring [16], so enabling a balanced and effective management of their obligations [17]. This section examines the interaction between these aspects and how specific technological interventions can enhance a more resilient and effective educational environment.

A. Life Satisfaction

Life satisfaction is a crucial metric for evaluating an individual's overall quality of life and well-being [18]. For Guidance and Counselling Teachers (GACTs), elevated life happiness correlates with enhanced motivation, resilience, and emotional stability, all of which are essential for cultivating environments that promote student development and achievement. GACTs possessing elevated life satisfaction are more inclined to demonstrate excitement and prolonged commitment in their responsibilities, so generating a beneficial ripple effect on the students they support [19]. These educators are more adept at handling the emotional and cognitive demands of their roles, allowing them to deliver consistent and high-quality support to kids facing intricate social, emotional, and academic issues.

Conversely, GACTs with low life satisfaction may encounter substantial challenges in sustaining their efficacy. The elevated stress and emotional requirements of their positions, exacerbated by administrative responsibilities and insufficient institutional support, may result in burnout, decreased morale, and a lessened ability to address

student needs [20]. These issues adversely affect the well-being of GACTs and compromise the quality of counselling services, thereby depriving students of essential support.

In this setting, AI-driven tools serve as transformative facilitators of enhanced life satisfaction for GACTs. AI technologies can substantially alleviate the strain of GACTs by automating common and labour-intensive administrative duties, including scheduling, record-keeping, and data analysis. This enables them to concentrate their time and effort on their primary duties—delivering personalised and impactful counselling assistance to students. Moreover, AI-driven platforms can facilitate the identification of patterns in student behaviour and forecast at-risk instances, hence enhancing the decision-making process for GACTs. This not only reduces stress but also improves their capacity to implement successful solutions, thereby fostering a heightened sense of professional fulfilment [21].

By tackling the fundamental reasons of discontent—excessive workloads, insufficient time for significant connections, and absence of actionable insights—AI technologies can improve the personal and professional life of GACTs. This comprehensive enhancement in life satisfaction results in more motivated, resilient, and successful instructors, eventually fostering a good and supportive environment that benefits both GACTs and their pupils. By thoughtfully integrating AI capabilities, the school system may more effectively support GACTs, enabling them to excel in their positions and promote student achievement [22].

B. Positive Emotions

Positive emotions, including joy [23], enthusiasm [24], and appreciation [25], are crucial for enhancing creativity, resilience, and effective problem-solving skills in guidance and counselling instructors (GACTs). These emotions improve interpersonal relationships [26], rendering GACTs more accessible and compassionate, which is essential for establishing trust and rapport with pupils [27]. By fostering good emotional states, GACTs can establish a more supportive and uplifting counselling atmosphere that promotes student participation and personal development. AI-driven technologies significantly contribute to fostering good sentiments among GACTs. Virtual counselling assistants, utilising natural language processing (NLP), offer immediate support and manage regular duties, alleviating stress and enabling GACTs to concentrate on significant interactions with their students [28]. Sentiment analysis methods that utilise machine learning algorithms are especially effective in detecting emotional trends in GACTs' communication patterns, providing insights into their emotional well-being. These tools can suggest customised therapies, including mindfulness exercises, wellness activities, or motivating methods, to enhance happy emotional states. Through the continual monitoring and cultivation of positive emotions, AI technologies enable GACTs to sustain their excitement and inventiveness, hence augmenting their overall efficacy and job happiness.

C. Negative Emotions

Adverse emotions, including tension [29], frustration [30], and worry [31], pose considerable obstacles to GACTs, frequently compromising their capacity for efficient performance [32]. Extended exposure to these emotions may result in burnout [33], diminished motivation [34], and worse decision-making[16], ultimately affecting the quality of counselling services offered to students [35]. Confronting these adverse feelings is crucial for preserving the mental and emotional fortitude of GACTs, hence ensuring their efficacy in their responsibilities. IoT technology provide novel options for monitoring and alleviating adverse emotions in GACTs [36]. Wearable technologies, such smartwatches and wristbands with sophisticated sensors, incessantly monitor physiological metrics such as heart rate variability, stress levels, and sleep patterns. This real-time data offers critical insights into the physical and emotional conditions of GACTs, facilitating prompt recognition of stressors. IoT systems can transmit tailored warnings or alerts recommending stress management strategies, such as deep breathing exercises or brief intermissions, to assist GACTs in restoring emotional equilibrium [37]. Furthermore, IoT-enabled classroom sensors can identify environmental stresses, such as elevated noise levels or inadequate lighting, offering actionable information to enhance the workplace environment. By tackling the underlying causes of adverse emotions via immediate feedback and preemptive measures, IoT technologies assist GACTs in sustaining a better and more productive emotional state, hence improving their overall well-being and professional effectiveness.

V. TECHNOLOGICAL INNOVATIONS

The incorporation of sophisticated technologies in guiding and counselling has created new opportunities for improving the effectiveness and welfare of guiding and Counselling Teachers (GACTs). Artificial Intelligence (AI) and Internet of Things (IoT) technologies have emerged as disruptive instruments, delivering novel solutions to reduce workloads, furnish meaningful insights, and improve the entire counselling experience [38]. AI technology, through predictive analytics and natural language processing (NLP) capabilities, enable GACTs to provide personalised and efficient counselling services [39]. IoT applications facilitate real-time monitoring and data-driven insights, allowing for proactive interventions to mitigate stress and enhance engagement in educational settings. The integration of AI and IoT creates a synergistic ecosystem that can transform the educational landscape by promoting a more supportive, responsive, and inclusive counselling approach [40]. This section examines the distinct functions of AI and IoT, as well as their integration in revolutionising guiding and counselling services, offering real applications and examples to demonstrate their influence.

A. Artificial Intelligence in Counseling

NLP-driven AI systems, such as virtual counselling assistants, are transforming the manner in which students obtain support by serving as effective and responsive initial responders. These clever technologies offer prompt response for student enquiries, both academic and emotional, fostering a compassionate and supportive atmosphere that promotes participation and trust. This action substantially reduces the workload of Guidance, Academic, and Counselling Teams (GACTs), enabling these experts to concentrate on more intricate cases necessitating human knowledge. In addition to quick counselling, AI-driven platforms are essential for personalising education by creating tailored learning programs [41]. By examining data on students' learning profiles, strengths, and areas needing enhancement, these systems formulate customised interventions and tactics that optimise each student's potential and educational results. Moreover, the capability of predictive analytics allows these AI systems to surpass mere reactive strategies. Through the processing and analysis of previous data, they can discern patterns indicative of pupils at risk of academic failure, emotional discomfort, or other difficulties. This proactive strategy enables educators and counsellors to execute targeted treatments promptly, enhancing resilience, boosting performance, and mitigating potential concerns before they intensify. These AI technologies collectively improve the support system in educational institutions, guaranteeing that each student receives timely, personalised, and effective help for academic and emotional success.

B. IoT Applications

The incorporation of IoT applications in education and support services presents transformative opportunities for improving the experiences of both students and educators [42]. Wearable gadgets, such smartwatches and bracelets with sophisticated sensors, track essential health metrics such as stress levels, sleep patterns, and physical activity. This data offers significant insights into the physical and emotional health of Guidance, Academic, and Counselling Teams (GACTs), facilitating improved stress management and self-care strategies. In educational environments, smart classrooms utilise IoT sensors to monitor engagement levels, analyse classroom dynamics, and evaluate environmental aspects including temperature, lighting, and noise. These insights enable instructors to make informed decisions to enhance the learning experience for pupils. Moreover, IoT technologies are crucial in tackling equity concerns by enabling remote monitoring and virtual counselling services. These tools guarantee that students in remote or underprivileged regions have prompt and efficient assistance, closing disparities in access to educational and mental health resources. These IoT applications collectively improve data-driven decision-making, cultivate a supportive environment, and guarantee the success of both students and educators.

C. *AI-IoT Synergy*

The amalgamation of AI and IoT cultivates a synergistic environment that combines real-time data acquisition with sophisticated predictive analytics, transforming the utilisation of data to improve educational and support systems [43]. IoT technologies, such wearable health monitors, smart classroom sensors, and environmental trackers, incessantly gather physiological and contextual data, offering an extensive perspective on the physical, emotional, and environmental influences on humans. This data is efficiently integrated into AI systems, where advanced algorithms process and analyse it to reveal patterns and trends. Wearable IoT devices can assess stress levels, heart rates, and sleep patterns in students and Guidance, Academic, and Counselling Teams (GACTs),

relaying this information to AI algorithms that analyse individual and collective well-being. AI can propose tailored interventions, including stress management strategies, calendar modifications, or wellness programs, customised to meet each user's distinct requirements. Likewise, intelligent classroom IoT devices can assess student participation, environmental factors, and classroom interactions, which AI systems evaluate to enhance pedagogical strategies, seating configurations, or resource distribution. The synergy between AI and IoT include predictive analytics, wherein AI utilises real-time IoT data to anticipate foreseeable difficulties and offer effective solutions [44]. For example, by recognising early indicators of burnout in educators or disengagement in kids, AI can facilitate fast interventions, like counselling, skill development activities, or adjustments to the environment. This comprehensive approach improves individual well-being and performance while optimising institutional procedures, establishing a holistic, data-driven framework to promote success and resilience in educational environments.

VI. Ethical and Practical Considerations

The amalgamation of AI and IoT into educational and support frameworks presents significant potential to improve results for both students and instructors [45]. The implementation of these advanced technology necessitates meticulous management to handle significant ethical and practical issues. These factors are essential to guaranteeing that the advantages of innovation are achieved without undermining the rights, equity, or efficacy of the parties concerned. Concerns including data privacy, racism, accessibility, and the training of educators and counsellors must be methodically addressed to promote ethical and sustainable deployment. This section examines the obstacles and emphasises strategies to alleviate dangers while enhancing the beneficial effects of AI and IoT technology in educational environments.

A. Data Privacy and Security

The safeguarding of sensitive information gathered by AI and IoT systems is a paramount ethical responsibility, especially within educational settings where students and educators rely on these technologies with their personal data [46]. Strict compliance with Malaysia's Personal Data Protection Act (PDPA) is vital to guarantee that all data is managed in accordance with established legal standards. This entails the implementation of stringent data encryption techniques, secure storage systems, and regulated access protocols to avert unauthorised utilisation or breaches. Regular audits and changes to cybersecurity measures are essential to mitigate emerging dangers, particularly due to the swift advancement of technology. Moreover, transparent data usage regulations and explicit communication with stakeholders regarding the collection, storage, and utilisation of their data can enhance trust and promote acceptance of AI and IoT technologies in educational institutions.

B. Bias and Fairness

AI systems are potent instruments; nevertheless, their efficacy and ethical utilisation hinge on the equity and precision of their algorithms [47]. Systematic audits and assessments are essential for recognising and eradicating biases that may result in discriminatory consequences. These biases may arise from skewed training data or erroneous assumptions integrated into algorithmic design. Ensuring fairness entails that students and instructors from many backgrounds, especially those from marginalised or under-represented communities, receive equitable treatment. Creating inclusive datasets and engaging various stakeholders during the design and testing phases might alleviate these risks. Moreover, transparency in AI decision-making processes can instill confidence in users, allowing them to comprehend and trust the systems that influence their educational and professional experiences.

C. Cost and Accessibility

The integration of AI and IoT technologies in education must be equitable, guaranteeing that under-resourced schools and communities may also reap the benefits of these innovations [48]. Cost-effectiveness and usability are essential elements in facilitating wider adoption. Innovations like solar-powered IoT gadgets offer sustainable and cost-effective alternatives for regions with restricted access to electricity. Utilising open-source AI platforms might diminish licensing expenses, enabling educational institutions to tailor solutions to their particular requirements. Collaborations between governmental entities, non-governmental organisations, and private sector firms can enhance the implementation of these technologies through the provision of subsidies, grants, or shared infrastructure. Ensuring accessibility entails creating interfaces and systems that are user-friendly and comprehensible, catering to a diverse array of users irrespective of their technical proficiency.

D. Training and Developmentand

The effective deployment of AI and IoT tools in education necessitates both technological infrastructure and the human proficiency to utilise these systems efficiently. Comprehensive training programs must be established to furnish Guidance, Academic, and Counselling Teams (GACTs) with the requisite knowledge and abilities for the integration of these tools into their workflows. This training should encompass the technical facets of operating AI and IoT systems, alongside the ethical and practical implications of their utilisation. Workshops, practical training sessions, and ongoing professional development opportunities can enhance users' confidence and proficiency. Furthermore, cultivating a culture of collaboration and creativity inside educational institutions can motivate GACTs to investigate inventive methods of using technology to improve student outcomes and well-being.

VII. Implementation Strategies

A. Innovative Pilot Initiatives for Scalable Solutions

The effective amalgamation of AI and IoT technologies in education necessitates a deliberate and thorough implementation approach to maximise their advantages while mitigating potential obstacles [49]. An essential preliminary action is to initiate pilot programs, which function as controlled settings for evaluating the efficacy, feasibility, and scalability of AI and IoT technologies. These small-scale initiatives can be implemented in a variety of schools, including urban, rural, and underserved institutions, to assess their adaptability across varied contexts. Pilot programs facilitate practical experimentation and the acquisition of empirical data, yielding insights into the effects of these technologies on student engagement, teacher workloads, and overall educational outcomes. Significantly, these pilots can identify significant impediments, such as infrastructural constraints or user reluctance, and provide an opportunity to resolve these concerns prior to extensive implementation. By commencing with modest initiatives, stakeholders can progressively enhance their methodology, guaranteeing that the solutions devised are both efficacious and durable.

B. Collaborative Partnerships for Holistic Implementation

Cross-sector collaboration is essential for connecting technological innovation with practical implementation in education. Collaborations among technology suppliers, legislators, educators, and community leaders provide a multidisciplinary strategy for implementation. Technology suppliers offer advanced proficiency in the design and implementation of AI and IoT systems, guaranteeing that the solutions are resilient, scalable, and consistent with international best practices. Policymakers can guarantee that these initiatives correspond with national educational agendas and regulatory frameworks, including Malaysia's digital economy objectives. Educators offer essential perspectives on the daily realities of classrooms, ensuring that the tools meet actual requirements rather than abstract challenges [50]. Community stakeholders, such as parents and local organisations, can contribute to fostering adoption and acceptance. By cultivating a collaborative ecosystem, these collaborations guarantee that technology integration is both technically robust and culturally pertinent, receiving broad support.

C. Dynamic Evaluation and Feedback Mechanisms

Upon the introduction of technology, ongoing monitoring and feedback systems are crucial to guarantee the achievement of intended results. Implementing comprehensive systems to monitor and evaluate the effects of AI and IoT technologies on diverse educational facets, including student performance, teacher satisfaction, and engagement levels, yields essential data for continuous enhancement. Feedback loops among educators, learners, administrators, and other stakeholders facilitate incremental enhancements to the technology and its execution. Data from IoT classroom sensors or AI-driven learning platforms can identify areas for enhancement, such as modifying algorithms for personalised learning or optimising classroom environmental conditions to increase participation [51]. Monitoring activities must be augmented by periodic reviews and audits to guarantee ethical compliance, equitable access, and alignment with educational objectives. This iterative process of assessment and modification guarantees that the technologies retain their efficacy and relevance across time.

D. Strategic Policy Alignment for Sustainable Integration

Policy integration is a vital component of effective implementation. Promoting policies that prioritise the integration of AI and IoT in education is crucial for fostering a conducive climate [52]. These rules must correspond with

Malaysia's overarching digital economy aims, highlighting equal access, ethical utilisation, and sustainability. Government incentives could facilitate the advancement and implementation of solar-powered IoT devices or subsidise open-source AI platforms for educational institutions in resource-limited regions. Policies must also encompass financing for training programs to enable educators and counsellors to acquire the requisite skills for the efficient utilisation of these instruments. Moreover, policy frameworks can facilitate the standardisation of data privacy, ethical norms, and technical prerequisites, ensuring that all stakeholders function within a unified and supportive system. By incorporating these technologies into the nation's comprehensive educational and economic framework, policymakers may facilitate systemic transformation that advantages all learners and instructors. The integration of AI and IoT in education necessitates a comprehensive strategy that commences with small-scale pilot programs to evaluate and enhance solutions. Collaboration among varied stakeholders guarantees that the tools are novel and practical, while ongoing monitoring facilitates iterative enhancements to optimise impact. Ultimately, supportive policies establish the infrastructural and regulatory framework essential for enduring success. Collectively, these policies establish a comprehensive framework for integrating AI and IoT technologies into the educational sector, promoting transformative change and enhancing equity, efficiency, and creativity.

VIII. Future Research Directions

The efficient incorporation of AI and IoT technologies into educational and counselling systems necessitates a continuous dedication to research, concentrating on critical domains that guarantee their enduring significance, efficacy, and fairness. Multiple essential avenues require investigation to optimise the capabilities of these technologies while tackling the problems of deployment.

A. Longitudinal studies

Longitudinal studies are crucial for comprehending the prolonged effects of AI and IoT on Guidance, Academic, and Counselling Teams (GACTs) and student outcomes. These studies offer a means to monitor the impact of these technologies on essential factors like as educator well-being, stress management, work satisfaction, and productivity over time. Longitudinal study can assess the enduring impacts of personalised learning tools, predictive analytics, and IoT-enabled engagement monitoring on academic performance, emotional well-being, and equitable resource access for students. These investigations enable researchers to discern any inadvertent repercussions or problems, such excessive dependence on technology, possible biases, or privacy issues. Longitudinal studies provide valuable insights that can assist policymakers, educators, and developers in enhancing these technologies, ensuring they remain advantageous and responsive to evolving educational demands and societal standards.

B. Cultural Adaptation

A vital domain for forthcoming research is cultural adaptation, which examines how Malaysia's multifaceted cultural, linguistic, and social milieu influences the adoption and efficacy of AI and IoT technologies. Malaysia's multi-ethnic population, including Malay, Chinese, Indian, and indigenous cultures, creates a distinctive environment where cultural awareness is crucial for technology acceptability [53]. Research can examine how localised designs and culturally pertinent content improve user engagement and satisfaction. Comprehending how varying cultural attitudes towards technology shape views of AI-driven interventions or IoT-based monitoring systems might guide tactics for enhanced acceptability. Furthermore, research may investigate methods to incorporate traditional educational practices and values inside contemporary technology frameworks, ensuring that AI and IoT solutions are congruent with Malaysia’s cultural legacy. By emphasising cultural adaptation, researchers can guarantee that these technologies are inclusive, courteous, and effective for the nation's diverse populace.

C. Scalability

Scalability denotes a crucial research avenue, concentrating on the formulation of frameworks and techniques to extend successful pilot initiatives to educational institutions throughout Malaysia. Although pilot projects are crucial in assessing the viability of AI and IoT solutions, their expansion necessitates tackling problems including resource inequities, infrastructural deficiencies, and disparate levels of technology preparedness among educational institutions [54]. Research may investigate economical options, such as utilising solar-powered IoT devices in rural regions or employing open-source AI systems to minimise licensing costs. It can also analyse modular implementation techniques, allowing schools to adopt technology components incrementally according to their individual needs and capacities. Furthermore, scalability analyses can evaluate the logistics of nationwide

implementation, encompassing training prerequisites, stakeholder involvement, and the formation of support networks to sustain and improve the systems. By tackling these difficulties, academics can create resilient and adaptable frameworks that facilitate the equitable and efficient incorporation of AI and IoT throughout Malaysia's educational system.

Future research approaches for AI and IoT in education should prioritise long-term impact assessment, cultural pertinence, and scalable deployment frameworks. Longitudinal studies offer essential insights into the enduring impacts on educators and students, whereas cultural adaptation research guarantees that technologies are inclusive and culturally relevant. Scalability frameworks facilitate the progression from pilot initiatives to comprehensive national solutions, guaranteeing that all educational institutions, irrespective of resources or geographical location, can reap the benefits of these improvements. Together, these research priorities will guide the responsible and impactful evolution of AI and IoT in Malaysia's educational ecosystem.

IX. Conclusion

The amalgamation of AI and IoT in guiding and counselling services signifies a transformative change in Malaysia's educational framework. By addressing the aspects of subjective well-being, these technologies enable GACTs to perform their responsibilities more efficiently, cultivating a supportive atmosphere for both instructors and students. The strategic deployment of ethical safeguards and ongoing innovation will be essential for realising the full potential of AI and IoT in revolutionising advice and counselling services.

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