School Takaful Waqf Smartwatch

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ABSTRACT

Protecting the safety of children is paramount, especially during their school hours and commutes. However, awareness regarding child protection through Islamic financial practices like takaful and waqf remains limited. This paper proposes the development of an integrated School Takaful Smartwatch with real-time location monitoring and a value-added Waqf platform. In this regard, the Waqf platform will be featured on the School Takaful Smartwatch subscriber's Mobile Application as an additional value to facilitate donations to fund the underprivileged school children (B40 students) for the School Takaful Smartwatch Policy. The assistance to the B40 students will be implemented using a takaful waqf-based approach, departing from the traditional takaful model with waqf principles that contribute to a charitable endowment fund. This product aims to bridge the gap between child safety, technological advancements, and the underutilized potential of waqf. Data gathered from interviews with parents, takaful agents, and schoolteachers from diverse communities ensure that the product is designed to meet the specific needs and explore perceptions of its users. Representing a novel approach to child safety, financial security, and charitable giving in Malaysia, this solution has the potential to revolutionize school children's safety, promote financial inclusion, and contribute significantly to the takaful landscape. Collaboration with the parent-teacher association will ensure active involvement in school safety initiatives and keep parents informed about the positive impact of waqf contributions, ensuring the device becomes an integral and valued tool in promoting the safety and well-being of their children.

Keywords: School Takaful, Smartwatch, Waqf

INTRODUCTION

Children in Malaysia typically spend a minimum of five (5) hours in school each day, with normal hours running from 7:30 am to 1:00 pm. However, certain public schools may implement shorter hours using two shifts to manage overcrowding, and some children may have extended hours in additional educational institutions, such as religious schools, arranged by their parents. Ensuring the health and safety of children during these school hours is essential to maintain a continuous safe environment and foster a positive school experience, laying the groundwork for a promising future. Protecting children during their time at school is paramount, as it serves as their second home, where they spend a significant portion of their day. It is imperative to create a safe and nurturing environment for them to learn, grow, and enjoy their educational journey.

Educational settings must provide safe and secure environments for students, educators, support staff, and the surrounding community. Therefore, effective management of school safety and security is essential to

prevent accidents and incidents, fostering an environment that promotes physical, emotional, and social well-being. As defined by Safeopedia (2021), safety encompasses all measures aimed at preserving individuals' lives, health, and physical integrity, protecting them from harm or undesirable outcomes. This includes controlling recognized hazards to achieve an acceptable level of risk. (Mubita, K. 2021).

Integrating the concept of waqf into smartwatches aims to assist students from low-income households (B40). Unlike zakat, waqf does not direct its funds to a specific organization but fosters a culture of giving. In countries like Malaysia, where increasing amounts of waqf land are designated for charitable purposes, waqf plays a significant role in the economic growth of Muslim society. Takaful providers or businesses must establish waqf funds to incorporate the waqf concept into takaful. Cash waqf is the primary method of fund collection, allowing anyone with available cash to donate or contribute through the straightforward and adaptable procedure of cash waqf (Zakaria et al., 2019). In addition to that, the integration between Takaful and technology is also necessary (Mustakim, Mohd Zameri, Ngabdullah, Hatta & Jaafar, 2023).

Problem Statement

Students enrolled in Malaysian schools overseen by the Malaysian Ministry of Education (MOE) benefit from protection under the Malaysian Skim Takaful Pelajar Sekolah (TPSM), a joint initiative between the MOE and Syarikat Takaful Malaysia Am Berhad. Despite this, TPSM still relies on traditional paper-based methods for claims processing. The coverage provided by TPSM remains limited in scope. Presently, Zurich Insurance offers a more comprehensive School Takaful coverage compared to TPSM. However, the insurance landscape for school-related accidents in Malaysia is constrained, lacking Islamic-compliant coverage options and relying on conventional claim processing methods (Janmohammed, 2019). Conventional insurance products fail to adequately address the distinct needs of parents seeking Sharia-compliant financial solutions for ensuring their children's safety. Moreover, the absence of seamless integration between insurance services and modern technology, such as Smartwatch and monitoring apps, hinders parents' ability to efficiently monitor their child's safety.

In recent years, there has been a growing concern for the safety of school children. The safety of school children in Malaysia is a pressing concern, particularly in the context of safety environment in the school. (Borhanuddin, 2018) highlights the need for safety awareness among teachers, students, parents, and management. According to Alloghani, one potential solution is the use of a mobile-based health monitoring application that incorporates IoT technology (Sefa-Yeboah et al., 2021). This application would utilize smartwatch to track and monitor the health status of school children, ensuring their safety while they are away from their parents. Furthermore, the use of smartwatch can be expanded to include a school takaful system that focuses on enhancing the safety and security of school children. By integrating smartwatch with a mobile app, this takaful system can provide real-time monitoring of school children, allowing parents and school staff to track their whereabouts and ensure their safety. Research has shown that implementing a mobile-based monitoring application with IoT technology, specifically using smartwatch, can greatly improve the safety and security of school children.

To streamline the claims processing process, develop an IoT platform that integrates with the traditional takaful system. IoT sensors can automatically collect crucial data such as accident's location and severity, expediting the submission and evaluating of claims. This automation reduces manual intervention and enhance productivity, lending to faster claim settlements. Additionally, implement smart contracts within the IoT platform to execute takaful agreements in accordance with Shariah law under predefined conditions. These smart contracts, activated by IoT sensors tracking event like policyholders compliance with safety regulations or occurrence of covered hazards, ensure transparency and adherence to Islamic value. Introduce IoT base derive for remote monitoring of school children. These gadgets provide real time update on location, status and safety conditions enabling proactive risk mitigation strategies and enhancing overall security and safety measures.

While commendable efforts exist to enhance school children's safety in Malaysia, a crucial gap remains – the absence of real-time location monitoring tools. This deficiency weakens existing safety measures, leaving children vulnerable during vulnerable periods like transit or unexpected situations. Current initiatives often rely on passive measures like attendance checks, which lack immediacy and fail to address critical situations requiring prompt intervention (Malik et al., 2020). This reactive approach leaves children exposed to potential dangers, hindering timely responses and potentially impacting their well-being (Agarwal et al., 2022).

The lack of real-time tracking also fuels parental anxiety, as they remain uninformed about their child's whereabouts during commutes or extracurricular activities. This constant uncertainty can negatively impact their focus and overall well-being (Bhatia et al., 2021). Addressing this gap requires a proactive approach that leverages technology's potential. Implementing real-time location monitoring within a school Takaful solution can revolutionize school safety in Malaysia. By bridging the real-time location monitoring gap, we can create a safer environment for Malaysian school children, empowering parents and promoting a proactive approach to their well-being.

While the technological advancements in the proposed school takaful product have the potential to benefit all school students, concerns arise regarding accessibility for B40 communities due to affordability constraints. According to (Mohamad Zaharuddin et al., 2019), the market's inability to meet the low-income sector's protection demands is demonstrated by the lack of insurance and takaful choices for B40 households. Addressing this gap requires more than awareness raising. Equitable access to risk mitigation tools demands innovative product development efforts focused on affordability and inclusivity within the B40 community.

The term "waqf" in this model describes the takaful contract, emphasizing the participant's agreement or consent. This agreement involves the payment of takaful contributions by the participant in exchange for participation in the takaful product. These contributions are credited by the operator into the takaful fund, following the principles of waqf or endowment. Initially, the operator must create a waqf account within the takaful fund, requiring the operator to contribute a certain amount of "seed" money as waqf to establish the said waqf account.

Product Research Question and Objective

This product integrates smartwatches and mobile apps to enhance child safety and leverage waqf for funding. It aims to provide total safety protection for school children, promote real-time location monitoring through smart technology, and bridge gaps in school safety solutions. The School Takaful product, accessible through a Waqf platform, allows users to donate for underprivileged children's subscriptions, ensuring quick response to emergencies with real-time incident recording and online claim submission. Additionally, it maximizes takaful benefits and promotes waqf for B40 students to access the School Takaful Smartwatch product.

This product research study develops the three (3) research questions, there are How can a School Takaful product integrated with a smartwatch and mobile app effectively ensure the safety of school children throughout their day, both in school and during transit, and provide comprehensive protection in case of incidents? What are the optimal features and functionalities within a smartwatch-based real-time location monitoring system that maximize user acceptance, promote responsible use, and offer the highest potential for enhancing school safety outcomes in Malaysia? How can integrating online Takaful claim processing, specifically for School Takaful products, and leveraging smartwatch-generated data within a School Takaful ecosystem facilitate efficient claim resolution, improve financial inclusion, and benefit low-income families? How can a Waqf platform integrated into the mobile app effectively raise awareness, encourage participation, and contribute to the long-term sustainability of the School Takaful solution, generating positive social impact for school children and educational institutions?

Product Scope

This research focuses on exploring the potential of developing School Takaful Waqf Smartwatch product. The study relies on primary data collected through interviews with five (5) participants from diverse backgrounds, aiming for a representative sample. Thematic analysis will be employed to identify key themes and patterns in the interview data. While the study acknowledges the limitations of its small sample size and specific geographical focus, it aims to contribute valuable insights into the potential acceptance of School Takaful Waqf Smartwatch product in enhancing school children safety in Malaysia.

Significant of Research Product

Significance of this product have four (4) there are, parents and guardians the School Takaful Smart Watch empowers parents by providing financial protection and real-time monitoring for their children's safety during school hours and transit, Implementing the School Takaful Smart Watch enhances security, fostering trust among parents and creating a secure learning environment, guiding institutions in adopting similar measures for overall student welfare. The integration of Smart Takaful, Smart Watch, and Mobile App improves emergency response mechanisms, aligning with safety objectives. The study evaluates legal aspects of waqf, aiding regulators in understanding and enhancing the regulatory environment. Financial organizations play a crucial role in managing waqf assets. Scholars can assess how institutions handle waqf assets, including investments and financial management, to ensure sustainability and a steady flow of funds for religious or charitable purposes. Governments, as policy-makers, should revise policies based on research findings to provide better solutions for financial institutions. Understanding the legal and regulatory framework for waqf is crucial for good governance and compliance, allowing effective implementation and modification of laws.

LITERATURE REVIEW

Discuss about the empirical arguments thoroughly, don't forget to cited strong arguments, and discuss the hypothesis in here.

School Takaful

Nair (2021) emphasizes the importance of robust safety policies and programs in schools to prevent child injuries. Rahman et al. (2023) highlights the crucial role of insurance/Takaful coverage in mitigating financial hardship and facilitating faster recovery for children facing school-related accidents.
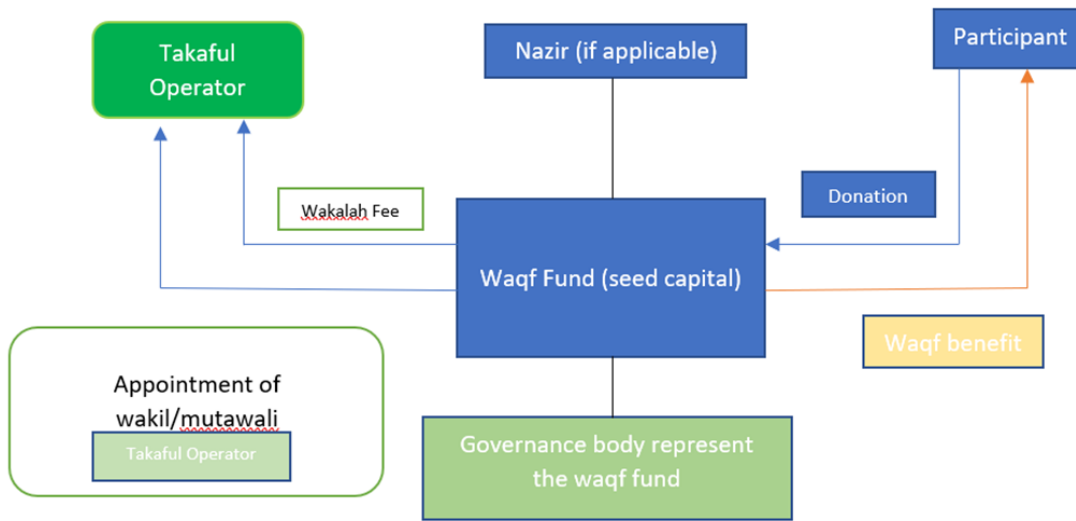
Real Time Location Monitoring

Zhao et al. (2023) demonstrate how AI-powered traffic prediction and connected vehicle technology can improve school bus routing and reduce congestion. Cho and Lee (2023) found that smartwatches with GPS tracking and emergency alerts, coupled with parent-facing apps, significantly enhance safety perception and reduce anxiety for both children and parents. According to McNally (2018) and Sun (2021) shed light on the pivotal role of parental awareness and involvement in ensuring the safety of school children. McNally advocates for co-designing safety applications with children, fostering a collaborative approach. Sun's work identifies factors influencing parental perceptions of safety, emphasizing the need for active parental engagement.

B40 community's student

Consumers usually choose to donate using different digital platforms because they are more convenient (Nour Aldeen et al., 2022). Online donations can be made through waqf, infaq and zakat (Hendrianto, 2016).

According to Mohamad Zaharuddin et al., 2019, using the concept of Waqf based Takaful to help the B40 community's student using the waqf fund as per diagram.

A takaful operator can establish a separate waqf fund, maintaining its independence from the business's cash. Benefits are distributed to covered individuals based on taawun, ensuring Shariah compliance. The funds within the waqf are invested through a mudarabah/wakalah bilistithmar structure, supporting the waqf's goals. Similarly, parents contribute to the waqf fund through smartwatch purchases, utilizing the capital for investment. Profits earned assist B40 students in obtaining both takaful policies and smartwatches.

METHODOLOGY

The researcher focuses more on the research methodology of a study in this chapter, outlining possible ways and methods for carrying out the investigation. This chapter will focus more on the research methodologies in order to achieve the study goal. In obtaining new theories, notions, or a deeper degree of understanding, this study integrates data using a method known as the meta-synthetic approach, which is part of the qualitative research approach.

Data Collection:

a. Literature Review:

A comprehensive review of existing literature will be conducted, focusing on School Takaful products, safety measures for school children, and the integration of Smart Watch and Mobile App technologies in educational contexts as well as on Waqf digital innovation.

b. Interviews:

Objective: The primary objective of the interviews is to gain a comprehensive understanding of the perceptions of parents, guardians, and schoolteachers regarding the integration of School Takaful, Smart Watch and Mobile App features for total safety protection. Additionally, the interviews aim to explore user-friendly features that facilitate Waqf donations within the Mobile App.

Selection Criteria: Participants selected for interviews will include parents, guardians, schoolteachers, Takaful Operator's staff and/or individuals with relevant experience or opinions on child safety and technology in school environments. This ensures that the insights gathered are from individuals well-versed in the context of the study.

To ensure diverse perspectives, the study will involve 5 participants categorized as follows:

Respondents Group	Number	Demographics
(1) Parents/Guardians	3	Diverse socio-economic backgrounds, child safety experiences, digital literacy levels
(2) Schoolteachers	1	Different school levels, existing safety measure knowledge, student behavior/technology adoption insights
(3) Takaful Operator	1	Expertise in child safety, education technology, Islamic takaful/finance

Method: The interviews will employ a semi-structured approach, combining predetermined questions with open-ended inquiries. This method offers a balance between the structure necessary for focused exploration of key topics and the flexibility needed to delve into nuanced responses.

Questions: The interview questions are designed to address key aspects related to School Takaful with integrated Smart Watch and Waqf donation to fund unprivileged school children to subscribe into this School Takaful as one of the features. Participants will be invited to share their perceptions, attitudes, and preferences. The interview questions include but are not limited to:

Research Question	Respondent Group	Interview Question
RQ1: How can a School Takaful product integrated with a smartwatch and mobile app effectively ensure the safety of school children throughout their day, both in school and during transit, and provide comprehensive protection in case of incidents?	(1)	IQ1: What are your primary concerns regarding your child's safety during school hours and while commuting? IQ2: How would real-time location tracking and emergency notifications integrated into a smartwatch and mobile app address your safety concerns?
	(2)	IQ1: What are the common safety issues or concerns that you observe among students during school hours and extracurricular activities? IQ2: How do you currently monitor student safety and address potential safety threats?
	(3)	IQ1: How can the Takaful Operator integrate smartwatch-generated data into its safety risk assessment and underwriting processes? IQ2: How can the Takaful Operator collaborate with other stakeholders, such as government agencies and technology providers, to enhance overall school safety initiatives?
RQ2: What are the optimal features and functionalities within a smartwatch-based real-time location monitoring system that maximize user acceptance, promote responsible use, and offer the highest potential for enhancing school safety outcomes in Malaysia?	(1)	IQ1: What features and functionalities do you consider essential in a smartwatch for your child's safety and well-being? IQ2: How would you rate the importance of real-time location tracking, emergency notifications, and other safety features in a smartwatch?

	(2)	IQ1: What smartwatch features and functionalities would be most beneficial for monitoring student safety during school activities and extracurricular events? IQ2: How can we ensure that smartwatch usage aligns with school policies and does not interfere with learning activities?
	(3)	IQ1: What smartwatch features and functionalities are currently offered through School Takaful plans? IQ2: How can smartwatch data be used to personalize insurance coverage and pricing for School Takaful policyholders?
RQ3: How can integrating online Takaful claim processing, specifically for School Takaful products, and leveraging smartwatch-generated data within a School Takaful ecosystem facilitate efficient claim resolution, improve financial inclusion, and benefit low-income families?	*(1)*	IQ1: What experiences have you had with traditional Takaful claim processing? What challenges have you encountered? IQ2: How would online Takaful claim processing, specifically for School Takaful products, streamline and simplify the claim process?
	(2)	IQ1: What role can schoolteachers play in assisting parents or guardians with School Takaful claim processing? IQ2: How can online Takaful claim processing be integrated into school administrative systems to streamline the process for families?
	(3)	IQ1: What are the current processes and procedures for processing School Takaful claims? IQ2: How can online Takaful claim processing be integrated with existing Takaful systems and infrastructure?
RQ4: How can a Waqf platform integrated into the mobile app effectively raise awareness, encourage participation, and contribute to the long-term sustainability of the School Takaful solution, generating positive social impact for school children and educational institutions?	*(1)*	IQ1: What are your perceptions of the potential benefits of integrating a Waqf platform into the School Takaful mobile app? IQ2: How would you like to be informed and engaged about the impact of your Waqf contributions?
	(2)	IQ1: How can the Waqf platform be effectively communicated and explained to parents and guardians within the school community? IQ2: What role can schoolteachers play in promoting awareness and understanding of the Waqf platform among parents and students?

	(3)	IQ1: How can the Takaful Operator effectively promote the Waqf platform to its School Takaful policyholders and other stakeholders?
		IQ2: What mechanisms can be implemented to ensure that Waqf funds are utilized effectively and sustainably for the benefit of school children and educational institutions?

Respondent Group Indicator: (1) Parents/Guardians, (2) Schoolteachers, (3) Takaful Operator.

These questions are designed to elicit thoughtful responses that will contribute to a deeper understanding of stakeholder perspectives and preferences in the development of the School Takaful product.

Data Analysis

The interview transcripts will be transcribed verbatim and analyzed using thematic analysis. This qualitative data analysis approach will identify recurring themes, patterns, and perspectives within the participant responses. The findings will be synthesized and presented in a clear and structured manner to inform the development of a user-centric School Takaful solution that addresses safety concerns, promotes responsible technology use, and fosters Waqf awareness and participation.

Ethical Considerations

Informed consent will be obtained from all participants, ensuring their anonymity and confidentiality throughout the research process. Audio recordings will be stored securely and transcribed verbatim for analysis.

Conclusion:

This research methodology aims to provide a comprehensive and insightful understanding of stakeholder perceptions regarding the integration of School Takaful, Smart Watch, and Mobile App features. By delving beyond surface-level responses and integrating diverse perspectives, the research seeks to develop a well-informed and impactful solution that enhances child safety and promotes Waqf awareness within the School Takaful framework.

DISCUSSION AND FINDING

Multiple responses were gathered from the five (5) individuals who participated in the interview session. The sample for this study comprises five (5) key informants from three different categories. Specifically, three (3) key informants fall within the parents or guardian's category, one (1) key informant represents schoolteacher category, and one (1) key informant represents Takaful Agent category. The obtained results are based on the answers given by the key informant to the list of questions provided.

The first question aims to explore primary concerns regarding child safety during school hours and commuting. Key informants in this study expressed various concerns regarding their children's safety in these contexts. Two main themes emerged: Transportation Safety and External Threats, reflecting parents' predominant worries. Transportation Safety highlights parental anxiety about traffic accidents and road safety during commutes. Proposed solutions include location tracking and emergency alerts through a Takaful-smartwatch system, fostering collaboration with schools and transportation providers for real-time safety measures. External Threats underscore concerns about encounters with strangers outside the school compound, suggesting the need for geo-fencing and designated safe zones. Proposed smartwatch features

include panic buttons and emergency notifications to enable swift responses from parents, school staff, or emergency services in perceived threat situations. These themes guide the development of a comprehensive School Takaful product, prioritizing child safety and protection.

The second question explored how integrating real-time location tracking and emergency notification into a smartwatch and mobile app could address concerns about school children's safety for key informants. This inquiry aimed to determine if such technology could ease anxieties and provide heightened security for both parents and children. From key informants' responses, three main themes emerged. Theme 1: Enhanced Parental Monitoring and Peace of Mind revealed strong parental backing for real-time location tracking to monitor their children's whereabouts, ensuring safe arrivals after school or activities. Theme 2: Swift Response to Emergencies underscored the valuable potential of emergency notifications to promptly alert parents, school authorities, and emergency services, enhancing overall safety by reducing response time. Theme 3: Additional Features for Enhanced Safety included suggestions for integrated features such as fall detection, heart rate monitoring, and panic buttons, providing parents with real-time information about their children's well-being. Analyzing these themes shows that real-time location tracking and emergency notifications can effectively address parental concerns about transportation safety, external threats, and emergency situations.

The third question investigates parents' perspectives on essential features for ensuring their children's safety and well-being in a smartwatch. Responses reveal three key themes: Theme 1: Real-time Vigilance and Emergency Response emphasizes parents' focus on real-time location tracking and immediate alerts during emergencies for peace of mind. Theme 2: Beyond Location: Nurturing Health and Well-being highlights interest in health-focused features like vital sign tracking and an SOS button. Theme 3: User-friendliness and Accessibility for All stresses the need for a simple interface and affordability, ensuring technology accessibility to all families. These findings underscore the demand for a balanced smartwatch system integrating these features to maximize school children's safety and well-being in Malaysia.

The fourth question aims to gather key informants' perspectives on the importance of real-time location tracking, emergency notifications, and other safety features in the smartwatch. This analysis reveals three primary themes:

Theme 1: Unwavering Emphasis on Safety and Peace of Mind reflects informants' unanimous belief in the essential value of safety features, stressing their necessity to enhance school children's security and alleviate parental concerns. Theme 2: Real-time Vigilance and Swift Response underscores the critical importance of real-time location tracking and emergency notifications for constant monitoring and immediate responses in critical situations, promoting proactive vigilance and rapid intervention. Theme 3: User-friendliness and Accessibility for All highlights the significance of a simple interface, particularly for younger children, and affordability to maximize inclusivity, addressing potential concerns and prioritizing accessibility for optimal impact. Key informants unanimously rate these safety features as highly important for enhancing school safety in Malaysia. The proposed system should prioritize robust real-time tracking, emergency notifications, a user-friendly interface, and affordability to ensure responsible use, privacy protection, and address potential concerns about data security.

The fifth question aims to explore the experience or challenges those key informants encountered with traditional Takaful or Insurance claim processing. Derived from responses to Interview Question 5, two key themes illuminate the experiences and challenges associated with traditional Takaful/Insurance claim processing, emphasizing the potential for online Takaful processes to enhance financial inclusion: Theme 1: Streamlining Claim Resolution and Reducing Hassles unveils frustrations with the current paper-based system, including lengthy processing times and tedious paperwork. Informants' express anticipation for online Takaful claim processing, foreseeing shortened approval times, elimination of physical paperwork, and convenient claim submissions from anywhere. This transition holds the promise of reducing inconvenience and stress for users. Theme 2: Expanding Access and Promoting Financial Inclusion addresses challenges related to low awareness and affordability for low-income families. The potential of

online platforms to increase awareness of School Takaful products, especially among low-income families lacking easy access to traditional insurance agents, is highlighted. Online claims processing, with clear information and user-friendly interfaces, could enhance accessibility, reduce reliance on physical documentation, and encourage participation. In summary, the analysis suggests that integrating online Takaful claim processing within a School Takaful ecosystem, utilizing smartwatch-generated data, offers promising opportunities for streamlining claim resolution, increasing convenience, and promoting financial inclusion for low-income families by improving accessibility and awareness of School Takaful products.

The sixth question probed the key informants' perspectives on online Takaful/Insurance claim processing. Focusing on the innovative School Takaful Waqf Smartwatch product, this question aimed to explore how online platforms could streamline and simplify the claim process within this unique context. Responses to Interview Question 6 revealed three key themes for online Takaful claim processing with the School Takaful Waqf Smartwatch: Theme 1 - Expedited Claim Submission and Processing: Informants unanimously agreed on the significant speed-up of the claim process, reducing inconvenience and stress for parents. Theme 2 - Automated Documentation and Data Integration: The possibility of automated documentation and data integration with the smartwatch was emphasized, streamlining the process and minimizing errors. Theme 3 - Accessibility and User Convenience: Online platforms offer increased accessibility and convenience, particularly beneficial for low-income families facing challenges in traditional claim processes. In conclusion, integrating online Takaful claim processing with the School Takaful Waqf Smartwatch holds the potential to streamline the process, offering faster submissions, automated documentation, and increased accessibility for families.

The seventh question seeks to explore the perceptions on the potential benefits of integrating a Waqf platform into the School Takaful Waqf Smartwatch mobile app. Interview Question 7 yielded a positive consensus on the benefits of integrating a Waqf platform into the School Takaful Waqf Smartwatch mobile app, revealing three key themes: Theme 1 -Enhanced Accessibility and Convenience for Waqf Contributions: All informants expressed enthusiasm for the streamlined, mobile-based giving experience, foreseeing increased participation from a wider audience, especially those finding traditional Waqf platforms less accessible. Theme 2 - Supporting Underprivileged Children and Promoting Social Impact: Several informants highlighted concerns for underprivileged children and saw the potential to use Waqf funds to subsidize smartwatches, directly improving safety and well-being. This theme emphasizes the platform's contribution to community development and social justice. Theme 3 - Aligning with Islamic Values and Building a Sustainable Ecosystem: One of the Key Informant emphasized the alignment with Islamic finance principles, promoting social responsibility and ethical investment. The potential for long-term sustainability through ongoing Waqf contributions was highlighted, emphasizing the broader contribution to Islamic values and sustainable development.

The eight and also the last question aims to understand how key informants would like to be informed and engaged about the impact of their Waqf contributions. Interview Question 8, focusing on preferred methods and desired content for impact communication of Waqf contributions, revealed three key themes: Theme 1 - Mobile App and App-based Notifications: Three informants (Key Informants 1, 3, and 5) strongly preferred mobile app notifications for receiving updates, emphasizing the convenience and accessibility within a familiar platform. Key Informant 3 suggested status updates directly within the app as an alternative to email.

Theme 2 - Transparency and Impact Focus: Two informants (Key Informants 2 and 5) emphasized the importance of clear and transparent communication about the impact of contributions. Key Informant 2 specifically desired updates on the number of children benefiting, indicating a desire for direct impact visibility. Key Informant 5 called for personalized updates, suggesting visual reports, multimedia content, and interactive dashboards to showcase human stories and tangible outcomes. Theme 3 - Frequency and Format Preferences: Two informants (Key Informants 4 and 5) expressed preferences regarding the frequency and format of updates. Key Informant 4 suggested yearly statements for a comprehensive

overview, with the option of email notifications for immediate updates. Key Informant 5 outlined a desired mix of formats, including mobile app notifications, visual reports, testimonials, and annual reports, catering to diverse preferences and communication styles. Waqf contributors prefer engaging, informative, and easily accessible communications about the impact of their donations. Mobile app notifications and app-based features are preferred channels, emphasizing transparency, direct impact visibility, and personalized updates showcasing human stories and tangible outcomes.

The comprehensive responses from the key informants offer invaluable data for shaping the development of the kids' takaful smartwatch. By gleaning their perceptions, preferences, and concerns, product developers can make informed decisions to fine-tune features and functionalities. This focus on user-centricity ensures the smartwatch aligns with customer expectations and addresses potential issues, ultimately leading to a high-performing and well-received product in the market. User feedback serves as a crucial cornerstone of product development, enabling the identification of improvement areas and the creation of a product that is truly desirable and user-friendly.

Impact for this product is The School Takaful Waqf Smartwatch embraces social responsibilities by prioritizing child safety through features like real-time tracking and emergency SOS. The initiative extends affordable coverage to vulnerable groups, breaking financial barriers. It also educates the community on Islamic finance principles and smartwatch features, promoting informed decisions. Takaful may contribute to charitable endeavours through Waqf principles, supporting community projects aligned with its values. The product launch aims to raise awareness among parents about health, safety, and the significance of takaful and waqf education. Collaboration with local institutions enhances community safety through information sharing, coordinated responses, and participation in safety programs.

The commercialize value is to maximize the commercial value of the School Takaful Waqf Smartwatch, focus on highlighting its unique qualities through targeted advertising. Emphasize affordability, community service, and safety features. Tailor marketing messages for communities, schools, and parents, offering flexible Takaful plans catering to diverse economic backgrounds. Explore options like instalments plans, family discounts, or special promotions to widen market accessibility. The smartwatch operates on the Islamic insurance concept of shared responsibility, ensuring participants are fully compensated without additional costs after their initial investment. This Takaful smartwatch enhances accessibility and affordability, aiming to provide a comprehensive financial solution. Continuous innovation in smartwatch features, integration of latest technologies, and collaborations with tech partners will keep the product ahead in the market, benefiting a broader audience through Takaful and waqf contributions.

Product Features

Parents will have an opportunity to opt for Smart Kid Takaful Rider on top of the existing TPSM. In the event the children under the Smart Kid Takaful Rider suffer from medical issue arises from the heavy school bag, they can get the benefit from this takaful rider to finance the medical treatment.

Additionally, the Smart Watch with real-time GPS tracking will be provided upon the subscription of SKT-SW. The Smart Watch will be linked to special App for parents to download and monitor health and safety of their loved ones. The SKT-SW App will also serve as a platform for fund raising through School Waqf. The fund raised will be used for school development and school facilities upgrading.

Additionally, the Smart Watch have many functions such as two-way conversation. The student can make a call or video call to their parents and also video chat. The important function is SOS. The SOS function in a student smartwatch serves as a crucial safety feature, providing a quick and efficient way for students to seek help or alert others in emergency situations. When activated, the SOS function should immediately alert predefined contacts or emergency services. This rapid communication ensures that help can be dispatched promptly in critical situations.

The SOS feature can include real-time location sharing, allowing parents, guardians, or emergency responders to pinpoint the exact location of the student in distress. This aids in expediting the response time. Integration of audio or video recording capabilities during an SOS activation can provide additional context to emergency responders. This may assist in understanding the situation and making informed decisions. The SOS function can automatically route calls to designated emergency contacts, ensuring that the distress signal reaches the right individuals without delay.

The smartwatch can include an in-app messaging feature within the SOS function, allowing students to send brief messages or updates to their emergency contacts even if they are unable to make a call. Implementing voice activation for the SOS feature can be beneficial, especially in situations where the student might be unable to use their hands to trigger the alert. Design the smartwatch with a physical panic button that, when pressed, immediately activates the SOS feature. This provides a tactile and easily accessible means for students to call for help. Collaborate with school security systems, if applicable, to ensure that SOS alerts are received by the school's security personnel, facilitating a coordinated response within the school premises.

The proposed features for the product can be clustered into four (3) main area as follow:

Smart Kid Takaful Rider (SKT Rider)

The product serves as takaful rider, an add-on, which can be attached to the parents' basic Takaful plan, or it can be also attached to the existing school insurance, which under a collaboration program between MoE & Takaful Operator.

The SKT Rider offers additional coverage and benefits for school children to go for medical treatment due to accident, sickness and health problems arising from their school and commuting activities including sickness due to heavy school bag. It offers coverage such as annual limit of up to RM4,000 due to medical issue such as Postural Distortion, physiotherapy treatment, and other medical treatment associated with the school and commuting activities. On top of this, FREE Kids Smartwatch will be given when the parents sign up their kids for SKT Rider. The Kids Smartwatch has a real-time location monitoring, emergency button that can alert parents, guardian, relevant authorities and takaful operator in case of emergency.

Product Mobile Application (SKT Mobile Application)

Parents can easily access the SKT Rider benefits and track the location of their kid by downloading a dedicated mobile application (SKT Mobile App). Users can track the real-time location of their child through this SKT Mobile App. Takaful claim submissions can be conveniently made using this application instead of conventional ways of using the forms. The SKT Mobile App also incorporates Waqf features for added functionality.

Waqf Platform

School Waqf will be featured on the SKT Mobile App. This feature will enable users to make donation to fund the underprivileged school children to sign up for the SKT Rider - Kids Smartwatch. This platform is to encourage the parents and the community to do the charity and donation for those students who are not affordable to sign up the SKT Rider policy. From this waqf features in the SKT Mobile App, the donor will get the information of the distribution and latest update related of their waqf contribution.

CONCLUSION AND FUTURE RESEARCH

Conclusion

In conclusion, the School Takaful Waqf Smartwatch epitomizes innovation, safety, and community well-being. Its child-friendly design, robust features, and commitment to financial inclusivity prioritize student safety and foster community responsibility. Beyond a technological accessory, it empowers students,

enhancing safety, supporting education, and aligning with cultural values. Takaful principles ensure financial protection for all, regardless of economic backgrounds. By merging technology, ethics, and community support, it becomes a holistic solution, addressing immediate safety concerns and contributing to societal development through its Waqf fund. This collaborative approach envisions a safer, more connected, and empowered educational journey, reflecting Takaful values and collective progress.

Implication

The School Takaful Waqf Smartwatch's implications extend beyond immediate functionalities, impacting education, safety, and community development. Serving as a significant tool for student safety, it offers real-time tracking, emergency SOS, and communication capabilities, creating a safer setting for pupils at school and during commutes. Parents gain peace of mind through staying connected with their child and receiving real-time information, influencing parent-school partnerships and family dynamics. The smartwatch's Takaful coverage promotes financial inclusion, making the educational system more equal and inclusive, while the inclusion of a Waqf fund encourages a collaborative effort toward community development. The smartwatch exemplifies how new solutions can enhance student safety, well-being, and digital literacy, setting a standard for incorporating technology into the classroom for comprehensive education aligned with the demands of the digital age.

Recommendation

Recommendations for this product include a user-friendly design for easy navigation by parents, teachers, and kids. Conduct usability tests to identify areas for interface improvement, and regularly update the smartwatch's functionality to stay current with technical developments. Incorporate user, parent, and instructor feedback to ensure the smartwatch remains useful and relevant.

Enhance communication features to facilitate easy interaction among parents, teachers, and students. Establish a robust parent-teacher communication platform in the wristwatch app, keeping parents informed about their child's well-being and academic progress. Takaful operators can contribute by offering discounts, subsidies, or affordability programs to ensure the smartwatch and its Takaful coverage remain accessible to a diverse range of students, particularly those from low-income families.

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