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FindBack Conceptual Business Model: AI-Powered Lost-and-Found Digital Platform

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Abstract: **This paper proposes a solution of the lost item and finder known as FindBack. It is an integrated of AI matching system with lost-and-found digital platform aimed to improve the efficiency of recovering lost items through a centralized and intelligent system. By using traditional methods like social media postings and manual reporting are usually scattered in many places, time consuming and inefficient. FindBack addresses the issues by implementing machine learning-based image matching, real-time notifications and an important security measure in communication features to connect item owners and item finders. The study adopts Design Thinking methodology supported by Business Model Canvas (BMC) and Value Proposition Canvas (VPC) to develop a platform that work for multi-sided customer segments. This platform delivers value by reducing recovery time of lost item, minimizing user stress, and increasing the chance of retrieving the item to its rightful owner while offering rewards for finders. The platform aligns with global and national initiatives, including Sustainable Development Goals which are SDG 9 and SDG 11, the Malaysia Digital Economy Blueprint (MyDigital) and the National 4IR Policy in which utilizing and focusing on digital innovation and smart services in national industry. In addition, the proposed model demonstrates strong potential for sustainable profitability through scalable revenue streams such as subscription fees, premium services, and commission-based rewards. The findings shows that FindBack platform has potential to enhance urban digital ecosystems and contribute to Malaysia digital economy growth.**

Keywords: **Lost-and-Found System, Artificial Intelligence, Multi-Sided Platform, Digital Economy, National Policies.**

I. INTRODUCTION

As we know, losing personal belongings is a common occurrence in many people life, especially in a crowded and packed place like universities, airports and shopping malls. When someone lose their valuable item, it results in financial loss and wasted time. These incidents also tend to make the item owners feel stressful and anxious. Traditional methods for reporting and recovering lost items like social media posts or manual bulletin boards are not centralized and often fail to successfully return the lost items to their rightfully owner effectively [1],[2]. For the item owners, their job-to-do is simple, that is to recover their lost items quickly and reliably. Despite that, current approaches still cannot support these needs.

For item owners who lose their items, their extreme pains are low recovery success rates, lack of report visibility on social media posts and the absence of centralized system to search for the items [2]. These factors make searching for their items very difficult and inconvenient. The essential gain for them is a reliable system that improves the chances of recovering missing items quickly and with minimal effort. In other hand, item finders who find the missing items struggling to return the items to the rightful owner. They face many challenges like not knowing where to report items, concerns about safety and authenticity, and difficulties findings and communicating with the owners [1]. These issues discourage finders from reporting items or delay the return process. The item finders need a simple and also safe way to report found items and connect with the correct owners.

Several academic studies have attempted to modernize lost and found processes. As example, web and mobile lost and found systems already have been developed to help users list and search for lost items in structured databases which can improve organization rather than using the traditional methods [3]. Other research also proposes AI-based approaches that use image comparison networks to match lost and found item photos. The approaches demonstrate high accuracy in identifying matches in test environments [4]. These systems typically involve products such as searchable web and mobile interfaces with the integration of backend databases. The pain relievers for this type of products include structured item listings and keyword search facilities and gain creators such as improved item visibility and organized records. The business models of these systems are often project-based or institutional mainly in public space like university with limited scalability.

Despite these advancements, there are significant gaps that need to be addressed. Most existing solutions still rely on manual input and keyword matching rather than intelligent image recognition which can lead to lower efficiency when matching reports [1], [3]. Even systems that are built to explore deep learning are usually made for research environment, so they often struggle to scale for real-world use [4]. Additionally, current models do not integrate automated real-time notifications or cross-user matching that can connect item owners with finders across broader environments.

Therefore, more innovative and relevant solutions are needed to close these gaps by directly addressing the extreme pains and essential gains of both customer segments. We propose our startup, FindBack which is an AI-powered lost & found digital platform that implement image matching and automated notification to enable faster and more accurate connections between item owners and item finders, improving the chances of item recovery compared to current existing solutions. In the long run, sustainable profit can be generated through a multi-sided business model. Revenue can be gain through the digital platform premium listing, service fees for successful matches and our partnerships with institutions such as universities and public transportation that will use our monthly subscription. As our network and brand continue growing, our platform value will increase which allow our startup to improve and scale while maintaining efficiency in our operation. This highlight that this platform not only socially impactful but also can sustain itself economically stably.

II. PROBLEM STATEMENT/OBJECTIVES

The lost and found process presents significant challenges for both item owners and item finders. Item owners who have lost their personal belongings, face unreliable recovery methods because the current medium or approaches like social media or manual bulletin boards are unstructured and inefficient, which resulting lost items are often overlooked, recovery attempts fail and owners may experience pains such as emotional stress, wasted time or financial loses [1], [3]. Item finders, on the other hand, also encounter difficulties when attempting to return items. They often lack clear reporting channels, face safety concerns when trying to find the owners and must invest considerable amount of effort to match items accurately [1], [2]. These challenges reduce the likelihood that found items can be returned promptly and safely.

Overall, both customer segments are constrained by the absence of a centralized and intelligent system that can efficiently connects lost and found items. This lack of a reliable platform increases uncertainty, delays and frustration for both parties. In addressing the above problems, the main objective of this paper is to develop a conceptual business model supported by a digital platform and mobile application that delivers products and services as pain relievers and gain creators for both customer segments. The objectives include:

a. To develop an AI-powered image matching system that automatically connects lost items with found items, increasing the efficiency and accuracy of recovery for item owners.

b. To design a centralized, user-friendly digital platform and mobile application that allows item owners and finders to report, track, and match items securely and efficiently.

c. To establish a multi-layered business model that incorporates partnerships with organizations for subscription-based services, ensuring scalability and sustainability of the platform.

d. To provide real-time notifications and guided workflows for both customer segments, reducing user effort and enhancing confidence in the system.

e. To develop Business Model Canvas (BMC) and Value Proposition Canvas (VPC) for our business that can help our business to emerge in the market through the Blue Ocean Strategy.

III. METHODOLOGY

This study adopts the Design Thinking (DT) methodology is a human-centered approach that is widely used to address complex problems by focusing on users' needs [5]. The study follows the five key stages of DT which are Empathize, Define, Ideate, Prototype and Test. In the Empathize stage, a literature review and benchmarking of existing lost-and-found platforms using the Business Model Canvas (BMC) framework will be conducted to understand the limitation of current solutions. These also include their products, services and even business models. Additionally, interviews and surveys with also be conducted for both customer segments so that we can capture and understand insights about their jobs-to-do, extreme pains and essential gains which help us identifying gaps in current systems that we might overlooked.

The Define stage will analyse and interpret these insights to clearly identify the core problems that need to be addressed. During the Ideate stage, multiple solution concepts will be generated based on user insights and industry best practices. These concepts will be used to develop an initial business model for the proposed digital platform and mobile application. Business modelling tools such as the Environment Map (EM), BMC and Value Proposition Canvas (VPC) will be used to map customer segments, value propositions, and key activities that can provide us with a clear framework for the solution [5],[6].

In the Prototype stage, a mock-up of the platform and app will be developed. It will have core features like item upload, AI-powered matching and automated notifications. The Test stage involves validating this prototype and initial business model with the target users through structured interviews and usability testing. Feedback from these sessions will guide iterative improvements which will ensure that the solution aligns and satisfied with the real needs of both customer segments [6].

Finally, a validated conceptual business model will be established, followed by the creation of a Strategy Canvas to benchmark the proposed solution against existing platforms. This comparison will highlight the relevance, sustainability and competitive advantages of the FindBack platform from the perspective of both customer segments [5].

IV. LITERATURE REVIEW

A. Digital Transformation and Smart Platforms

The increase of digital technologies has transformed service delivery through various of smart platforms that enhance efficiency and accessibility. The Malaysia Digital Economy Blueprint (MyDigital) highlights the importance of leveraging technologies such as artificial intelligence (AI), big data, and cloud computing to improve productivity and quality of life [8]. The use of digital platforms has enabled centralized systems that replace inefficient methods in allowing users to access services more efficiently. In the context of lost-and-found systems practices, it relies heavily on social media and manual reporting as a way to inform about the lost item. This method results in low visibility and low recovery rates. FindBack solves this problem by introducing a centralized with AI-powered matching platform that improves quality, accessibility, and success rates that align with Malaysia's digital transformation agenda.

B. Role of Artificial Intelligence in Digital Solutions

Artificial Intelligence has a vital role in providing modern digital solutions. Within the National Fourth Industrial Revolution (4IR) Policy, the use of intelligent technologies helps greatly to solve real-world problems. AI technologies such as machine learning and image recognition allow process to be automatic (automation) differ than processes that traditionally method that require human effort. In lost-and-found. Identifying and matching items manually can be inefficient and inaccurate without the help of advance technology. Hence, FindBack utilizes AI power image matching with reported item to automate this process, in which is faster and more accurate identification. This result demonstrates how the proper use of AI can be applied beyond industrial use into everyday applications, improving efficiency and user experience while supporting national goals in using AI for advancement.

C. Alignment with Sustainable Development Goals (SDG)

FindBack aligns with the United Nations Sustainable Development Goals (SDGs), especially for the SDG 9 which is focusing on industry, innovation and infrastructure and SDG 11 that is to develop a sustainable cities and communities. SDG 9 is emphasizing in the development of resilient infrastructure and innovation with technology adaptation. SDG 11 focuses on living conditions and service accessibility. When a smart digital solution is provided like lost-and-found services, it directly contributes to the development of efficient urban systems. Additionally, FindBack supports SDG 12

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(Responsible Consumption and Production) by reducing the need to buy newer item of same of same function only for the replacement of lost items. Hence, its undoubtedly promotes sustainable and smart consumption behaviour.

D. Relevance to Malaysia's National Policies (13MP & Budget 2026)

The 13th Malaysia Plan (13MP) highlight the encouragement of technology driven solution by digitalisation, innovation and inclusive economic growth that would improve public services and societal well-being [8]. A practical digital solution that can enhances everyday services through AI and cloud-based infrastructure must be developed to support this vision. Apart from that, referring to national report, it also stressed on the importance of strengthening the digital economy [9], AI adoption and encouraging entrepreneurship with technology-based solution. Hence, as a digital platform startup, FindBack is aligns with this vision by leveraging advanced technologies and creating new economic opportunities.

E. Benchmarking with Existing Lost-and-Found Platforms

Existing and commercial digital lost-and-found platforms such as iLost and Troov have introduced structured solutions to improve item recovery through digital channel. These platforms mainly support for organizations such as airports, hotels and transport operators by providing centralized systems for managing lost items. iLost enables registration of item and claim matching within a structured database [10]. Troov is focusing on enterprise feature and in a dedicated community and region [11]. However, the problem within the solutions provided by them is less focus to individual users. In addition, their reliance on manual input descriptions may limit in matching accuracy and efficiency for the involved user.

In contrast, FindBack introduces a user-centric platform and AI-powered approach that utilizes machine learning based image recognition to automate item matching. Although theres an algorithm used by Troov, it is not as efficient and effective as FindBack. Therefore, FindBack reduces dependence on manual descriptions while improving success and recovery rates. The platform also adopts a multi-sided model that connects item owners, and item finders within a single ecosystem. By enabling public participation and incorporating reward-based incentives, FindBack encourages and enhances user engagement and network effects. This combination of AI-driven automation makes it broader accessibility and active participation of many people. FindBack is more scalable and comprehensive solution in the digital lost-and-found ecosystem.

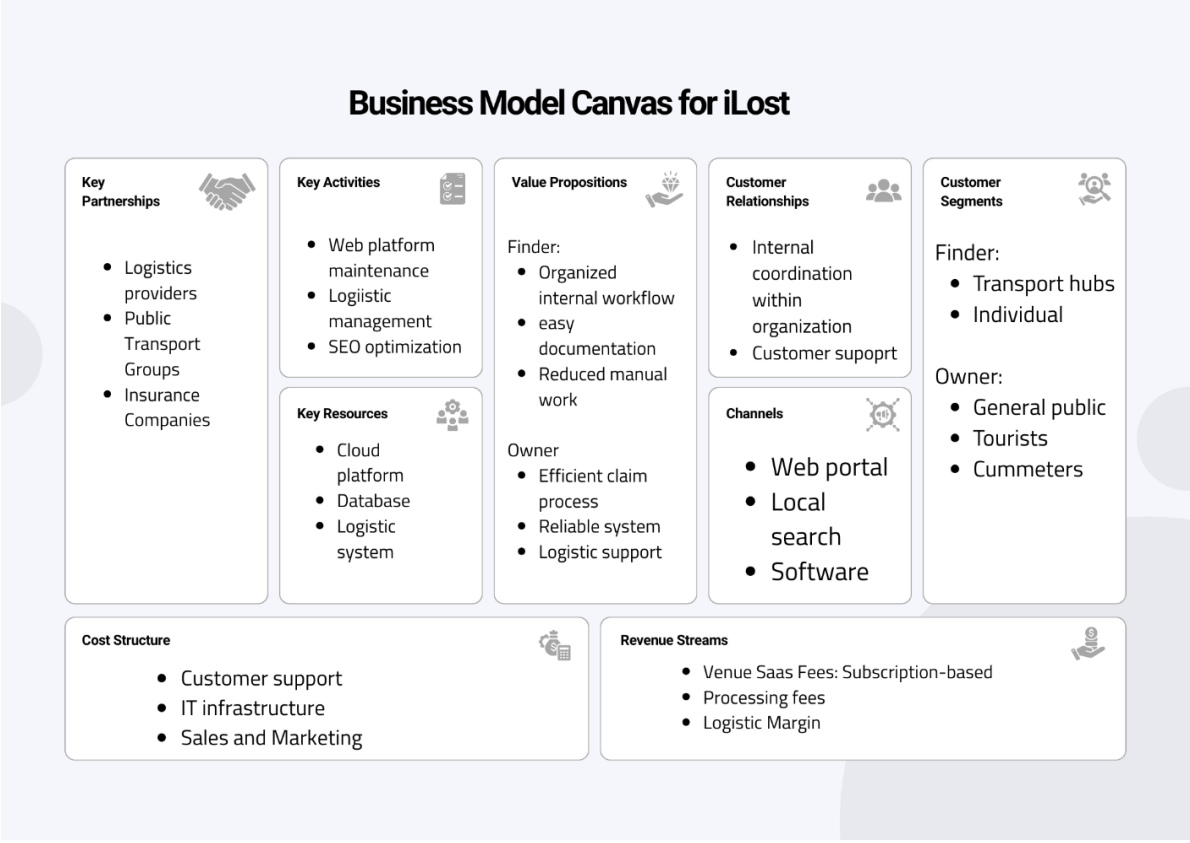

Fig. 1: BMC of iLost

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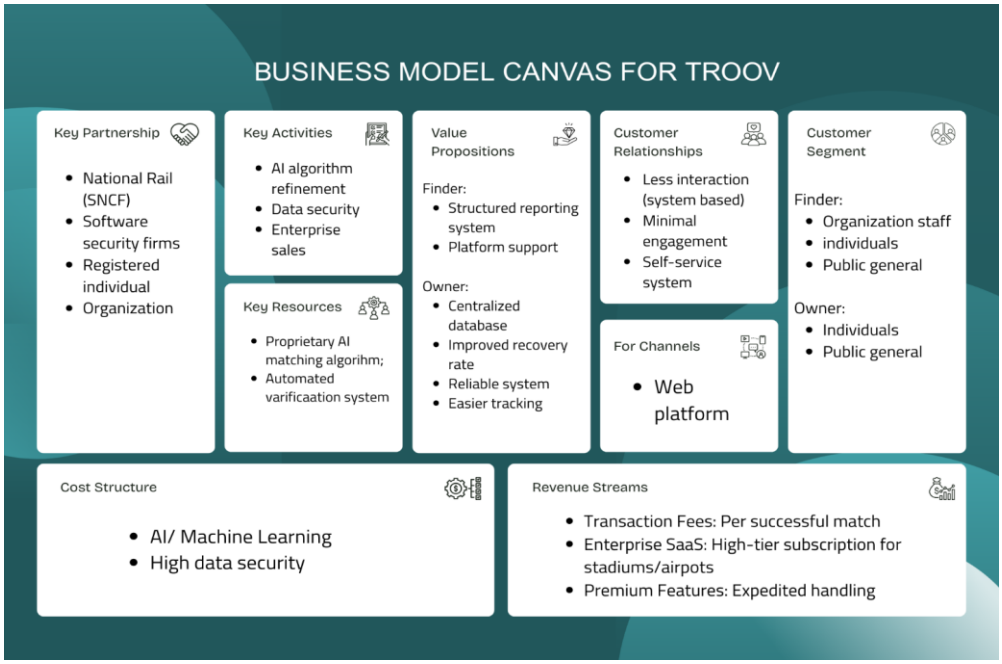

Fig. 2: BMC of Troov

The BMC demonstrates that when compares to FindBack.co that delivers a more comprehensive and dynamic business model by integrating technological innovation, economic incentives, and user engagement into a unified platform. Unlike Troov and iLost, which primarily focus on operational efficiency and organizational processes, FindBack.co creates additional value through its reward-based system, advanced AI matching capabilities, and direct interaction between users. This results in stronger network effects, higher user participation, and improved recovery outcomes, making the model more scalable and sustainable in the long term.

V. INITIAL BUSINESS MODEL (BM) – USING BMC & VPC

The initial Business Model was develop through collection of literature reviews and the company decided to make it multi-layered business platform.

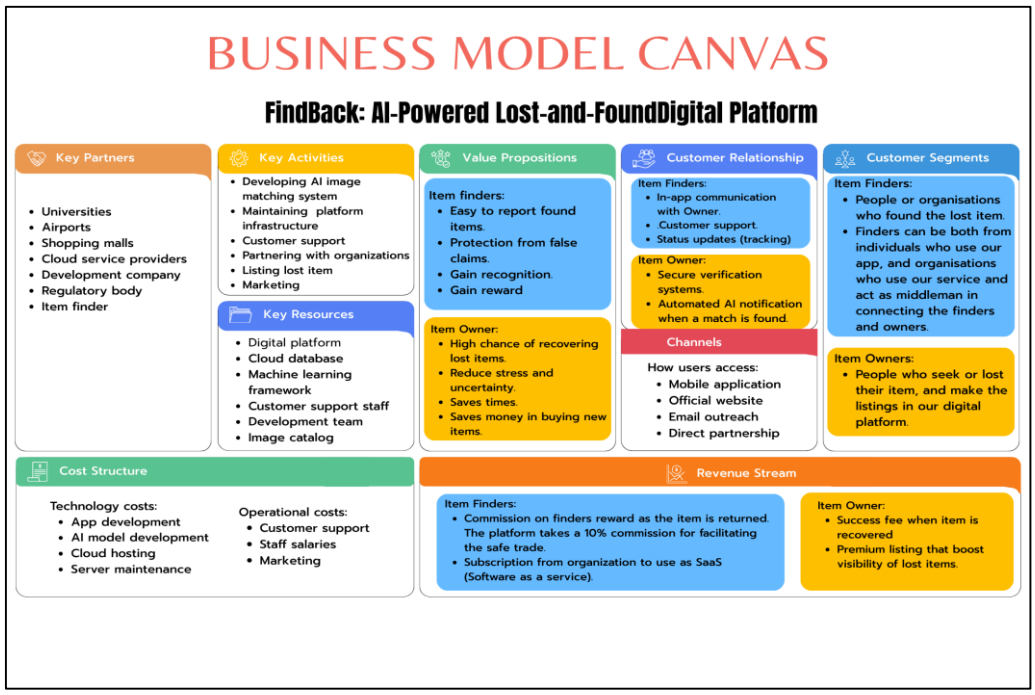

Fig. 3: Initial BMC

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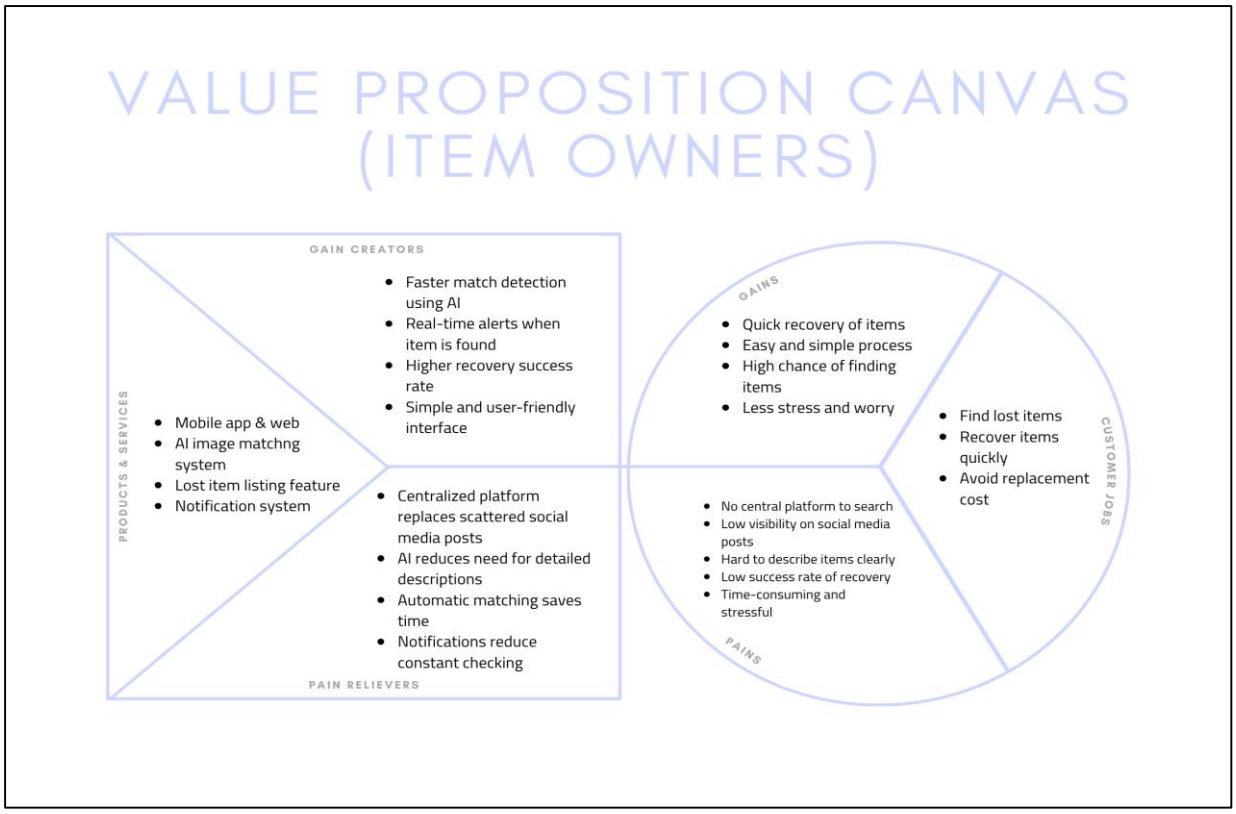

Fig. 4: VPC Diagram for Item Owners

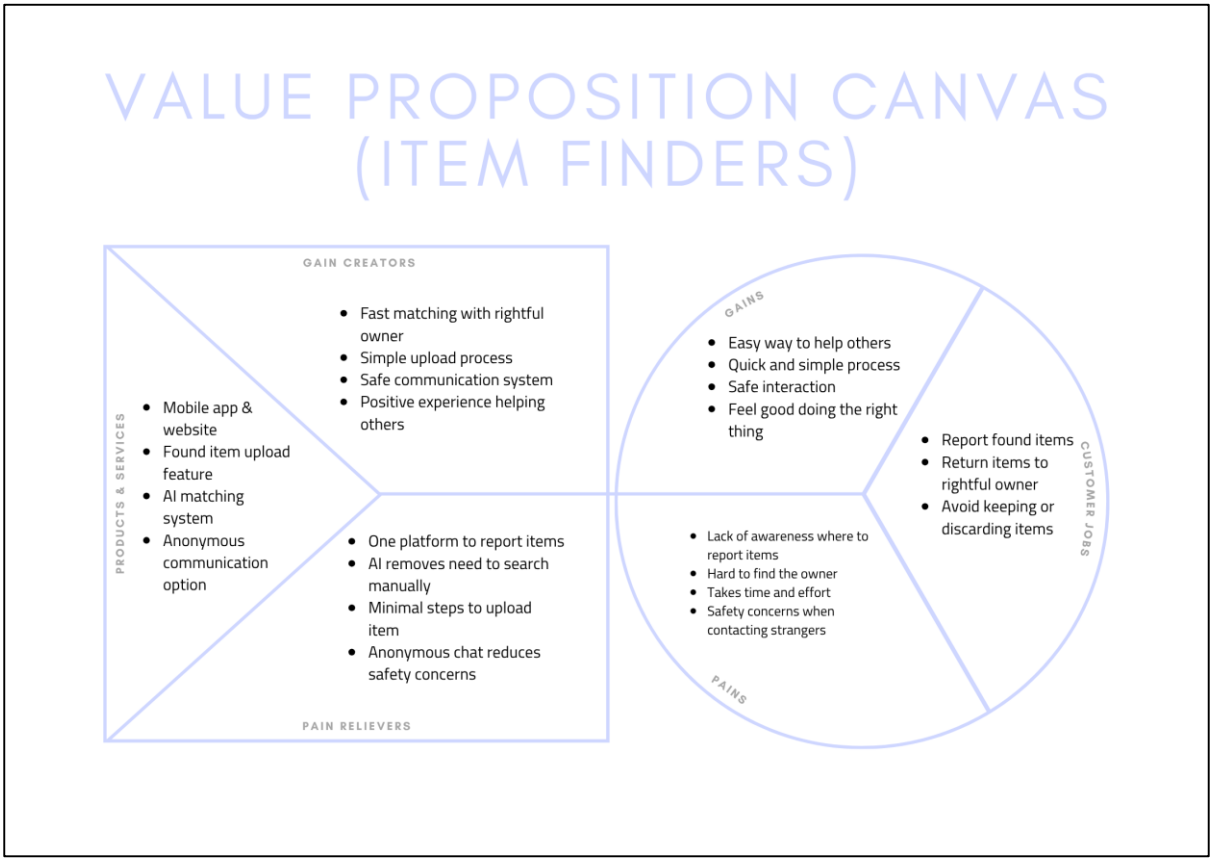

Fig. 5: VPC Diagram for Item Finders

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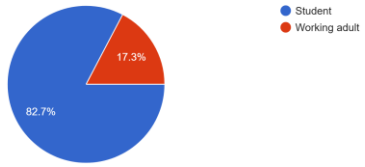
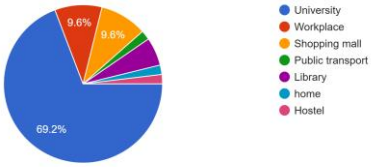
VI. CONDUCT VALIDATION OF INITIAL BM & KEY FINDINGS

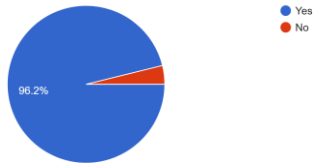
What is your current status?
52 responses



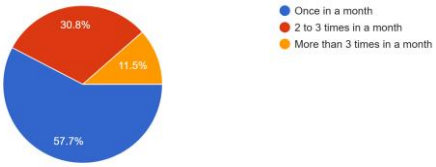
Where do you usually spend most of your time?
52 responses



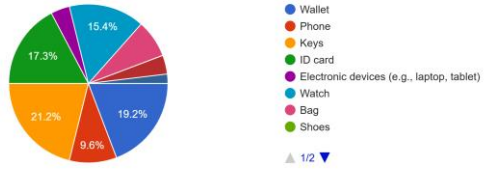
Have you ever lost a personal item?
52 responses



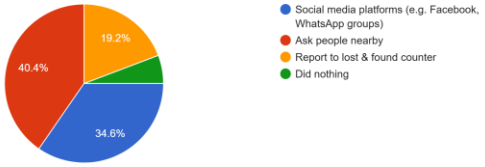
If yes, how often have you lost your personal items?
52 responses



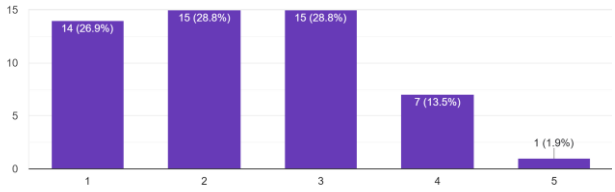
What type of item did you lose?
52 responses



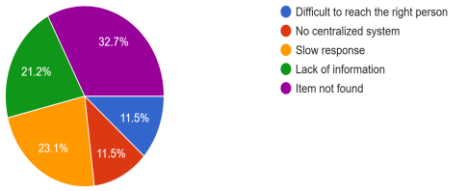
What method did you use to find your lost item?
52 responses



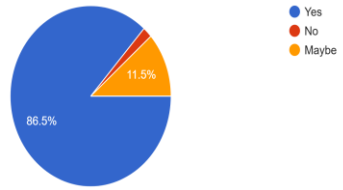
How effective was your method?
52 responses



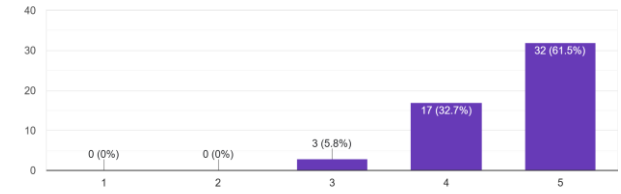
What challenges did you face?
52 responses



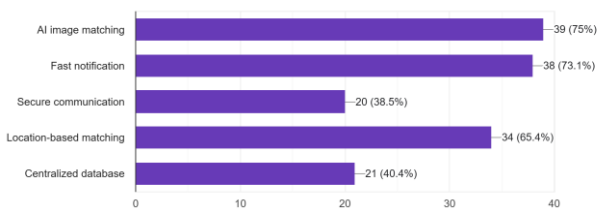
Would you use a digital platform that matches lost and found items using AI image recognition?
52 responses



How useful do you think this system is?
52 responses



Which features are most important to you? (Select up to 3)
52 responses



How likely are you to use FindBack if it is available?
52 responses

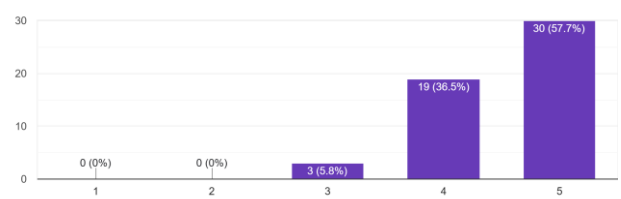


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Fig. 6: Survey Results Charts

To validate the initial business model of FindBack.co, a survey was conducted involving 52 respondents, consisting of students (82.7%) and working adults (17.3%). Most respondents (69.2%) indicated that they spend most of their time in university environments, making this segment highly relevant as the primary target market.

The findings strongly support the existence of the problem addressed by FindBack platform. A significant 96.2% of respondents reported having lost personal items, with many experiencing this issue frequently. Specifically, 57.7% reported losing items at least once a month, while others experienced multiple occurrences. Commonly lost items include keys, wallets, identification cards, watches, and mobile phones, indicating that both low-value and high-value items are affected.

In terms of current recovery methods, most of respondents rely on informal approaches such as asking people nearby (40.4%) and using social media platforms such as Facebook and WhatsApp (34.6%). However, these methods were rated as largely ineffective, with many responses falling within the lower effectiveness scale (1–3). Only 1 respondent rated existing methods as very effective. Key challenges identified include items not being found (32.7%), slow response times (23.1%), and lack of information (21.2%), highlighting the inefficiency of current systems and the absence of a centralized solution.

The validation of the proposed solution shows strong positive acceptance. A total of 86.5% of respondents expressed willingness to use an AI-based lost-and-found platform, while the remaining respondents indicated possible interest to use it. Additionally, 94.2% rated the system as useful or very useful once it is available to the public, confirming the relevance of the proposed value proposition. Features such as AI image matching (75%), fast notifications (73.1%), and location-based matching (65.4%) were identified as the most important, reinforcing the importance of technological integration in improving recovery outcomes for the lost items.

User adoption potential is also high, with 94.2% of respondents indicating that they are likely or very likely to use FindBack platform if available. From a business perspective, the results further validate the revenue model. Most respondents (75%) are willing to offer rewards for recovering their lost items, with most preferring a range between RM5 and RM20. Additionally, 55.8% are willing to pay for premium features to boosting their post, while 69.2% showed interest in purchasing supplementary products such as smart identification tags.

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Institutional adoption is also strongly supported, with 88.5% of respondents agreeing that organizations such as universities, shopping malls, and airports should implement such a system. This validates the feasibility of a subscription-based model targeting institutions.

Overall, the findings confirm that the problem is significant, current solutions are ineffective, and the proposed FindBack digital platform offers a highly relevant and desirable solution. These results validate the core assumptions of the initial business model while highlighting opportunities for refinement, particularly in ensuring affordability, strong security features, and user-friendly design.

VII. VALIDATED BM – BMC FRAMEWORK

A. Validated Business Model

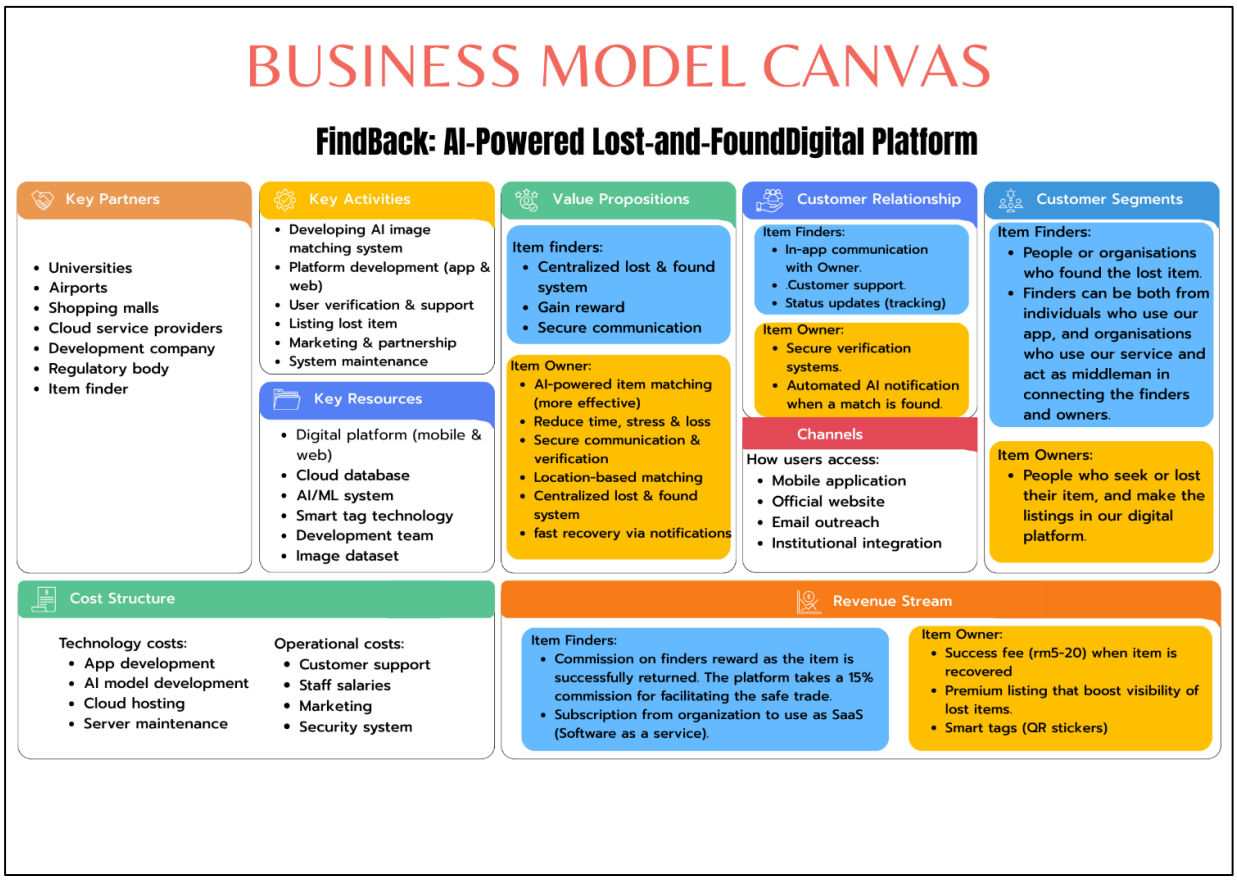

Fig. 7: Validated FindBack Business Model using BMC Framework

The validated Business Model Canvas (BMC) for FindBack platform has been refined based on empirical findings obtained from the conducted survey. The updated model reflects both the confirmation of initial assumptions and the incorporation of new insights derived from user feedback, resulting in a more robust and market-aligned business framework for this platform.

1. Customer Segments

FindBack app serves two primary customer groups: **item owners** and **item finders**, along with institutional users. Item owners are individuals who have lost their personal belongings and are seeking efficient ways to recover them. These users value speed, accuracy, and reliability in locating their lost items. Item finders include individuals who discover lost items and wish to return them or organizations who act as ntermediaries by adopting the platform to manage lost-and-found processes within their premises. This group consist of students which represent the primary target segment, supported by most respondents, indicating that university environments are highly relevant for initial deployment. In addition, working adults and the public form secondary user groups.

2. Value Propositions

The value proposition has been significantly strengthened through validation. For item finders, the platform offers a centralized lost-and-found system, enabling easy reporting and secure communication while providing incentives such as rewards. For item owners, the platform delivers high value through AI-powered image matching, which improves the accuracy of identifying lost items. Additional value is created through reduced recovery time, minimized stress, enhanced security through verification mechanisms, and location-based matching. The inclusion of real-time notifications further improves the efficiency of the recovery process, making the platform both practical and user centric.

3. Channels

The channels through which FindBack reaches its users are also validated. The mobile application serves as the primary access point, supported by a web platform for broader and wider accessibility. Email communication and institutional integration are also included to ensure effective outreach and seamless implementation within organizational environments. These channels align with user preferences for fast, convenient, and accessible digital services.

4. Customer Relationships

In terms of customer relationships, the platform emphasizes trust, security, and responsiveness. Features such as in-app communication, automated status updates or tracking, and customer support are essential in maintaining user engagement in the platform. Furthermore, the addition of secure verification systems ensures that item ownership can be authenticated, addressing user concerns related to fraud and misuse. This focus on secure and transparent interaction strengthens user confidence in the platform.

5. Revenue Streams

The revenue streams have been validated and expanded based on user willingness to pay and behavioural insights. The platform adopts a reward-based commission model, where a percentage fee is charged upon successful item recovery. A success fee ranging from RM5 to RM20 has been identified as acceptable among users. In addition, premium features such as boosted listings provide an alternative revenue stream by enhancing visibility for lost items. The subscription-based Software-as-a-Service (SaaS) model for institutions further supports long-term scalability. A newly introduced revenue component is the sale of smart tags (QR code stickers), which allows users to tag their belongings for easier identification, representing a significant product-based revenue opportunity.

6. Key Resources

The key resources required for the platform include the digital infrastructure (mobile and web platforms), cloud-based databases, and AI/ML systems that power the matching functionality. The development team is essential human resource, while the image dataset is critical for training and improving the AI model. The inclusion of smart tag technology further expands the resource base, enabling integration between physical and digital solutions.

7. Key Activities.

The key activities of FindaBack platform remain centered on the development and continuous improvement of the AI image matching system, as well as the overall platform (mobile and web). Additional activities which include user verification processes, customer support, marketing, partnership development, and system maintenance. The integration of security features and efficient listing mechanisms reflects the importance of reliability and usability identified in the survey findings.

8. Key Partners

The key partnerships play a crucial role in the successful implementation and scaling of FindBack platform. Universities, airports, and shopping malls are primary partners, as they provide high-traffic environments where lost-and-found cases frequently happen. Collaboration with cloud service providers ensures reliable infrastructure, while development partners support technological advancement. Regulatory bodies are also important to ensure compliance with data protection and operational standards.

9. Cost Structure

the cost structure for FindBack encompasses both technological and operational expenses. Technology-related costs include application development, AI model development, cloud hosting, and server maintenance. Operational costs consist of

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customer support, staff salaries, marketing activities, and the implementation of security systems. These cost components reflect the need to maintain a reliable, secure, and scalable platform.

Overall, the validated BMC demonstrates that FindBack platform has evolved from a conceptual model into a data-driven business framework. The integration of user feedback has enhanced key components such as value propositions, revenue streams, and security features in the platfrom, ensuring that FindBack is both practical and aligned with real user needs.

B. Business Environment Map (EM)

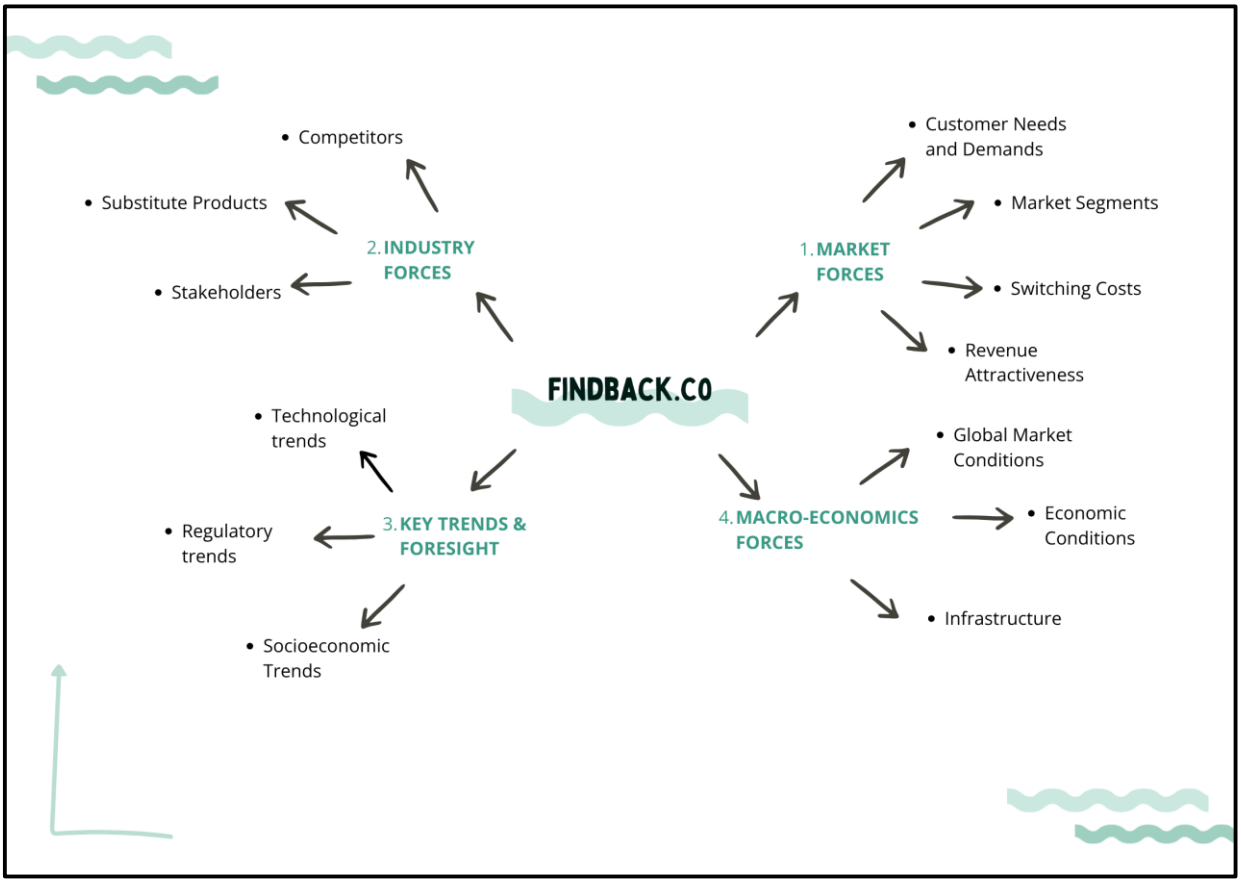

Fig. 8: Environment Map

1. Market Forces:

a. Customer Needs and Demands

Users increasingly demand fast, reliable, and digital solutions for everyday problems. In the context of lost-and-found, individuals or people want a system that can quickly identify and return their lost belongings without relying on inefficient or traditional methods like social media posts. FindBack platform addresses this need by offering AI-powered matching, reducing search time and increasing recovery success rates.

b. Market Segments

The platform targets multiple segments, including students, travellers, office workers, and public facility **users**. Additionally, institutions such as universities, airports, and shopping malls form an important segment, as they manage high volumes of lost items daily. This diverse segmentation allows FindBack platform to operate both as a consumer platform and an institutional solution.

c. Switching Costs

Switching costs for users are relatively low, as traditional methods (e.g., Facebook, WhatsApp groups) are free and widely used. Therefore, FindBack.co must provide clear advantages such as better accuracy, convenience, and faster results to encourage users to adopt the platform over the existing alternatives.

d. Revenue Attractiveness

The market presents moderate revenue potential due to the frequency of lost items and the willingness of users to pay for recovery, especially for valuable belongings. Additionally, institutional subscriptions provide a stable and scalable revenue stream, making the business model financially attractive.

2. Industry Forces:

a. Competitors

Direct competition is currently limited, as few platforms specialize in AI-based lost-and-found systems. However, indirect competitors include social media platforms like Facebook, Telegram, and WhatsApp, where users commonly post lost items. These platforms dominate due to their large user base, but they lack structured matching capabilities.

b. Substitute Products

Substitutes include manual reporting systems, security offices, and social media groups. These alternatives are widely accessible but inefficient. FindBack platform differentiates itself by offering automation, centralized data, and intelligent matching, reducing reliance on these substitutes.

c. Stakeholders

Important stakeholders which include users, partner institutions, developers, and regulatory bodies. Their involvement is crucial for ensuring platform adoption, system performance, and compliance with legal requirements.

3. Key Trends and Foresight:

a. Technology Trends

Advancements in artificial intelligence and image recognition are rapidly improving accuracy and accessibility especially in lost-and-found cases. Cloud computing and mobile technologies enable scalable and real-time platforms. These trends strongly support the feasibility and growth of FindBack platform.

b. Regulatory Trends

Data protection and privacy regulations are increasingly important. Platforms like FindBack must comply with laws related to user data security and digital transactions. Proper handling of personal information is critical to maintaining trust and avoiding legal risks.

c. Socioeconomic Trends

Urbanization and increased mobility contribute to a higher frequency of lost items in public spaces. At the same time, economic awareness encourages users to recover lost items instead of replacing them, making FindBack platform more relevant.

4. Macro-Economic Forces:

a. Global Market Conditions

The global shift toward digital transformation creates a favorable environment for platform-based businesses. As more services move online, FindBack platform can scale beyond local markets to regional or international levels.

b. Infrastructure

The widespread availability and use of smartphones, internet connectivity, and cloud infrastructure among the community supports the deployment of digital platforms like FindBack. Reliable infrastructure is essential for real-time image processing and user interaction.

c. Economic Conditions

Economic uncertainty can increase demand for cost-saving solutions. Users are more likely to use FindBack platform to recover their lost items rather than purchase replacements, making the platform more valuable during challenging economic conditions.

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C. Strategy Canvas

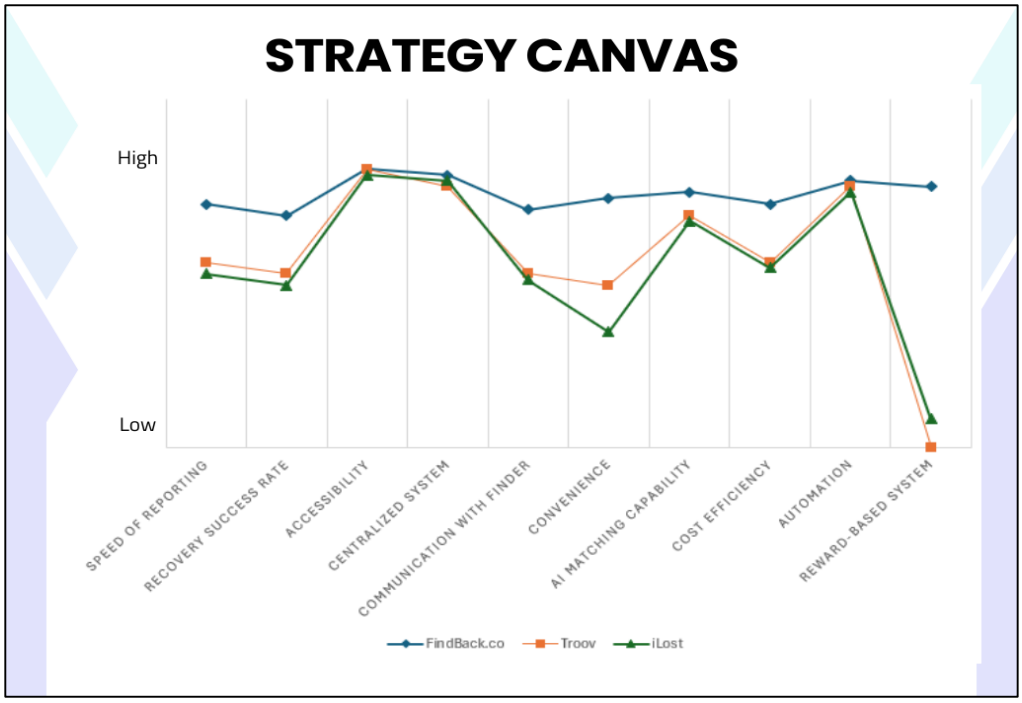

Fig. 9: Strategy Canvas

The Strategy Canvas (SC) for FindBack.co illustrates its competitive positioning against existing lost-and-found solutions such as Troov and iLost across key value factors, including speed of reporting, recovery success rate, accessibility, system centralization, communication, convenience, AI matching capability, cost efficiency, automation, and reward-based mechanisms. The SC shows that FindBack platform consistently performs at a higher level across most dimensions, particularly in AI matching capability, automation, and system integration, highlighting its strong technological advantage. While competing platforms demonstrate moderate performance in accessibility and centralized systems, they lag significantly in advanced features such as intelligent matching and automation which FindBack can offer. Additionally, FindBack platform maintains a balanced performance in cost efficiency while offering superior value through enhanced recovery rates and faster reporting. Overall, the strategy canvas indicates that FindBack.co differentiates itself by leveraging AI-driven innovation and a more comprehensive platform approach, enabling it to deliver higher value compared to traditional and existing digital solutions in the lost-and-found domain.

D. Low Fidelity Prototype Apps

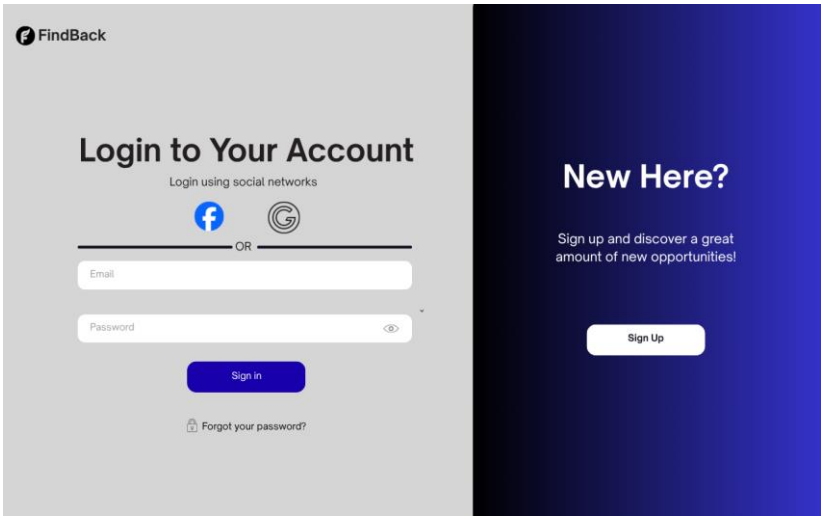

Fig. 10: Login Page

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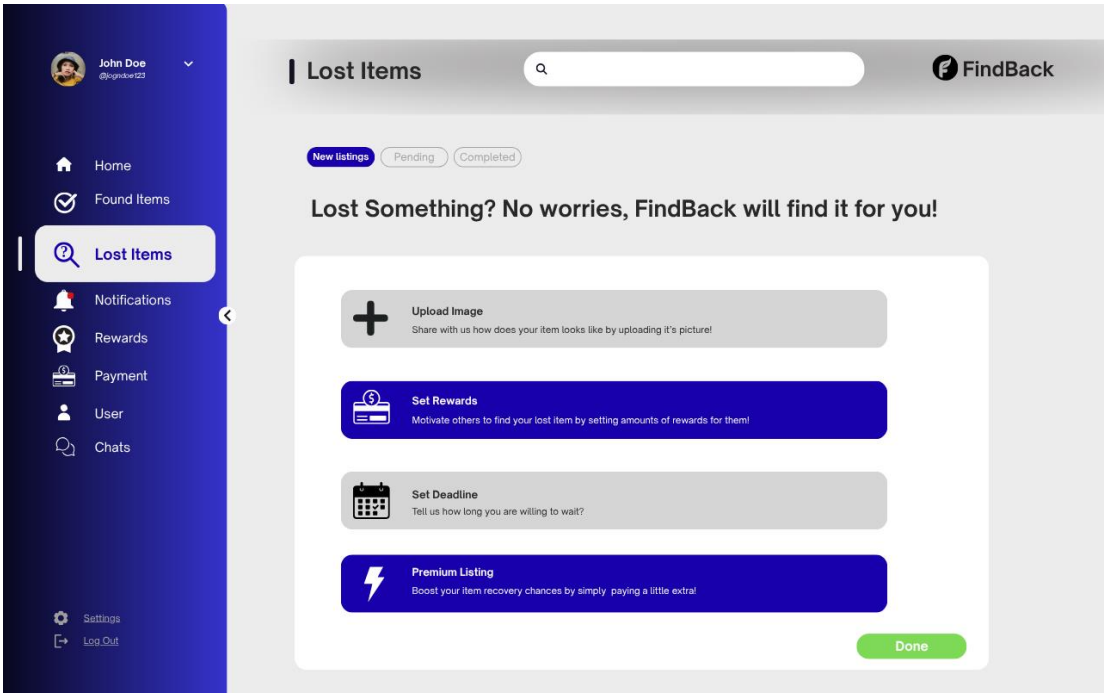

Fig. 11: Lost Items Page

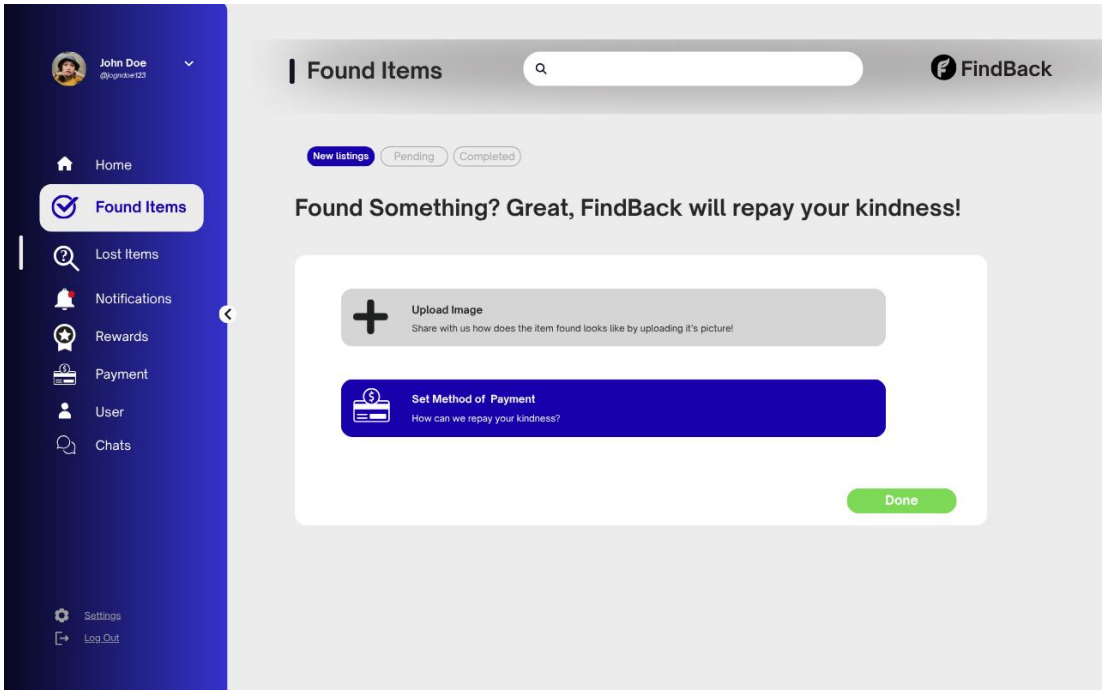

Fig. 12: Found Items Page

Figure 7 until 9 shows our proposed prototype for FindBack website specifically for the login page, lost items page, and found items page. At the first page which is login page, users can register or login using their email or password. After a successful login or creating a new account on our platform, users can enjoy all the benefits that FindBack can offer. The second page, which shows the lost items page, it is where the users or the item owners upload their lost items image, set the amounts of rewards for that they are willing to pay to the people who found it and also as a service charge for using our platform. In this page also, the item owner can set the the deadline for their listing, and they also can subscribe the premium listing featured in our platform to boost their chances to retrieve their lost items with small amount of extra fee. For the third page, which is the found items page, users who found the lost items can upload its image for image matching and they also can set their method of payment for the successfully retrieved items.

VIII. CONCLUSION AND FUTURE WORKS

In conclusion, this study demonstrates that FindBack digital platform addresses a significant and common problem faced by individuals in everyday environments. The survey findings confirm that most users experience item loss and face challenges and frustration with existing or traditional recovery methods, which are largely inefficient and unstructured. This highlights the need for a more advanced and centralized solution to improve the recovery chances of lost items and the experience throughout the process.

The proposed platform, FindBack, offers a promising approach by integrating artificial intelligence, image recognition, and real-time communication features to improve the effectiveness of lost-and-found systems. The validation results indicate strong user acceptance, high perceived usefulness, and a high likelihood of adoption among the people. Furthermore, the willingness of users to offer rewards and pay for additional features (boost posting) supports the financial viability of the business model.

Despite these positive findings, several areas also require further development for the trasition of FindBack from a conceptual model to a market-ready startup. From a business perspective, future works include developing a detailed business plan based on the newly validated business model of FindBack. Concurrently, technical future work should focus on building a functional prototype of the platform, enhancing the accuracy of the AI matching system, and implementing robust security and verification mechanisms to prevent misuse of the platform. Additionally, strategic efforts should be made to ensure affordability and accessibility of the platform, as cost concerns were highlighted by respondents.

Further research may also explore pilot implementation in controlled environments such as universities to evaluate real-world performance and user behavior. The integration of additional features, such as location tracking and smart identification tags, could further enhance the platform's effectiveness in recovering lost item and to provide better experience to the users.

Overall, FindBack platform presents a scalable and innovative solution with strong potential for real-world application, contributing to the advancement of digital platform solutions in addressing everyday problems.

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