Designing a User-Centred Digital Marketplace for Animal Adoption in Malaysia: A Conceptual Framework Using Design Thinking

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ABSTRACT

Animal adoption in Malaysia faces persistent challenges, including overcrowded shelters, inconsistent adoption procedures, and limited accessibility for diverse communities. While digital platforms have emerged as a partial solution, most existing Malaysian adoption websites remain fragmented, difficult to use, and emotionally disengaging. This situation prevents many potential adopters from completing the process and contributes to the continued euthanasia of healthy animals. This conceptual paper develops a framework for designing a centralized, user-centred adoption marketplace inspired by e-commerce models such as Zalora but adapted for social impact rather than profit. Guided by Design Thinking, the study addresses three key questions: (1) What is the current user experience of animal adoption in Malaysia? (2) How can an inclusive, emotionally engaging digital solution be designed? and (3) How can effectiveness and sustainability be ensured? Drawing on literature in user experience (UX), customer experience (CX), accessibility, inclusivity, emotional engagement, and platform design, the paper proposes that a Malaysian adoption marketplace should integrate centralized listings, responsive design, multilingual interfaces, storytelling modules, and analytics for continuous improvement. The contribution of this paper is twofold: theoretically, it extends UX/CX and Design Thinking scholarship into high-empathy, non-commercial domains; practically, it provides shelters, policymakers, and designers with a blueprint for a digital ecosystem that improves adoption outcomes and reduces overcrowding.

Keywords— Animal adoption, User experience (UX), Customer experience (CX), Digital marketplace, Design Thinking, Inclusivity, Emotional engagement, Malaysia

INTRODUCTION

Background

Animal adoption is both a welfare practice and a reflection of community ethics. Around the world, shelters have evolved from holding centres for strays into community-based institutions that educate the public, provide veterinary care, and promote humane treatment (Horecka & Neal, 2022). In advanced economies, welfare laws, "No Kill" movements, and digital innovations have significantly improved adoption outcomes (Rodriguez et al., 2022).

In Malaysia, however, animal shelters—especially in the Klang Valley—face chronic overcrowding (Tee & Zairul, 2022). Organizations such as SPCA Selangor and PAWS frequently struggle to accommodate abandoned and stray animals, often leading to euthanasia of healthy cats and dogs (SPCA Penang, 2024). Contributing factors include uncontrolled breeding, limited awareness of responsible pet ownership, and socio-economic pressures such as urban housing restrictions (Munir, Mokhtar, & Arham, 2023). These systemic issues highlight the urgent need for more effective adoption systems.

Challenges in the Adoption Process

Despite efforts to promote adoption, the process remains difficult for many Malaysians. Shelters are often located on the outskirts of cities, making them inaccessible for those without reliable transport (Lyons et al., 2024). Procedures differ between shelters, ranging from short interviews to lengthy paperwork, creating inconsistent

user experiences (Munir et al., 2023). Digital platforms have emerged as potential solutions, but they remain fragmented and underdeveloped. Many operate as stand-alone websites, are rarely updated, and lack features such as real-time availability or mobile optimization (Rozadin & Ghazali, 2022).

International platforms like Petfinder illustrate the potential of digital adoption systems. Through storytelling, multimedia, and interactive design, they build emotional connections that increase adoption intent (Morrison, Maust-Mohl, & Ferry, 2024). Malaysian platforms, by contrast, often provide static, text-heavy profiles that fail to engage users emotionally. This absence of connection is a missed opportunity, since research shows that affective design is critical for motivating adoption decisions (Ahmed, Sharif, Ting, & Sharif, 2024).

Digital Transformation and Its Gaps

Malaysia's adoption ecosystem reflects a broader challenge: limited digital transformation among non-profit organizations. Most adoption sites lack inclusive features such as multilingual support, accessibility tools for users with disabilities, or simplified interfaces for those with limited digital literacy (Santhanamery et al., 2024). The absence of backend integration also creates operational inefficiencies. Animals listed online may already have been adopted, frustrating users and eroding trust (Kremer, 2024). Furthermore, shelters rarely employ analytics to study user behaviour, leaving them unable to identify drop-off points or optimize adoption journeys (Islam, 2024).

These limitations collectively reduce adoption success and undermine animal welfare outcomes. In effect, Malaysia lacks a centralized, user-friendly marketplace that consolidates shelter listings, provides a consistent adoption journey, and fosters emotional engagement.

Research Questions and Objectives

This study develops a conceptual framework for such a marketplace, guided by the following research questions (RQs):

- RQ1: What is the current animal adoption user experience (UX) in Malaysia?
- RQ2: How can an innovative, inclusive, and emotionally engaging marketplace be designed?
- RQ3: How can the effectiveness and sustainability of this marketplace be ensured?

Corresponding objectives (ROs) are:

- RO1: To identify the current user experience of the Malaysian adoption process.
- RO2: To design an innovative adoption solution that is inclusive and engaging for diverse users.
- RO3: To evaluate and conceptualize strategies for sustaining marketplace effectiveness.

Contribution and Significance

This paper contributes on three levels:

1. Theoretical: It expands UX/CX and Design Thinking scholarship into the domain of animal welfare, which is underexplored compared to commercial contexts.
2. Practical: It offers shelters and NGOs a blueprint for improving adoption processes through digital innovation.
3. Policy: It supports Malaysia's digital inclusion agenda by proposing an accessible, multilingual, and equitable adoption ecosystem.

The rest of the paper is structured as follows. Section 2 reviews relevant literature on adoption platforms, UX/CX, emotional engagement, inclusivity, marketplace models, and Design Thinking. Section 3 outlines the methodological framework. Section 4 integrates conceptual findings to address the research questions. Section 5 concludes with implications, recommendations, and directions for future research.

LITERATURE REVIEW

Introduction

Digital technology has transformed how people interact with services, from shopping and banking to education and healthcare (Engku Abdullah, Masdar, & Abdul Halim, 2024). The animal adoption sector has not been left behind. In many countries, online adoption platforms now help match pets with suitable owners, using tools such as multimedia storytelling, real-time listings, and artificial intelligence (Bag et al., 2022; Necula & Păvăloaia, 2023).

However, in Malaysia the adoption ecosystem remains fragmented and underdeveloped. Many shelters continue to rely on outdated websites or social media posts, with inconsistent updates and limited usability (Rozadin & Ghazali, 2022; Tipugade, Mulla, Patil, & Karande, 2025). This literature review explores five main areas relevant to the development of a Malaysian adoption marketplace:

1. Global trends in digital adoption platforms
2. User experience (UX) in adoption systems
3. Customer experience (CX) and emotional engagement
4. Accessibility, inclusivity, and digital equity
5. Marketplace models, Design Thinking, and analytics for social innovation

The review concludes with a conceptual framework that integrates these themes and identifies research gaps that this study addresses.

Global Trends in Digital Animal Adoption

Over the past decade, adoption platforms worldwide have advanced from basic listing sites to interactive ecosystems. In Europe, platforms that added features such as live chat with shelter staff and animated "success stories" saw user engagement increase by more than one-third (Bricman & Kožuh, 2024). In the United States, organizations using centralized databases combined with multimedia storytelling reported higher adoption rates and reduced euthanasia (Shelter Animals Count, 2024).

Technological innovations are also shaping user interactions. For example, AdoptiPaw, a European platform, integrated AI-driven recommendations and location-based search filters. This resulted in a nearly 30 percent boost in click-through rates on adoptable pets (AdoptiPaw, 2024). Similarly, mobile-first designs and social media integration have broadened adoption reach, especially among younger demographics (To et al., 2023).

By comparison, Malaysia's adoption rate lags behind global averages. While platforms like PetFinder.my have made progress, many shelters do not update listings in real time, and few offer multilingual content or responsive design (PetFinder.my, 2025; Ghazali, 2022). This gap highlights the need to learn from global best practices while tailoring solutions to Malaysia's cultural and infrastructural context.

User Experience (UX) in Digital Platforms

Core Principles of UX

UX is about ensuring that digital platforms are easy to use, visually consistent, and responsive. Studies show that clear information architecture, consistent visual cues, and immediate system feedback reduce user confusion and increase satisfaction (Rosenfeld, Morville, & Arango, 2021; Nielsen, 2020).

In adoption platforms, this means that adopters should be able to search, filter, and apply for pets with minimal friction. Visual clarity, responsive design across devices, and straightforward navigation are particularly important in Malaysia, where many users rely on mobile phones with varying bandwidths (Ismail, Rahman, & Kamaruddin, 2023).

UX for Emotional Connection

Beyond functionality, UX must create emotional resonance in high-empathy domains like animal adoption. Features such as pet stories, adopter testimonials, and small interactive animations (e.g., paw prints when favouriting a profile) help foster an emotional bond with potential adopters (Ahmed, Sharif, Ting, & Sharif, 2024; Chen, Lim, & Tan, 2022). Research shows that emotionally engaging UX can increase satisfaction and intention to act by up to 20 percent (Salazar, Torres, & Medina, 2022).

UX Issues in Malaysian Platforms

Audits of local platforms reveal recurring problems: inconsistent menu labels, poor resizing on mobile devices, limited multilingual content, and slow loading speeds on low-bandwidth networks (Liew, 2023; Rahman & Aziz, 2022; Tan, 2024). These shortcomings make adoption websites frustrating for users, reducing both engagement and conversion into actual adoptions.

Customer Experience (CX) and Emotional Engagement

Understanding CX

CX goes beyond single interactions to cover the entire adoption journey, from discovering a platform to after-adoption support. Mapping this journey reveals touchpoints where users feel excitement, confusion, or frustration (Lemon & Verhoef, 2016; Mahr, Grewal, & Noble, 2022). For example, adopters may feel positive when browsing photos but discouraged if application forms are long or unclear.

Emotional Engagement Strategies

Research highlights three strategies that drive emotional connection in adoption platforms:

1. Storytelling with visuals – Personal narratives with photos or short videos build empathy and motivate action (Bricman & Kožuh, 2024).
2. Micro-interactions – Subtle animations provide instant feedback and enhance user engagement (Ahmed et al., 2024).
3. Social proof – Displaying testimonials, ratings, or adoption success feeds builds trust and community (Chen, Lim, & Tan, 2022).

Malaysian Context

In Malaysia, emotional engagement must reflect cultural and linguistic diversity. Testimonials in Bahasa Malaysia or Mandarin are seen as more authentic than English-only content (Yan & Teng, 2023). Similarly, localized imagery and festive adoption campaigns resonate more strongly with Malaysian audiences (Lim, Hassan, & Rajendra, 2023). However, most current platforms do not adopt these strategies, leaving a gap for innovation.

Accessibility, Inclusivity, and Digital Equity

Universal Design Principles

The Web Content Accessibility Guidelines (WCAG 2.1) set international standards for accessibility, including requirements for colour contrast, keyboard navigation, and alternative text for images (W3C, 2024). Research shows that nonprofit websites that meet these standards see up to 15 percent higher completion rates for forms (Bogdanova et al., 2024).

Malaysia's Digital Divide

Malaysia's population is digitally diverse. Many rural users rely on budget Android phones and slower

connections, making lightweight, mobile-first design essential (Ismail et al., 2023). Linguistic diversity is another barrier, with significant numbers of Mandarin and Tamil speakers who are excluded when platforms provide only English or Bahasa content (Tan, 2024).

Inclusive Strategies

Adoption platforms should:

1. Provide multilingual interfaces (English, Bahasa Malaysia, Mandarin, Tamil)
2. Offer "low data" modes for users with slow connections
3. Include adjustable text and contrast options
4. Simplify forms with inline help for low-literacy users

These inclusive features ensure equitable access across Malaysia's diverse user base (Mahmud, Rahman, & Islam, 2023; Massacesi, 2024).

Marketplace and E-Commerce Models

From Retail to Social Impact Platforms

Retail e-commerce platforms like Zalora thrive on network effects, centralized listings, and advanced filtering (Cano et al., 2023). Adoption platforms can borrow these principles but must adjust for welfare goals rather than profit. This includes verified shelter credentials, emotional storytelling, and follow-up support to ensure responsible ownership (Ofoeda, Boateng, & Effah, 2024).

Comparative Analysis

A comparison of Zalora, Petfinder, and Malaysian platforms shows that Malaysia lacks centralized listings, advanced filters, reputation systems, emotional tools, and API-driven data integration (Chen, Lim, & Tan, 2022; Yip, 2023). This indicates a major opportunity to design an adoption marketplace that combines commercial efficiency with welfare values.

Design Thinking and Analytics

Design Thinking for Innovation

Design Thinking provides a structured, user-centred process: Empathize, Define, Ideate, Prototype, and Test (Brown, 2008; Norman, 2013). Applied to animal adoption, this approach allows shelters and designers to co-create solutions based on real user needs. Research shows that Design Thinking can accelerate innovation and reduce costly design errors by up to 80 percent (Rösch & Kraus, 2023).

Embedding Analytics

Analytics help platforms refine features based on user data. Metrics such as bounce rates, heatmaps, and A/B testing can highlight barriers and improve adoption processes (Tan & Yeo, 2024). For example, a pilot in Klang Valley discovered that 70 percent of users abandoned the process at the "Upload ID" step, leading designers to add an auto-crop tool that improved completion rates by 30 percent (Lim, Hassan, & Rajendra, 2023).

Conceptual Framework and Research Gaps

Drawing from the above literature, this study integrates five domains into a conceptual framework:

1. Platform Ecosystem – centralized listings, advanced filters, API integration
2. User Experience (UX) – clear design, responsiveness, micro-interactions
3. Customer Experience (CX) & Emotional Engagement – storytelling, testimonials, localized campaigns
4. Accessibility & Inclusivity – WCAG compliance, multilingual support, low-data modes

5. Design Thinking & Analytics – iterative user-centred design with continuous data-driven improvement

Research Gaps

Fragmented platform landscape with no centralized database

1. Insufficient UX guidelines tailored to Malaysia's multilingual, mobile-first users
2. Limited use of emotional engagement in adoption interfaces
3. Weak accessibility and inclusivity standards in existing systems
4. Minimal use of analytics for ongoing optimization

These gaps directly inform the research questions guiding this conceptual paper.

METHODOLOGY

Introduction

This study adopts a qualitative, exploratory design anchored in Design Thinking. The choice of methodology reflects the complex and human-centred nature of animal adoption in Malaysia, where emotional engagement, accessibility, and inclusivity are as important as technical efficiency. The goal is not to measure adoption rates statistically, but to build a conceptual framework that explains how digital platforms can be designed to improve adoption outcomes.

By combining Design Thinking with user-centred research techniques such as semi-structured interviews and thematic analysis, the methodology aligns with the research questions (RQs) and objectives (ROs). It ensures that the conceptual marketplace design is grounded in the lived experiences of adopters and shelter staff, while also drawing on best practices in UX, CX, and digital inclusion.

Research Design

A conceptual exploratory design was chosen because Malaysia currently lacks integrated digital adoption systems. Exploratory research helps uncover new perspectives, clarify problem areas, and guide innovation where little prior work exists (Bender-Salazar, 2023).

The backbone of this design is the Design Thinking cycle (Brown, 2008; Rösch & Kraus, 2023), which progresses through five stages:

1. Empathize – Understanding user experiences through semi-structured interviews with adopters and shelter representatives.
2. Define – Synthesizing insights into problem statements, such as "How might we simplify application forms for first-time adopters?"
3. Ideate – Generating creative solutions that reflect user needs, including features such as multilingual support or storytelling modules.
4. Prototype – Translating solutions into low- to medium-fidelity wireframes using tools such as Figma or Adobe XD.
5. Test – Assessing usability, inclusivity, and emotional engagement through user feedback and prototype trials.

Although this paper is conceptual, the design provides a roadmap for future empirical implementation.

Research Questions and Objectives

The methodology directly addresses the three research questions outlined earlier:

- RQ1: What is the current animal adoption user experience (UX) in Malaysia?
- RQ2: How can an inclusive, emotionally engaging marketplace be designed?

- RQ3: How can the marketplace's effectiveness and sustainability be evaluated?

These questions translate into three research objectives:

- RO1: To identify the current user experience of Malaysian adoption platforms.
- RO2: To design an inclusive and engaging solution for a centralized adoption marketplace.
- RO3: To conceptualize strategies for evaluating and sustaining marketplace effectiveness.

The RQs and ROs are operationalized within the Design Thinking stages, ensuring methodological coherence.

Data Collection Approach (Conceptual)

Semi-Structured Interviews

Semi-structured interviews are central to the Empathize stage. They balance structure with flexibility, allowing participants to describe their experiences in depth (Ruslin et al., 2022). Questions focus on:

- Ease of navigating adoption platforms
- Perceptions of emotional engagement features (or lack thereof)
- Accessibility barriers (language, disability, low digital literacy)
- Desired features for a future marketplace

Interviews would be conducted with:

- 7–8 adopters who have adopted pets via online platforms
- 2–3 shelter representatives responsible for adoption operations

This purposive sampling ensures that participants have direct experience with adoption processes and platform use.

Usability Testing (Prototype Trials)

In later stages, participants would test prototypes. Observations and feedback would capture metrics such as:

- Task completion rates
- Time spent on adoption workflows
- Perceived emotional resonance of features like storytelling modules
- Accessibility of multilingual and low-data design

Though not yet executed, this approach is proposed to demonstrate how conceptual insights can be validated in practice.

Data Analysis Strategy

Thematic Analysis

Qualitative interview data would be analysed using thematic analysis (Braun & Clarke, 2006). This involves coding transcripts, identifying recurring themes, and grouping them into categories such as "usability challenges," "emotional engagement gaps," or "inclusivity needs."

Usability Metrics

Prototype testing would incorporate both qualitative and quantitative measures:

- System Usability Scale (SUS) scores to benchmark usability (Rubin & Chisnell, 2008).
- Error rates and completion times to identify navigation barriers.

- User satisfaction ratings to evaluate emotional and functional success.

This mixed lens ensures that conceptual design decisions are evidence-based.

Tools and Resources

The following tools are proposed to support future research stages:

- Interview transcription: Otter.ai or Google Docs voice typing
- Qualitative coding: NVivo software
- Prototyping: Figma or Adobe XD
- Usability analytics: Google Analytics or Mixpanel for tracking interactions

These tools are widely used in UX/CX research and ensure methodological rigour.

Ethical Considerations

Ethics are crucial when working with adopters and NGOs. This study follows three main principles:

1. Informed Consent – Participants must know the purpose of the research and give explicit permission before interviews.
2. Anonymity and Confidentiality – Identities will be protected in transcripts and publications.
3. Voluntary Participation – Participants may withdraw at any stage without penalty.

Data will be stored securely on encrypted devices, and recordings will only be used for research purposes.

Limitations of the Methodology

As a conceptual paper, this study does not yet include empirical findings. The methodology provides a framework but acknowledges limitations:

1. Generalisability: With a small purposive sample, findings may not represent all adopters nationwide.
2. Prototype Scope: Resource limits may constrain the depth of prototype development.
3. Digital Literacy Gaps: Some participants may struggle to articulate digital challenges, affecting data richness.

Despite these limitations, the framework provides a strong foundation for future empirical studies.

SUMMARY

This methodology section has outlined how Design Thinking guides the study in addressing the research questions. Semi-structured interviews and usability testing, analysed thematically and supported by usability metrics, ensure that the proposed marketplace design is rooted in user experience, inclusivity, and emotional engagement. Although conceptual, this design offers a rigorous path for empirical validation, ensuring both academic contribution and practical impact.

CONCEPTUAL FINDINGS AND DISCUSSION

Introduction

This section presents the conceptual findings of the study, developed through a synthesis of existing literature, research gaps, and the methodological framework of Design Thinking. While empirical interviews and prototype testing have not yet been conducted, the findings provide a reasoned interpretation of how Malaysian animal

adoption platforms currently operate, what users expect, and how a centralized marketplace could address gaps. The discussion is structured according to the three research questions.

RQ1: What is the current animal adoption user experience (UX) in Malaysia?

Fragmentation and Inconsistency

The first key finding is that Malaysia's adoption platforms are highly fragmented. Each shelter operates independently, using its own website, Facebook page, or manual listings (Rozadin & Ghazali, 2022). This leads to duplication, inconsistent design, and difficulties for adopters who must search across multiple sources. Unlike global platforms such as Petfinder, there is no single portal where users can browse all available animals.

Usability Challenges

Existing platforms often fail to apply basic UX principles. Users encounter inconsistent menu labels, confusing navigation, and limited search functions (Liew, 2023). Mobile responsiveness is weak, despite the fact that most Malaysians access the internet via smartphones (Ismail, Rahman, & Kamaruddin, 2023). Loading speeds are also problematic, especially in rural areas with weaker connections (Rahman & Aziz, 2022). These usability issues discourage potential adopters and contribute to abandonment of the adoption journey.

Emotional Disconnection

UX in Malaysian platforms tends to be transactional rather than relational. Profiles often consist of static text and low-quality images, with little emphasis on storytelling or emotional engagement (Munir, Mokhtar, & Arham, 2023). Yet research shows that emotion is central to adoption decisions: users are more likely to adopt when they feel a personal bond with an animal (Ahmed, Sharif, Ting, & Sharif, 2024; Chen, Lim, & Tan, 2022). The absence of emotional design elements means current platforms miss opportunities to inspire empathy and trust.

Conceptual Insight for RQ1

The current adoption UX in Malaysia is marked by fragmentation, poor usability, and emotional disconnection. Addressing these gaps requires a shift toward centralized, user-friendly platforms that combine functionality with affective design.

RQ2: How can an innovative solution for animal adoption be designed to be accessible and inclusive?

Inclusive Design as a Core Principle

Malaysia's multicultural and multilingual society makes inclusivity non-negotiable. Yet most adoption platforms only provide English or Bahasa Malaysia, leaving out large Tamil- and Mandarin-speaking communities (Tan, 2024). A future marketplace must provide multilingual toggles, ensuring every user can navigate the site in their preferred language.

Inclusivity also extends to users with disabilities. Compliance with WCAG 2.1 standards, including screen reader compatibility, colour contrast options, and keyboard navigation, would make adoption platforms more accessible (W3C, 2024; Bogdanova et al., 2024). Currently, such features are rare in Malaysian contexts.

Bridging the Digital Divide

Many Malaysians, particularly in rural areas, use budget smartphones on slow connections. Platforms that are image-heavy or poorly optimized risk excluding these users. A "low-data mode" that offers compressed images, simplified layouts, and deferred loading of non-essential features could make the adoption journey more inclusive (Ismail et al., 2023).

Emotional Engagement Strategies

Designing for inclusivity does not only mean removing barriers—it also means fostering positive connections. Features such as:

1. Pet storytelling modules (short narratives with photos or videos)
2. Micro-interactions (e.g., paw-print icons when a user favourites an animal)
3. Social proof (adopter testimonials, success stories)

These have been shown to increase adoption intent and user satisfaction globally (Bricman & Kožuh, 2024; Ahmed et al., 2024). Local adaptation—such as testimonials in Bahasa Malaysia or festive adoption campaigns tied to Hari Raya—can further strengthen cultural resonance (Lim, Hassan, & Rajendra, 2023).

Marketplace Model Adaptation

Borrowing from e-commerce platforms like Zalora, the marketplace should:

1. Centralize listings from multiple shelters via API integration
2. Provide advanced filters (breed, age, location, size)
3. Include trust-building mechanisms such as verified shelter badges and adopter reviews

Unlike retail, the aim here is not profit but transparency, trust, and welfare outcomes (Cano et al., 2023; Ofoeda, Boateng, & Effah, 2024).

Conceptual Insight for RQ2

An innovative Malaysian adoption marketplace must embed inclusivity (multilingual, accessible, low data), emotional design (stories, testimonials, micro-interactions), and marketplace features (centralized listings, filters, trust systems). These elements will transform adoption from a fragmented and frustrating process into a smooth, engaging, and equitable journey.

RQ3: How can the effectiveness of the marketplace be evaluated and sustained?

Usability Testing and Iterative Design

A key principle of Design Thinking is iteration. Prototypes must be tested with adopters and shelter staff, gathering feedback on usability, inclusivity, and emotional resonance. Standardized tools like the System Usability Scale (SUS) can benchmark performance, while qualitative feedback highlights deeper emotional and cultural concerns (Rubin & Chisnell, 2008).

Embedding Analytics for Continuous Improvement

Sustainability requires more than a one-off design. Analytics can provide insights into user behaviour, helping shelters understand where adopters drop off and why. For example, if many users exit during the application stage, simplifying forms or providing inline help could improve completion rates (Tan & Yeo, 2024). Heatmaps, A/B testing, and feedback forms allow continuous platform refinement.

Operational Sustainability

Shelters must also be able to manage and update the platform effectively. Training in digital literacy, content management, and analytics interpretation is essential (Cipriano & Za, 2025). Without this, even the best-designed platform risks becoming outdated. A centralized system could standardize data entry, ensuring that adopters always see real-time availability (Kremer, 2024).

Policy and Funding Support

Finally, sustainability requires national coordination. Currently, Malaysia lacks a unified policy framework for

digital adoption systems (Munir, Mokhtar, & Arham, 2023). Government partnerships with NGOs and tech providers could provide funding, technical expertise, and infrastructure support. Aligning with Malaysia's Digital Economy Blueprint (My DIGITAL) would also ensure consistency with national transformation goals.

Conceptual Insight for RQ3

The marketplace's effectiveness and sustainability depend on iterative usability testing, continuous analytics-driven improvement, operational training for shelters, and national-level policy support. Without these, adoption platforms risk falling into the same fragmented and underutilized state as current systems.

Integrated Discussion

Taken together, the conceptual findings highlight three interdependent priorities:

1. Improving current UX (RQ1) requires moving from fragmented, static systems to a centralized, user-friendly platform.
2. Designing inclusively and emotionally (RQ2) ensures that the marketplace resonates across Malaysia's diverse population, fostering both accessibility and empathy.
3. Ensuring sustainability (RQ3) demands analytics integration, shelter capacity building, and policy-level support.

This integration demonstrates that UX, CX, inclusivity, and emotional engagement cannot be treated as separate features—they must work together as part of a holistic ecosystem.

The conceptual contribution of this study lies in extending UX/CX and Design Thinking theories into non-commercial, high-empathy domains, showing how principles used in e-commerce can be adapted to improve social welfare outcomes.

SUMMARY

This section addressed the three research questions conceptually. It found that Malaysian adoption platforms are fragmented and emotionally disengaging (RQ1), that an inclusive and emotionally resonant marketplace can be designed by integrating global best practices with local needs (RQ2), and that sustainability requires iterative testing, analytics, and policy support (RQ3). These insights form the basis for the recommendations presented in the conclusion.

CONCLUSION AND RECOMMENDATIONS

Introduction

This paper has explored the urgent challenges facing animal adoption in Malaysia and proposed a conceptual framework for designing a centralized, user-centred digital adoption marketplace. By applying Design Thinking and drawing on literature in UX, CX, accessibility, inclusivity, and emotional engagement, the study has outlined how digital innovation can transform adoption outcomes. Although the paper is conceptual, it contributes theoretically, practically, and strategically by reframing animal adoption as both a welfare imperative and a digital inclusion challenge.

Summary of Conceptual Findings

Three research questions guided this study.

RQ1: What is the current animal adoption user experience (UX) in Malaysia?

Findings show that Malaysian platforms are fragmented, inconsistent, and emotionally disengaging. Many lack basic usability features such as mobile responsiveness, intuitive navigation, or real-time availability updates.
RQ2: How can an innovative solution be designed to be inclusive and engaging?

An inclusive marketplace should provide multilingual support, accessibility features for users with disabilities, and low-data modes for rural adopters. It should also embed emotional engagement strategies such as storytelling, micro-interactions, and community testimonials, which global platforms have proven to be effective.

RQ3: How can the marketplace's effectiveness and sustainability be evaluated?
Sustainability requires iterative usability testing, analytics-driven design refinements, operational training for shelter staff, and national-level policy support. Without these, digital adoption systems risk becoming as fragmented and underutilized as existing platforms.

Together, these findings establish the need for a holistic, user-centred, and sustainable adoption marketplace tailored to Malaysia's unique cultural and infrastructural landscape.

Theoretical Implications

Extending UX and CX into High-Empathy Domains

Most UX/CX research focuses on commercial contexts such as e-commerce or hospitality (Lemon & Verhoef, 2016; Guo, Zhang, & Xia, 2023). This paper extends those principles into a non-commercial, empathy-driven domain, demonstrating how digital adoption systems must integrate both functional usability and emotional resonance to motivate user action.

Design Thinking for Social Innovation

This study highlights Design Thinking as an effective methodological framework for addressing complex social challenges. Its iterative, user-centred approach is particularly suited to contexts where stakeholder diversity and emotional factors are central (Rösch & Kraus, 2023).

Inclusivity and Digital Equity

By emphasising accessibility, multilingual design, and low-data optimization, the study contributes to literature on digital inclusion in Southeast Asia. It reframes animal adoption not only as a welfare issue but also as a test case for inclusive digital infrastructure.

Practical Implications and Recommendations

Platform Development

1. Centralization: Create a unified marketplace that aggregates listings from multiple shelters through API integration.
2. Advanced Filters: Allow users to search by breed, age, size, and location.
3. Emotional Engagement: Embed storytelling modules, adopter testimonials, and micro-interactions to build empathy.
4. Inclusive Design: Ensure multilingual support (English, Bahasa Malaysia, Mandarin, Tamil), WCAG-compliant accessibility, and low-data modes for rural adopters.

Shelter Operations

1. Staff Training: Equip shelter representatives with digital literacy skills to manage listings, update availability in real time, and interpret analytics.
2. Standardized Protocols: Develop guidelines for photo quality, storytelling consistency, and adoption form design.
3. Backend Integration: Introduce centralized databases to reduce duplication and errors.

Policy and Strategic Collaboration

1. National Framework: Establish government-supported standards for digital adoption platforms.
2. Funding Support: Provide grants or subsidies to shelters for platform adoption and staff training.
3. Public Awareness Campaigns: Partner with NGOs and media to promote adoption through culturally relevant campaigns, such as "Adopt for Raya" or "Chinese New Year Companions."

Limitations

As a conceptual paper, this study has not yet collected empirical data. The framework is derived from literature and methodological reasoning, which means:

1. Findings are interpretive, not evidence based.
2. Insights may not capture the full diversity of adopters in rural or marginalized communities.
3. Prototype performance metrics (e.g., usability scores) remain untested.

Despite these limitations, the conceptual model provides a foundation for empirical research and practical experimentation.

Future Research Directions

To advance this work, future studies should:

1. Conduct Empirical Validation: Implement semi-structured interviews and usability testing with adopters and shelter staff across urban and rural Malaysia.
2. Evaluate Long-Term Adoption Outcomes: Assess whether centralized platforms reduce shelter overcrowding and euthanasia rates.
3. Expand Participant Scope: Include rural adopters, senior citizens, and users with disabilities to ensure inclusivity.
4. Integrate Advanced Technologies: Explore AI-based pet matching, blockchain for adoption verification, and mobile app extensions.
5. Policy Studies: Examine how government strategies such as the Malaysia Digital Economy Blueprint (MyDIGITAL) can support adoption platforms.

CONCLUSION

Animal adoption in Malaysia faces pressing challenges that current fragmented digital solutions cannot adequately address. By applying Design Thinking and integrating UX, CX, inclusivity, and emotional engagement principles, this paper proposes a conceptual framework for a centralized adoption marketplace. The framework extends theoretical knowledge by applying commercial UX/CX concepts to a welfare-driven domain, and it offers practical guidance for shelters, NGOs, and policymakers.

Ultimately, the success of such a marketplace lies not only in its design but in its ability to sustain long-term engagement through continuous analytics, staff training, and national coordination. A well-designed, inclusive, and emotionally resonant adoption platform has the potential to reduce overcrowding, prevent unnecessary euthanasia, and promote a culture of compassionate pet ownership in Malaysia.

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