**Review Feedback 04072025 CHUNG**

First, I want to acknowledge the ambition and dedication you’ve brought to this research project. Your commitment to tackling a complex and interdisciplinary topic, integrating sustainability, youth finance, and AI design, is commendable. That said, as your research co-supervisor, I must express some concerns regarding the current state of your thesis draft. While your efforts are evident, the way the thesis is currently written significantly undermines the clarity, coherence, and overall impact of your work.

From the early stages of your research journey, including the proposal phase, we have consistently emphasized the importance of adhering to the accepted academic format for a Master’s dissertation. You are expected to familiarize yourself with these conventions and apply them consistently. However, both the structure and writing style in the current version do not meet those expectations. Recurring time management challenges have also affected the review process.

While I am not a specialist in the technical fields your thesis engages with, my role is to critically assess your claims, overall logic, content, and contribution. With the support of my AI assistant, I have compiled a set of specific comments to help guide your final revision. This feedback is structured into three key areas: 1) structure and style; 2) content and contribution; and 3) chapter-by-chapter revision suggestion; and 4) a brief summary of suggestions. I hope these comments will help you focus your efforts in the final stage. With careful revision, your work can make a valuable and original contribution.

# ****1. Structure and Style****

* **Scope and Length**: The current version of thesis is far too extensive for an MA dissertation. At nearly 450 pages, it exceeds reasonable and common expectations for both candidate and reviewers. The breadth of topics, while impressive, results in a lack of focus and makes the work overwhelming to read and evaluate.
* **Organization**: The structure follows a logical academic format (Abstract, Introduction, Literature Review, Methodology, Results, Discussion, Conclusion), but the sheer volume of content in each section dilutes the core research objectives.
* **Style**: The writing is generally clear and well-referenced, but the density of information, frequent digressions, and inclusion of tangential material detract from the main argument. The tone sometimes shifts from academic to personal or journalistic and even Wikipedia-like, which is not appropriate for a thesis.

### Specific Structural Issues and Suggestions

| **Chapter/Section** | **Area for Improvement** | **Specific Suggestions** |
| --- | --- | --- |
| Abstract (pp. 1-2) | Overly broad, lacks focus on research objectives | Sharpen the abstract to state the research problem, objectives, methods, and main findings in a concise manner (max 1 page) |
| Table of Contents (pp. 4-17) | Excessive detail, too many sub-sections | Condense to 2-3 levels of headings; remove unnecessary granularity |
| Literature Review (pp. 24-85+) | Over 60 pages, covers too many fields (ecology, economics, AI, design, etc.) | Limit to 50 pages maximum. Organize thematically around the research questions: e.g., (1) Young adults and sustainability, (2) Digital tools for sustainable finance, (3) AI in financial decision-making. Remove tangential or historical content not directly relevant to the research objectives. |
| Chapters 6-8 (pp. 26-140) | Excessive contextualization, repetitive background | Summarize key context in 5-10 pages per theme. Move detailed country/industry case studies to appendices. |
| Methodology (pp. 267-276) | Methodology is buried and lacks clarity | Move methodology earlier, after a condensed literature review. Clearly state research design, sampling, and data analysis methods. |
| Results (pp. 277-325) | Results are mixed with discussion and lack synthesis | Present results succinctly, using tables and figures. Separate raw data from interpretation. |
| Discussion (pp. 326-334) | Discussion is fragmented, lacks critical synthesis | Focus on how findings answer the research questions. Discuss limitations and implications in a concise, critical manner. |
| Conclusion (pp. 335-338) | Conclusion is diffuse, repeats earlier content | Summarize key findings, contributions, and recommendations in 2-3 pages. |
| References & Appendices (pp. 339-436) | Excessive, not all sources are relevant | Limit references to those cited in the main text. Move supplementary material to appendices. |

### Suggestions Thematic Condensation of Literature Review

* **Theme 1: Young Adults and Sustainability**  
  Focus on empirical studies and theoretical frameworks relevant to college students’ attitudes and behaviors toward sustainability, especially in Taiwan and comparable contexts.
* **Theme 2: Digital Tools and Financial Activism**  
  Review literature on digital interventions, financial literacy, and sustainable finance tools for young adults. Highlight gaps in existing solutions.
* **Theme 3: Human-AI Interaction in Finance**  
  Synthesize research on AI companions, generative UIs, and their application in financial decision-making, with a focus on user experience and behavioral outcomes.

**Recommendation:**  
Each theme should be limited to 10-15 pages max, with clear links to the research objectives and questions. Remove or relegate to appendices any content that does not directly inform the research design or findings.

# ****2. Content and Contribution****

**Stated Contribution and Research Questions**

The thesis claims its **major contribution** is the design and development of an interactive AI companion prototype to support college students in making more sustainable financial decisions, including shopping, saving, and investing.

**Stated Research Questions:**

1. What design considerations should be addressed when designing an AI companion for college students integrating sustainability and finance?
2. How can AI companions support college students with sustainability knowledge in the context of financial decisions?
3. What AI companion features do college students prioritize as the highest?

## ****Are the Research Questions Answered?****

| **Research Question** | **Evidence of Being Addressed** | **Gaps** |
| --- | --- | --- |
| **RQ1:** What design considerations should be addressed... | Some considerations are implicitly surfaced through persona work and feature testing (e.g., simplicity, trust, transparency). | These are not clearly framed as design principles or generalized beyond the immediate context. No design framework is presented. |
| **RQ2:** How can AI companions support college students with sustainability knowledge...? | The prototype attempts to deliver sustainability content and green company data. User feedback provides evidence on reception. | The thesis lacks analysis of **how users internalize or act on** sustainability knowledge. No metrics or behavioral outcomes are defined. |
| **RQ3:** What AI features do students prioritize...? | Feature prioritization is partially addressed through user ranking and heatmaps. Some survey feedback supports it. | The analysis is fragmented and not systematically tied back to RQ3. Preferences are not summarized or critically discussed by type, context, or user group. |

**Conclusion**: The RQs are partially addressed in a descriptive way but not critically answered through structured discussion, clear synthesis, or theoretical framing.

**Suggested Research Objectives (Aligned with RQs)**

To further support clarity, below are research objectives that should be added, stated explicitly and aligned with the RQ. Only with clear defined ROPs, then come the RQs…

| **Research Question** | **Corresponding Research Objectives** |
| --- | --- |
| RQ1 | To identify key design requirements and constraints for an AI companion that integrates sustainability values into financial interactions for Gen Z users. |
| RQ2 | To investigate how AI interfaces can deliver and contextualize sustainability knowledge to support eco-conscious financial behavior. |
| RQ3 | To evaluate which AI interface features (e.g., personalization, explainability, gamification) college students prioritize and why. |

**To What Extent Are the claimed Contributions Achieved?**

### ****Strengths****

* A working **prototype of the AI companion** is developed and tested with users. This is a meaningful and practical output.
* A large-scale survey and multiple user interviews provide **empirical grounding** for design insights.
* The thesis engages with **relevant domains**—sustainability, behavioral finance, AI design—but these are not always well integrated.

### ****Gaps and Weaknesses****

* The **research contribution is mostly practical** (prototype development) but not sufficiently translated into **theoretical insights**. The thesis does not define what specific design knowledge, principles, or models it contributes to the field of design research or HCI.
* The prototype testing is rich in **visuals and quotes** but lacks **structured synthesis** to demonstrate how each feature addresses specific research questions.
* There is no **summarizing framework** or conceptual model that consolidates findings into transferable knowledge for other design researchers or developers.

### ****Specific Content-Related Suggestions****

| **Chapter/Section** | **Area for Improvement** | **Specific Suggestions** |
| --- | --- | --- |
| Introduction (pp. 20–23) | Problem buried | Rewrite the **problem statement** to clearly link to the RQs. State what knowledge or usability gap exists, and how your prototype addresses it. Clarify **intended contributions** early: one practical (prototype), one theoretical (design implications). |
| Literature Review (pp. 24–85+) | Too broad, lacks focus | Integrate into **one structured chapter**. End with a section on **research gaps and design objectives**, leading logically to the RQs. Explicitly identify missing work in sustainability-AI-finance intersections. |
| Methodology (pp. 267–276) | Methods not fully justified | Map methods to **each RQ** (e.g., survey for RQ3, interviews for RQ1). Explain thematic coding strategies and participant rationale. Include a **research process diagram**. |
| Results (pp. 277–325) | Descriptive | Structure around **RQ1–RQ3**, not data type. Use **summary tables** to relate findings to objectives. Avoid overloading with screenshots and exploratory content—move to appendix. |
| Discussion (pp. 326–334) | Fragmented | Reframe discussion **by RQ**. Include subsections: “Design Contributions,” “Insights for HCI,” and “Theoretical Reflections.” Add a **summary diagram or model** of how your AI companion addresses sustainability decision-making. |
| Conclusion (pp. 335–338) | Repetitive | Directly **answer each RQ**, summarize contributions, and state limitations. Offer suggestions for future work, including **scalability**, **behavioral metrics**, or **longitudinal testing**. |
| Appendices | Excessive | Keep only essential documentation and logs. |

# ****3.Improvement by Chapters****

## Abstract and Introduction

The abstract demonstrates strength in introducing the interdisciplinary scope of the thesis, touching on sustainability, youth finance, and AI interaction, and it successfully mentions the prototype as a core deliverable. However, it is overly broad and unfocused, attempting to address too many themes without clearly articulating the central research problem. It lacks essential components such as research objectives, questions, methods, and key findings, and reads more like a policy editorial than an academic summary. Additionally, the tone is inconsistent, occasionally veering into journalistic or motivational language that is inappropriate for a scholarly abstract.

### ****Strengths****

* The introduction shows **strong personal engagement** with the topic and awareness of global sustainability challenges.
* It attempts to integrate multiple domains: youth culture, sustainability, financial technology, and AI.
* There is an intention to make a **design research contribution**, with a prototype mentioned early on.

### ****Weaknesses****

1. **Vague and Underdeveloped Problem Statement**  
   While the introduction identifies large themes (climate change, lack of sustainability education), it does not articulate a **specific research problem**. It’s unclear what gap in knowledge, practice, or theory this thesis is addressing.
2. **No Clear Research Gap**  
   The literature or empirical problem is not critically reviewed. What exactly is missing from existing AI design for sustainability? What are the shortcomings in current financial tools for students?
3. **Missing Objectives and Research Questions**  
   While RQs are introduced later in the document, the **Introduction does not present them clearly**. Nor does it offer **concise research objectives** to guide the reader.
4. **Fragmented Flow**  
   The writing jumps between multiple topics—global youth trends, environmental anxiety, generational behavior—without a structured narrative to build the rationale for the study.

| **Key Element** | **Feedback** | **Suggestion** |
| --- | --- | --- |
| **Problem Statement** | Too broad, unclear focus | Start with a **specific, real-world design problem**, e.g., “College students lack intuitive, trusted tools to evaluate the sustainability of their financial behaviors.” |
| **Research Gap** | Missing | Identify what **prior work fails to address** (e.g., lack of AI companions supporting sustainability behavior, or insufficient Gen Z-focused tools). |
| **Research Objectives** | Absent | List 2–3 **research objectives** clearly (see previous message for examples). |
| **Research Questions** | Not in Introduction | Introduce RQs clearly in a dedicated paragraph. Connect each RQ briefly to a part of your research design. |
| **Tone** | Narrative and motivational | Maintain **scholarly tone**. Avoid language that feels editorial or journalistic. Focus on clarity and conciseness. |
| **Flow** | Fragmented | Reorganize paragraphs logically: 1) Context → 2) Problem → 3) Gap → 4) Objective → 5) RQs → 6) Method overview → 7) Contribution preview. |

## Chapter 5-10 Literature Review Analysis and Recommendations

Chapters 5–10 of the thesis span pages 24–266 and attempt to provide an extensive overview of relevant domains such as youth behavior, sustainability, AI, and finance. While the breadth of reading is commendable, the literature review suffers from serious structural and conceptual issues that undermine its usefulness and academic rigor.

### Issues Identified

• The literature is spread across six chapters, each focused on a siloed theme (e.g., Youth, Sustainability, Design, AI, Money), which results in fragmentation.  
• Many sections resemble general essays or encyclopedic entries rather than critically curated academic syntheses.  
• There is minimal synthesis across themes, and no clear linkage to the research questions or conceptual frameworks.  
• Theoretical models such as the Theory of Planned Behavior or Technology Acceptance Model are not explicitly adopted or used to frame the analysis.  
• Chapters often fail to guide the reader toward a coherent understanding of the research gap.

### ****Strengths****

### **• You demonstrates impressive breadth in surveying a wide range of literature. • The sources reflect up-to-date research and thoughtful engagement with contemporary debates in AI, sustainability, and youth financial behavior.**

### Weaknesses

• The volume of content (200+ pages) is far beyond what is expected for an MA thesis and dilutes the central focus.  
• The content lacks thematic or conceptual integration.  
• The chapters read like disconnected essays, making it difficult to trace a logical progression toward the research objectives.  
• There is no theoretical consolidation or framework provided to orient the reader.

### Recommendations for Improvement

• Condense the literature review to a single, integrated chapter, limited to 30–50 pages.  
• Reorganize the review around 3-4 thematic clusters directly aligned with the research objectives and questions:

1. Sustainability and Youth Behavior  
 2. Designing Human-AI Interaction  
 3. Digital Finance for Sustainable Action  
 4. Summary of Gaps in Existing Literature

• Within each thematic cluster, critically synthesize key theories, debates, and empirical findings.  
• Explicitly identify theoretical models (e.g., Theory of Planned Behavior, Technology Acceptance Model) that guide the study.  
• End the literature review with a synthesis section summarizing theoretical gaps and how they motivate the research design.  
• Remove or relegate any tangential or historical content not directly informing the design and implementation of the research.

This restructuring will not only streamline the reading experience but will also demonstrate a clear academic logic that connects the literature, research questions, and methodology. It will elevate the theoretical contribution of the thesis from descriptive to analytical.

## Chapter 11-12 Data Analysis and Rigor

Chapters 11 and 12 of the thesis present the methodology and results of a mixed methods research design, which includes surveys, interviews, persona development, and AI prototype testing. While the empirical work is substantial and the scope ambitious, the analysis lacks sufficient clarity, structure, and critical reflection to meet the standards of rigorous academic inquiry.

### ****Strengths****

* The survey and user testing are robust and engage both quantitative and qualitative data sources.
* The persona work reflects thoughtful interpretation of user behavior and motivations.
* The methodological ambition is commendable, and the research design covers multiple stakeholder perspectives.

### ****Weaknesses****

* There is no clear explanation of how interview codes and themes were derived.
* The presentation of findings (e.g., quotes, heatmaps) lacks synthesis and appears fragmented.
* Data segmentation is presented without methodological justification.
* The flow of Chapters 11 and 12 is occasionally redundant and lacks visual guidance for the reader.
* The section titled **"What is Research?"** (p. 267) is overly generic and unnecessary at this stage of the thesis.

### ****Recommendations for Improvement****

### ****Chapter 11 – Methodology****

* Remove or significantly condense the section “What is Research?” and other generic methodological philosophy content that does not serve the project directly.
* Move the **Conceptual Framework** to the beginning of the chapter to establish the logic and structure of the research upfront.
* Provide a **clear explanation** of how the qualitative and quantitative phases are connected—what insights one phase informed for the other.
* Add a detailed section explaining the **thematic coding strategy**:
  + How were the interview codes developed?
  + What was the process for theme identification and validation?
* Include a **simple research flow diagram** to help readers visualize the multi-phase research design.
* Avoid excessive narrative description of common research procedures. Instead, summarize using **tables or bullet points** for clarity.

### ****Chapter 12 – Results and Analysis****

* Begin the chapter with a **1–2 page summary** of the most important findings.
* Structure the presentation of findings **according to the three research questions (RQ1–RQ3)** rather than by data type (e.g., survey vs. interview).
* Use **summary tables or visual charts** to synthesize key insights across data sources (survey, interviews, prototype testing).
* Include **side-by-side comparisons** of student survey responses, expert interviews, and AI assistant testing outcomes where appropriate.
* Clearly link each result to the **research objectives** and explain how it contributes to answering each RQ.
* Reflect on **biases and limitations**, such as:
  + The demographic representation of participants,
  + Potential self-selection bias,
  + The generalizability of prototype findings.
* Move **exploratory/early prototype ideas**, raw transcripts, and detailed screen captures to the **appendices** to reduce clutter in the main text.
* Eliminate redundancy: avoid repeating the same quotes or visual data unless explicitly used to support a different argument or insight.

**Note**

The empirical base of this thesis is promising and rich, but the analytical rigor and organization need improvement. Clarity, alignment with research questions, and thoughtful synthesis will elevate the credibility and contribution of the findings. A well-structured and thematically organized analysis will also support a stronger final discussion and conclusion.

## Chapter 13-14 Final Discussion and Practical Contribution

Chapters 13 and 14 offer a thoughtful and creative interpretation of the thesis findings. However, these final chapters suffer from a lack of structure, prioritization, and alignment with the original research questions. While you's design thinking and practical orientation are evident, the discussion lacks a clear academic framing and fails to consolidate the theoretical and empirical contributions effectively.

### ****Strengths****

* The **design implications** are creative and demonstrate a strong practitioner perspective, showing awareness of real-world application potential.
* The chapters reflect **genuine engagement** with the problem context and convey you’s deep personal investment in the topic.
* There is an attempt to reflect on **future directions**, although this is not formally organized.

### ****Weaknesses****

* Key findings are **scattered** across paragraphs, without a clear logic or priority hierarchy.
* There is no **summary model or visual diagram** that consolidates the theoretical, methodological, and empirical insights of the project.
* **Implications and recommendations** remain mostly anecdotal and lack grounding in the theoretical frameworks discussed earlier in the thesis.
* The **discussion does not return explicitly** to the research questions (RQ1–RQ3), nor does it clearly show how they were answered.
* The **conclusion chapter** includes repetition and is not sharply differentiated from the discussion.

### ****Recommendations for Improvement****

### ****Chapter 13 – Discussion****

* **Reorganize the chapter explicitly by research question (RQ1, RQ2, RQ3)**:
  + For each RQ, recap the relevant findings.
  + Then discuss what these findings mean in terms of theory, design, and practical application.
* Introduce subheadings for key discussion categories:
  + Theoretical Contributions- What models or frameworks are confirmed, challenged, or extended?
  + Implications for Design Practice - How can your findings guide future human-AI interface design?
  + Policy Recommendations -What can educators, institutions, or policymakers take away from your study?
  + Limitations and Future Work -What could not be addressed? What should follow?
* Remove or reframe **speculative or anecdotal commentary** unless it is explicitly grounded in the data or theory.
* Consider creating a **conceptual model or framework diagram**
* to visually summarize your contribution (e.g., showing the relationship between digital behavior change, youth motivation, and AI design interventions).

### ****Chapter 14 – Conclusion****

* Sharpen the **synthesis of the entire thesis** in 2–3 pages:
  + Restate the research problem, objectives, and questions.
  + Clearly summarize how each RQ was addressed with evidence from the research.
  + State **three core contributions**: one theoretical, one methodological, one practical.
* Avoid repeating prior content from discussion or introduction chapters.

Suggest **specific directions for future research**—for example, longitudinal studies of financial behavior, or design evaluations of AI companions in real-world deployments.

**Summary of Actionable Fixes**

* Structure the **discussion by RQ** rather than themes or tools.
* Use **tables or diagrams** to consolidate findings and show how they relate to objectives and user needs.
* Create sub-sections titled:
  + Implications for Design Practice
  + Policy Recommendations
  + Limitations & Future Work
* Make the **conclusion concise and focused** on research contributions and future directions.
* Eliminate **redundancy** and diffuse reflections that do not build on the core arguments.

**Note**

These final chapters have the potential to powerfully conclude the thesis but currently lack the cohesion and clarity expected at the MA level. A rigorous reorganization, grounded in the research questions and theoretical positioning, will elevate the thesis from an ambitious exploration to a coherent academic contribution.

### Appendices

Move prototype logs, raw transcripts, and background AI documentation to appendices.  
Ensure the body of the thesis reads smoothly without needing to read appendices for comprehension.

# ****4.Summary of Content Review and Suggestions****

This thesis has strong empirical ambition and valuable prototyping work, but to claim contribution in design and design research, it must:

* Synthesize insights beyond the immediate case,
* Explicitly answer its research questions with clear logic and evidence,
* Reflect on the theoretical, methodological, and practical value of its findings.

With a clearer structure and tighter alignment between the research questions, methods, and analysis, the contribution of the thesis can be much more impactful and academically rigorous.

| **Chapter/Section** | | **Pages** | **Main Issues** | **Improvement Suggestions** |
| --- | --- | --- | --- | --- |
| Abstract | 1–2 | | Overly broad | Condense; focus on objectives and findings. |
| Introduction | 20–23 | | Unclear problem | Clearly state problem and objectives. |
| Literature Review | 24–85+ | | Too long, unfocused | Limit to 50 pages, organize by themes. |
| Methodology | 267–276 | | Lacks clarity | Justify methods; move earlier. |
| Results | 277–325 | | Descriptive | Use tables; link to RQs. |
| Discussion | 326–334 | | Fragmented | Synthesize findings; critical reflection. |
| Conclusion | 335–338 | | Repetitive | Summarize contributions; answer RQs. |
| References/Appendices | 339–436 | | Excessive | Limit to relevant material; clean structure. |

Some completed ICID theses are available here, please refer to their structure and writing style. You can also view more thesis examples through the NCKU Library.

<https://www.dropbox.com/home/MA%20Students%20Dissertations/R5166-ICID/Proposal-Final%20%20Folders>

**Important Reminder:** Your final version must be submitted to your reviewers at least **3 to 5 days in advance**. Please make sure you have confirmed with each reviewer whether they prefer a digital or physical copy.

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