Capstone Project Workshop

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Intended Learning Outcomes

1. formulate well-defined research objectives, scope, and limitations, and structure their capstone projects effectively by applying the principles taught in the learning sessions
2. demonstrate the ability to draft and refine Chapters I, II, III, and IV of their capstone projects, integrating academic writing best practices and critical analysis
3. engage in group activities to collaboratively assess research titles, map literature reviews, create functional decomposition diagrams, and polish project chapters, showcasing teamwork and constructive feedback incorporation

Part I – Overview

Topics:

1. Introduction to Capstone Project
2. Writing Chapter II
3. Writing Chapter I

Group Activities:

1. Research Topic Assessment and Title Analysis
2. Chapter 2 Assessment
3. Improving Objectives of the Study

Research

Research may be defined as a purposive, systematic, and scientific process of gathering, analyzing, classifying, organizing, presenting, and interpreting data for the solution of a problem, for prediction, for invention, for the discovery of truth, or for the expansion or verification of existing knowledge, all for the preservation and improvement of the quality of human life.

Importance of Publishable Research Papers

Publishable research papers play a pivotal role in academic and professional growth. They serve as a testament to your research capabilities, knowledge, and contributions to your field.

Importance of Publishable Research Papers

- Academic Advancement
- Knowledge Dissemination
- Professional Recognition
- Networking
- Problem Solving and Critical Thinking
- Contribution to the Society
- Personal and Professional Growth

Research Flow

1. Topic Selection
2. Literature Review
3. Research Questions
4. Experimentation
5. Data Collection
6. Research Design
7. Results and Findings
8. Discussions and Interpretations
9. Conclusion
10. Peer Review
11. Finalization of the Research Paper
12. Recommendation of Future Work
13. Publication and Presentation
14. Further Research and Application

What is a research topic?

A research topic is a focused and well-defined subject or area of interest that serves as the foundation for a research project.

It represents a specific issue, question, or problem within a broader field of study that researchers investigate, analyze, and seek to understand.

A well-chosen research topic is the starting point for any research endeavor, and it guides the entire research process, from formulating research questions to data collection, analysis, and the creation of a research paper or thesis.

Characteristics of a Good Research Topic

- Relevance to the field
- Specificity
- Originality and uniqueness
- Feasibility
- Interest and Motivation
- Social and ethical significance
- Clarity and precision
- Testability

Characteristics of a Good Research Topic

- Relevance to personal goals
- Resources and support
- Current and timely
- Manageable scope
- Potential for contribution to the society

Examples of Research Topics: BSIT

- **Cybersecurity in Internet of Things (IoT):** Exploring security challenges and solutions in IoT devices and networks.
- **Blockchain Technology and Supply Chain Management:** Investigating the application of blockchain for enhancing transparency and security in supply chains.
- **Artificial Intelligence in Healthcare:** Assessing the impact of AI on disease diagnosis and patient care.
- **Human-Computer Interaction in Virtual Reality:** Analyzing the user experience and usability of VR applications in different domains.
- **Big Data Analytics for Business Intelligence:** Examining how organizations can leverage big data for better decision-making and competitive advantage.

Examples of Research Topics: BSCpE

- **Energy-Efficient Embedded Systems:** Designing low-power embedded systems for IoT and mobile devices.
- **Hardware Acceleration for Machine Learning:** Developing specialized hardware for accelerating machine learning algorithms.
- **Quantum Computing Algorithms:** Investigating new algorithms and applications for quantum computing.
- **5G and Beyond:** Wireless Communication Advances: Studying the technology and challenges of 5G and future wireless communication standards.
- **VLSI Design for Neuromorphic Computing:** Exploring very-large-scale integration (VLSI) design techniques for neuromorphic hardware.

What is a research title?

- A research title, also known as a research paper title or study title, is a concise and informative phrase or sentence that succinctly describes the main focus, subject, or theme of a research study.
- It serves as the first and most prominent part of a research paper, thesis, or academic publication, providing readers with a clear idea of what the research is about.

Primary purpose of a research title

1. **Convey the Research Focus:** It gives the reader an immediate understanding of the specific area of research or the central question being addressed.
2. **Attract Attention:** A well-crafted title can capture the interest of potential readers or researchers, encouraging them to explore the research further.
3. **Indicate the Scope:** The title often hints at the scope and context of the research, such as the geographic region, specific subject matter, or the key elements under investigation.
4. **Facilitate Search and Indexing:** In academic and professional databases, titles are used as search terms. A clear and descriptive title makes the research more discoverable.
5. **Provide a Framework:** It can guide the development of the research paper, helping the researcher stay focused on the central theme.

Research Title Analysis

VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

- What is the research alias?
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- What is the research interest?
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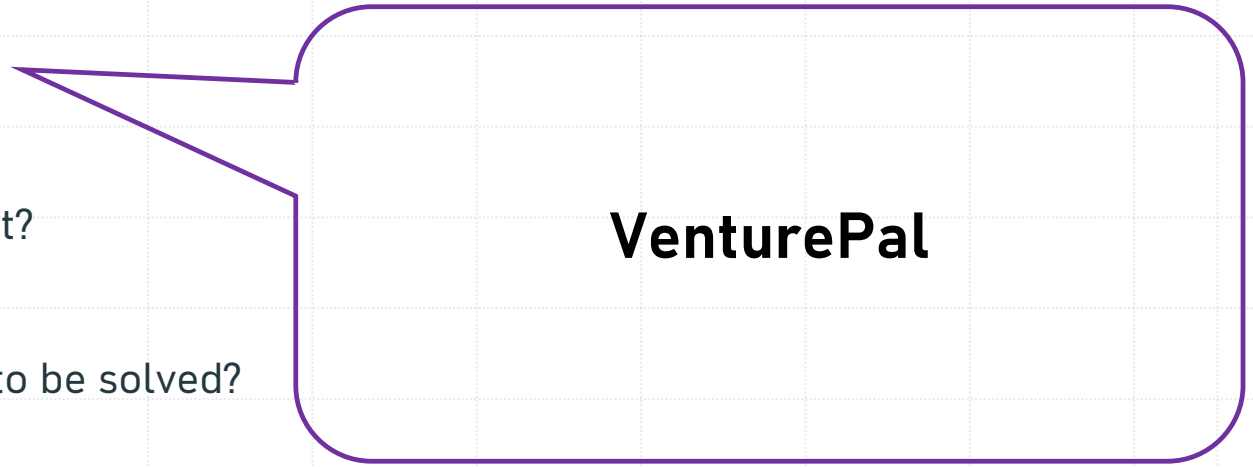

VenturePal: An Online Investment Pooling Platform for Philippine Micro, Small and Medium Enterprises

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

Online Investment Pooling Platform for Philippine Micro, Small and Medium Enterprises

VenturePal: An Online Investment Pooling Platform for Philippine Micro, Small and Medium Enterprises

- What is the research alias?
- What is the research title?
- What is the research interests?
- What is the research topic?
- What is/are the problem(s) to be solved?

MSMES, Investments, Crowdfunding

VenturePal: An Online Investment Pooling Platform for Philippine Micro, Small and Medium Enterprises

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

Investigating the role of online platform in providing investment opportunities of MSMEs in the Philippines

VenturePal: An Online Investment Pooling Platform for Philippine Micro, Small and Medium Enterprises

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

- limited access to finance by MSMEs in the Philippines
- lack of investment platforms for MSMEs in the Philippines

ENerHIYA: Energy-Efficient Design of Embedded Systems for IoT and Mobile Devices: A Comparative Study

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

ENerHIYA: Energy-Efficient Design of Embedded Systems for IoT and Mobile Devices: A Comparative Study

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ENerHIYA

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Energy-Efficient Design of Embedded Systems of IoT and Mobile Devices: A Comparative Study

ENerHIYA: Energy-Efficient Design of Embedded Systems for IoT and Mobile Devices: A Comparative Study

- What is the research alias?
- What is the research title?
- What is the research interests?
- What is the research topic?
- What is/are the problem(s) to be solved?

Energy-Efficient Embedded Systems, IoT, Mobile Technology

ENerHIYA: Energy-Efficient Design of Embedded Systems for IoT and Mobile Devices: A Comparative Study

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

Designing energy-efficient of embedded systems for IoT and Mobile Devices, and comparative analysis of different design approaches, hardware components, and software strategies used in embedded systems for IoT and mobile devices

ENerHIYA: Energy-Efficient Design of Embedded Systems for IoT and Mobile Devices: A Comparative Study

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

– significant energy consumption of these devices, which can result in short battery life and increased environmental impact

Parts of a Capstone Project Manuscript

Initial Pages
- Table of Contents
- Acknowledgements
- Abstract

CHAPTER I – Introduction
- Statement of the Problem/Objectives of the Study
  - General
  - Specific
- Scope and Limitations of the Study
  - Scopes of the project
  - Limitations of the project
- Significance of the Study
- Definition of terms

CHAPTER II – Review of Related Literature and Studies
- Related Literature
  - Foreign
  - Local
- Related Studies
  - Foreign
  - Local
- Comparative Matrix / Competitor's Analysis

These chapters should be written during the proposal stage.

CHAPTER III – RESEARCH METHODOLOGY

- **Environment**
- **Software Engineering Methodology**
- **Planning/Conception-Initiation Phase**
  - Business Model Canvass
  - Program WorkFlow
  - Validation Board (Stages 1 and 2)
  - Gantt Chart/PERT Chart
  - Functional Decomposition Diagram
- **Prototype Design - for bscpe students***projects that includes hardware/Proof of the design**
- **Results of Simulation or Laboratory test**
- **Discussion/Analysis**
- **Analysis-Design Phase**
  - Use Case Diagrams
  - Storyboard
  - **Database Design**
    - Entity-Relationship Diagram
    - Data Dictionary
  - **Network Design**
    - Network Model
    - Network Topology
- **Development/Construction/Build Phase**
  - **Technology Stack Diagram**
    - Software Specification
    - Hardware Specification
  - **Program Specification**
    - List of Modules

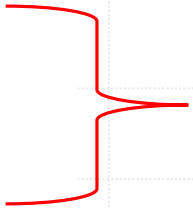
Chapter 3 should be written during the proposal stage.

CHAPTER IV – FINDINGS AND CONCLUSIONS

- Summary
- Findings
- Conclusions
- Recommendations

Chapter 4 should be written after the proposal stage / before the final oral defense

Bibliography
Curriculum Vitae
Glossary of Terms
Appendices



These parts of the manuscript should be written during the proposal stage and to be updated all throughout the research process.

Group Activity 1 – Research Topic Assessment and Title Analysis

Analyze your proposed capstone project / research using the following questions:

- What is the research alias?
- What is the research title?
- What is the research interest?
- What is the research topic?
- What is/are the problem(s) to be solved?

Create a 5-slide presentation (1 slide per question) and present it to the class.

Writing Chapter 2 – Review of Related Literature and Studies

Parts of Chapter 2

- Related Literature
- Related Studies
- Comparative Matrix

Related Literature

A "Review of Related Literature," often referred to as a "Literature Review," is an essential component of research, academic papers, theses, and dissertations. It involves a comprehensive and critical examination of existing scholarly work, research, and publications relevant to the subject or topic of the research.

Primary Purpose of Review of Related Literature

Establish Context: It sets the context for the research by providing an overview of the existing body of knowledge and research on the subject. This helps readers understand the historical development and current state of the field.

Identify Gaps: It identifies gaps, inconsistencies, and unanswered questions in the existing literature, which can guide the direction of the current research.

Provide Theoretical Framework: A literature review can serve as the theoretical framework for a research project. It introduces theories, concepts, and models relevant to the research.

Primary Purpose of Review of Related Literature

Support Claims: It supports and substantiates the research claims, hypotheses, or research questions with evidence and insights from previous studies.

Build Credibility: It enhances the credibility and academic rigor of the research by demonstrating the depth of understanding and engagement with prior work in the field.

Key Elements of Literature Review

- **Inclusion of Relevant Sources:** A literature review includes a broad range of sources, such as academic papers, journal articles, books, theses, reports, and relevant online materials.
- **Organization and Structure:** The review is organized thematically, chronologically, or by research methodologies, depending on the goals of the research.
- **Critical Analysis:** It involves a critical analysis of each source, evaluating its strengths, weaknesses, and contributions to the field.

Key Elements of Literature Review

- **Synthesis of Information:** A literature review doesn't just summarize existing work; it synthesizes information, highlighting patterns, trends, and overarching themes.
- **Identification of Gaps:** The review identifies gaps in the existing literature where new research can make a valuable contribution.

Steps in Literature Review

1. **Define the Scope:** Clearly define the scope and objectives of your literature review. What specific aspect of the topic are you researching?
2. **Search and Select Sources:** Conduct a comprehensive search for relevant sources using academic databases, libraries, and online resources. Select sources that are directly related to your research topic.
3. **Evaluate and Analyze:** Critically evaluate the quality and relevance of each source. Consider the research methods, sample size, data analysis, and the credibility of the authors.

Steps in Literature Review

4. **Organize and Synthesize:** Organize the selected sources into a coherent structure, highlighting the main findings and themes. Synthesize the information to provide a clear overview of the existing knowledge.
5. **Identify Gaps and Research Questions:** Identify gaps or areas where further research is needed. Formulate research questions based on these gaps.
6. **Write the Review:** Compose the literature review section of your research paper or thesis, ensuring it flows logically and adds value to your research.
7. **Cite Properly:** Provide appropriate citations and references for each source used in the review, following the required citation style (e.g., APA, MLA, IEEE).

Review of Related Research Studies

Related Studies are from researches or from official public offices, and thesis from different universities and libraries. In startup-based research projects, related studies refer to existing alternatives that provide direct or indirect solutions to the research problem, or solutions that serve as “inspiration” to your proposed study.

Steps in Review of Related Studies

1. **Define the Scope:** Clearly define the scope and objectives of your review of related studies. What specific aspect of the research topic are you examining through related studies?
2. **Search and Select Studies:** Conduct a thorough search for empirical studies and research papers using academic databases, libraries, and online resources. Select studies that are directly related to your research topic and methodology.
3. **Evaluate and Analyze:** Critically evaluate the quality, relevance, and credibility of each study. Consider the research methods, sample size, data analysis, and the validity of the findings.

Steps in Review of Related Studies

4. **Identify Gaps and Research Questions:** Identify gaps or areas where further empirical research is needed based on the limitations or unanswered questions in the related studies.
5. **Write the Review:** Compose the review of related studies section of your research paper or thesis, ensuring it adds value to your research by providing methodological and empirical context.
6. **Cite Properly:** Provide appropriate citations and references for each study used in the review, following the required citation style (e.g., APA, MLA, IEEE).

Comparative Matrix

A comparative matrix shows comparison of all the related studies reviewed. The purpose of the matrix is to compare how your proposed capstone project study is different and way better than those existing related studies or projects.

General Guidelines in Writing a Literature Review

- Look for related literatures from both foreign and local sources.
- For each literature being reviewed, create a comprehensive discussion on:
  - What is this related literature about? (*contextual background, major findings, ideas, generalizations, principles and conclusions)*
  - How this literature related to your study?
  - How this literature provide supporting argument to your capstone?

General Guidelines in Writing a Review of Related Studies

- Look for related studies from both foreign and local sources.
- For each related study being reviewed, create a comprehensive discussion on:
  - What is this related study about? (*contextual background, major findings, ideas, generalizations, principles and conclusions)*
  - What this existing solution does? What are the features of the reviewed solution? What are the limitations?
  - How does this material support or is related to your capstone project?
  - How this literature related to your capstone project?
  - How this literature provide supporting argument to your capstone project?

Literature Review Mapping: First Step to Write Chapter II

1. Start with identifying the core research domain.
2. Decompose the research topic into key concept(s) and critical keywords.
3. Look for the theoretical foundations such as historical developments and seminal research papers related to your proposed capstone project.
4. Review the current state of research related to your proposed capstone project in terms of recent trends, emerging research directions, and technological implementations/practical applications.
5. Make a comparative analysis on competing platforms, and theoretical limitations.
6. Make interdisciplinary connections.
7. From the reviewed literatures and studies, research gaps. What are the unresolved questions? Are there potential research opportunities?

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

- Primary Research Domain: Information Technology
- Specialized Areas:
  - Fintech Platforms
  - Digital Financial Services
  - Entrepreneurship Support Systems
  - Crowdfunding Technologies
  - Small Business Finance

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

- **Research Topic Decomposition**
- Key Concept: Digital Investment Pooling Platform for MSMEs
- Critical Keywords:
  - Crowdfunding Mechanisms
  - Micro-Entrepreneurship Financing
  - Online Investment Platforms
  - Philippine Startup Ecosystem
  - Alternative Financing Models

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Theoretical Foundations

1. Historical Developments
    1. Evolution of Microfinance
    2. Digital Financial Inclusion Trends
    3. Crowdfunding Platform Emergence
    4. Technology-Enabled Entrepreneurship Support
2. Seminal Research Papers
    1. Yunus' Microfinance Model (Grameen Bank Concept)
    2. Schumpeter's Entrepreneurship Theory
    3. World Bank MSME Financing Reports
    4. Kickstarter Platform Business Model Analysis

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Current State of Research

- Recent Trends
  - Blockchain in Crowdfunding
  - AI-Driven Investment Matching
  - Decentralized Finance (DeFi) Platforms
  - Mobile-First Financial Solutions
  - Inclusive Technology Ecosystems

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Current State of Research

- Emerging Research Directions
  - Collaborative Investment Models
  - Machine Learning in Risk Assessment
  - Regulatory Technology (RegTech)
  - Sustainable Entrepreneurship Financing
  - Cross-Platform Investment Integration

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Technological Implementations / Practical Applications

- Peer-to-Peer Lending Platforms
- Equity Crowdfunding Systems
- Digital Wallet Integrations
- Enterprise Resource Planning (ERP) Interfaces
- Secure Transaction Frameworks

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Competing Platforms

- Traditional Banking Models
- Government Financing Programs
- International Crowdfunding Platforms
- Local Filipino Fintech Solutions

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Theoretical Limitations

- Regulatory Constraints
- Digital Literacy Barriers
- Trust and Security Challenges
- Financial Inclusion Gaps

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Interdisciplinary Connections

- Economics
- Development Studies
- Business Administration
- Cybersecurity
- Social Entrepreneurship
- Public Policy

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Research Gaps Identification

- Unresolved Questions:
  - How to effectively bridge financing gaps for MSMEs?
  - Designing trust mechanisms in digital investment platforms
  - Adapting global fintech models to local economic contexts

Sample Literature Review of VenturePal: An online investment pooling platform for Philippine Micro, Small and Medium Enterprises

Research Gaps Identification

- Potential Research Opportunities:
  - Localized Investment Matching Algorithms
  - Cultural Adaptation of Fintech Solutions
  - Micro-Investment Democratization
  - Technology-Enabled Economic Empowerment

Group Activity 2 – Literature Review Mapping (60 mins)

1. Start with identifying the core research domain.
2. Decompose the research topic into key concept(s) and critical keywords.
3. Look for the theoretical foundations such as historical developments and seminal research papers related to your proposed capstone project.
4. Review the current state of research related to your proposed capstone project in terms of recent trends, emerging research directions, and technological implementations/practical applications.
5. Make a comparative analysis on competing platforms, and theoretical limitations.
6. Make interdisciplinary connections.
7. From the reviewed literatures and studies, research gaps. What are the unresolved questions? Are there potential research opportunities?

Writing Chapter 1 – Introduction

Chapter 1 – Introduction

The Chapter 1 of the Capstone Project Manuscript should contain detailed discussions of the following sections:

1. Rationale of the Study
2. Objectives of the Study
3. Scope and Limitations of the Study
4. Significance of the Study
5. Flow of the Study
6. Conceptual Framework
7. Definition of Terms

Rationale of the Study

The rationale of the study must be presented in a deductive approach to reasoning -- i.e. from general to specific. On average, it must consist of **three-page discussions** by:

- Providing a striking statement or a general knowledge about the topic
- Describing the problem situation by considering global, national and local environments
- Justifying the existence of the problem situation by citing the results of the Stage 1 problem validation and sources as bases to support the problem.
- Justifying why the problem must be solved now, how have others attempted to solve this problem, what makes your proposed solution different from the others, and why the project team has the capacity to solve it.
- Providing a statement or two that would link the rationale of the study to its objectives.

Objectives of the Study

- The objectives of the study are clearly phrased in operational terms, specifying exactly what the project must do, where, and for what purpose.

- The objectives must be SMART (specific, measurable, attainable, relevant, time-bound) considering local conditions.

Tips to Write Objectives of the Study

Tip # 1: Use action verbs that are specific enough to be evaluated (examples of action verbs are: to determine, to provide, to verify, to calculate, to describe, and to establish).

Tip # 2: Avoid the use of vague non-action verbs (examples of non-action verbs: to appreciate, to understand, or to study).

Tip # 3: Keep in mind that when the project is evaluated, the results will be compared to the objectives. If the objectives have not been spelled out clearly, the project cannot be evaluated.

How to Write Objectives of the Study

Start with the general objective which is very parallel to the project title.

Explode the general objective into specific objectives that will help realize the proposed study.

How to Write Objectives of the Study

When writing the specific objectives of the study, keep in mind the Software Development Life Cycle (SDLC) as a guide.

- Planning
- Analysis
- Design
- Development
- Implementation & Testing

How to Write Objectives of the Study

Planning Stage – identify the problem or need and obtain approval to proceed

Sample Action Verbs to use:

- Gather
- Consolidate
- Define
- Identify

How to Write Objectives of the Study

Analysis Stage

- Discover and understand the details of the problem
- Evaluate existing or alternative solutions, or related studies

Sample Action Verbs to use:

- Differentiate
- Compare
- Identify
- Determine
- Select

How to Write Objectives of the Study

Design Stage – design the system components using appropriate design tools

Sample Action Verbs to use:

- Design
- Build
- Formulate
- Generate
- Define

How to Write Objectives of the Study

Development Stage

- Build, test and integrate system components

Sample Action Verbs to use:

- Build
- Create
- Develop

How to Write Objectives of the Study

Implementation and Testing Stage

- Complete system test and deploy the system

Sample Action Verbs to use:

- Test components
- Build
- Deploy
- Implement
- Integrate
- Validate

Sample 1 - FANBARO: AN ONLINE ENTERTAINMENT PLATFORM FOR INFLUENCERS AND ENTHUSIASTS

The primary objective of the study is to design and develop a web-based and mobile based platform that aims to provide enthusiasts and influencers a platform where both parties can perform activities that are not supported by the available solutions.

Specifically, the proposed study will:

1. **(PLANNING STAGE)** determine the root causes of the following observed problems:
    a. skepticism of the enthusiasts to join fans club;
    b. absence of official fans club for some influencers; and
    c. presence of disperse and unregulated fan sites.

2. **(ANALYSIS STAGE)** differentiate the existing online platforms for influencers and enthusiasts

Sample 1 - FANBARO: AN ONLINE ENTERTAINMENT PLATFORM FOR INFLUENCERS AND ENTHUSIASTS

3. **(DESIGN STAGE)** formulate a solution, through system design, that will address the observed problems

4. **(DEVELOPMENT STAGE)** build an online platform that will serve as a one-stop source of promotion for influencers and updates for enthusiasts; and

5. **(IMPLEMENTATION & TESTING STAGE)** test the system to determine the problem-solution fit.

Sample 2 - SEEKPANIA: AN INTEREST-BASED COMPANION SEEKER APPLICATION

The main objective of the study is to analyse, design, and develop an online platform for companion seekers based on common interests. The proposed system comes with web and mobile applications.

Specifically, the study aims to:

1. **(PLANNING STAGE)**identify the root causes of the observed problem on the difficulty of individuals to seek for a companion based on common interest;

2. **(ANALYSIS STAGE)** differentiate the prevailing online platforms for companion seekers;

Sample 2 - SEEKPANIA: AN INTEREST-BASED COMPANION SEEKER APPLICATION

3. **(DESIGN STAGE)** design a system that will solve the observed problem;

4. **(DEVELOPMENT STAGE)** develop an online platform that will serve as an instrument for companion seekers to connect and discover other seekers based on matched interests; and

5. **(IMPLEMENTATION & TESTING STAGE)** validate the system to determine the problem-solution fit.

Sample 3 – LINKSTORE: AN ONLINE MARKETPLACE FOR LOCAL GROCERY STORES

The primary objective of the study is to design and develop a web and mobile application for local grocery stores and its shoppers to buy and sell grocery items online.

Specifically, the proposed study aims to:

1. **(PLANNING STAGE)** determine how the local grocery stores and its shoppers are affected by the current crisis in terms of:
    a. sales,
    b. availability of grocery products,
    c. convenience of grocery shopping;

2. **(ANALYSIS STAGE)** differentiate the existing online marketplaces for grocery stores;

Sample 3 - LINKSTORE: AN ONLINE MARKETPLACE FOR LOCAL GROCERY STORES

3. **(DESIGN STAGE)** design a system that will solve the observed problems;

4. **(DEVELOPMENT STAGE)** develop an online marketplace that provides a platform for the local grocery stores to sell their products online, and a convenient and location-based grocery shopping experience for grocery store customers; and

5. **(IMPLEMENTATION & TESTING STAGE)** assess the problem-solution fit of the proposed system.

The objectives of the study is the most crucial part of the research manuscript because the entire research process is guided by and in accordance with the objectives of the study.

Sample 1 – FANBARO: AN ONLINE ENTERTAINMENT PLATFORM FOR INFLUENCERS AND ENTHUSIASTS

The primary objective of the study is to design and develo
based platform that aims to provide enthusiasts and influenc
parties can perform activities that are not supported by the availabl
Specifically, the proposed study will:

1. **(PLANNING STAGE)** determine the root causes of the follow g observed problems:
   a. skepticism of the enthusiasts to join fans club;
   b. absence of official fans club for some influencers; and
   c. presence of disperse and unregulated fan sites.

2. **(ANALYSIS STAGE)** differentiate the existing online platforms for influencers and enthusiasts

Chapter 1 (Rationale of the Study)
Chapter 3 (Stage 1 validation results), Validation Report

Chapter 2 (Review of Related Studies)

**Sample 1 – FANBARO: AN ONLINE ENTERTAINMENT PLATFORM FOR INFLUE
ENTHUSIASTS**

Chapter 3 (Software Requirements Specifications), Stage 2 validation results, Validation Report

3. **(DESIGN STAGE)** formulate a solution, through system design, that wi
observed problems

Running system; Chapter 3 (Testing Results)

4. **(DEVELOPMENT STAGE)** build an online platform that will serve as
source of promotion for influencers and updates for enthusiasts; and

5. **(IMPLEMENTATION & TESTING STAGE)** test the system to
problem-solution fit.

Chapter 3 (Acceptance Testing, Stage 3 validation results), Validation Report

Scope and Limitations of the Study

Think of the project scope as a box.

The high-level scope defines the sides of the box and separates what is relevant to your project from what is irrelevant.

The scope of the project gives an overview of all the deliverables.

Scope and Limitations of the Study

Scope refers to the work that needs to be accomplished to deliver the product, service or result with the specified functions and features. The scope also includes the test environment, nature, circumstances, and target beneficiaries and/or users of the study.

Limitation explains all that is not included in your project.

Scope and Limitations of the Study

In each scope and limitation, you must provide a brief explanation of what it is all about (scope), or reason behind a limitation.

Provide 1-2 sentences as an introductory statement before discussing the scope and limitations of the study.

Scope and Limitations of the Study

A good scope statement will answer the following questions:

Why – the general aims and objectives (purpose) of the research.

What – the subject to be investigated, and the included variables.

Where – the location or setting of the study, i.e. where the data will be gathered and to which entity the data will belong.

Scope and Limitations of the Study

A good scope statement will answer the following questions:

When – the timeframe within which the data is to be collected

Who – the subject matter of the study and the population from which they will be selected. This population needs to be large enough to be able to make generalizations. In startup terms, this refers to the target market or customer segments.

Scope and Limitations of the Study

How – how the research is to be conducted, including a description of the research design (e.g. whether it is experimental research, qualitative research or a case study), methodologies to be used (e.g. Research Methodology, Lean Startup, Software Engineering), research tools and analysis techniques.

Scope and Limitations of the Study

Outline for Scope of the Study:

1. Introductory Statement (2-3 sentences)
2. Locale of the Study
3. Timeframe of the Study
4. Respondents of the Study
5. Research Design

Scope and Limitations of the Study

Introductory Statement (2–3 sentences)

- In this section, you must clearly describe the WHY (general objectives and aims) and WHAT (the subject being investigated and the variables) of the study.

Scope and Limitations of the Study

Introductory Statement (2–3 sentences)

- In this section, you must clearly describe the WHY (general objectives and aims) and WHAT (the subject being investigated and the variables) of the study.
- Use the below prompts as an effective way to start writing your scope:
  - This study is to focus on…[WHAT]. The study aims to… [WHY]
  - This study covers the… [WHAT]. The general objectives and aims of the study are to…. [WHY].
  - This study aims to…[WHY]. It covers the….[WHAT]

Scope and Limitations of the Study

Locale of the Study

- In this section, you should clearly explain WHERE the study is to be conducted.
- You should also include where you conduct your customer validation.

Scope and Limitations of the Study

Timeframe of the Study

- In this section, you should specify and explain the timeline of the study.
- The timeline should start from the very beginning (i.e. the time when the research topic was identified) until the research was submitted for hardbound.
- Furthermore, you should also briefly describe the breakdown of the timeline and its major activities.

Scope and Limitations of the Study

Respondents of the Study

- In this section, you should describe the respondents of the study
- Describe their persona, their location, how many participants in the data gathering, and how did you contact them.

Scope and Limitations of the Study

Research Design

- In this section, you should describe the research design.
- Describe how you will use the research design, what data gathering procedure(s) will you use (interview and/or survey), how will you conduct the data gathering (online or face-to-face), and instrument(s) you will use in data gathering (interview form or survey questionnaire).

Scope and Limitations of the Study

Limitations of the Study:

Use the below prompts as an effective way to start writing your limitations of the study:

- This study does not cover...
- This study is limited to...
- The following has been excluded from this study...

Scope and Limitations of the Study

Limitations of the Study:

Examples of limitations of the study include:

- Issues with sample and selection,
- Insufficient sample size, population traits or specific participants for statistical significance,
- Lack of previous research studies on the topic which has allowed for further analysis,
- Limitations in the technology/instruments used to collect your data,
- Limited financial resources and/or funding constraints.

Significance of the Study

In this section, you should list the target beneficiaries of the proposed project, including your project team as researchers and the future researchers who would like to take on similar research problem as yours.

The list of target beneficiaries must be arranged in order to the degree of benefits.
In target beneficiary, provide a discussion on it can benefit from the proposed system, or how the startup project provides value.

Flow of the Study

The flow of the study is a diagram that describes the **INPUT**, **PROCESS** and **OUTPUT** stages of the proposed system. The researcher must provide a discussion that explains the flow of the proposed study.

Flow of the Study

Input Stage – refers to the rationale of the study, objectives of the study, related theories (if applicable), related literature, related studies, and legal bases (if applicable) that provides support or evidence to the proposed system

Process Stage – refers to all the methodologies that the proposed system follows to produce an output

Output Stage – this is the proposed title of the study.

Definition of Terms

Terms from the title of the study, jargons (terms only used in your proposed system), and other technical terms should be defined in this section.

- Terms must be arranged alphabetically.
- Each definition must be operational -- i.e. how the term is used in the context of the proposed capstone project study.
- The definition must be in the sentence. It should express a complete thought.

Group Activity 3 – Objectives and Scope and Limitations of the Study

1. Following the guidelines, improve the following components of Chapter 1:
    1. Objectives of the Study
    2. Scope and Limitations of the Study
2. Prepare a presentation for this activity.

End of Part 1