TOPIC PROPOSAL FOR CASE STUDY

A Topic Proposal

Presented to

Mrs. Hilda, Robino

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SECTION I

TOPIC PROPOSALS

This section presents the proposed topics to be a foundation for the development of case study in this subject. These topics are thoroughly examined and formulated based on their relevance and potential impact in the industry. These proposals will serve as a basis and guide for further development of the case study.

StatEase: The Development of a Quantitative Statistical Analysis Application Program for Philippine Undergraduates in the Tertiary Education

Background of the Study

The advent of computer technology has significantly improved the efficiency of various repetitive tasks. This is further emphasized in the realm of mathematics. According to an academic journal article by Christmann in 2009, "The Effects of Statistical Analysis Software and Calculators on Statistics Achievement," there is a positive significant effect of utilizing microcontrollers and computers to cultivate mathematical achievement.

Statistical analysis tools in a given study are methods utilized by researchers to draw an interpretation from gathered data. A quantitative research design uses the chapter's characteristics to its full extent. Through different statistical methodologies, researchers can effectively analyze numerical data in large numbers, identify patterns, and derive meaningful conclusions concerning a study's objectives. However, the mathematical complexities of implementing such techniques pose a risk of generating inaccurate results when done manually. The assumption of common parametric statistical methods leads to erroneous interpretations. Although modern solutions are present such as SPSS and SAS, most researchers do not employ these in their process due to various reasons (Erceg-Hurn, 2008). Furthermore, undergraduates who conduct such methodologies tend to exhibit difficulties in recalling various formulas required to accomplish the aforementioned chapter (Idris & Ghazali, 2021). In light of this, an application software with an emphasis on a user-friendly environment should be developed. Idris and Ghazali (2021) stated that

85.5% of students in their scope posed a demand for such a program. This reveals a rising demand for quantitative statistical programs especially for undergraduates who aim to simplify the process.

The "StatEase" application software is a program that provides multiple statistical analysis methodologies in a user-friendly graphical user interface (GUI). The program will host various features such as the conversion of numerical data into its respective visual representation, calculating numerical data for various statistical analyses, and providing a raw interpretation of data based on the result of the calculation and type of statistical method utilized. The program also aims to improve upon existing statistical calculators, providing a more streamlined and simple process through a minimal and systematic GUI.

Objectives of the Study

The study aims to provide a streamlined and simple process for researchers (especially of undergraduate background) to conduct statistical methods without difficulty and reduce erroneous data through preemptive data analysis assumptions and/or solution inaccuracies. Furthermore, the study aims to improve upon existing application softwares related to statistical analysis and centralize statistical methodology calculators into a singular application software. Through the Quantitative Statistical Analysis Program, researchers will have an all-in-one platform for formulating data interpretations.

Scope and Limitation

The program's features cater most to individuals of technical backgrounds. As such, the scope of the Quantitative Statistical Analysis Application Program includes researchers conducting a quantitative research design, undergraduates in the tertiary education, and mathematicians of applied mathematics and statistics. Despite the numerous technical capabilities of the Quantitative Statistical Analysis Application Program, the application software is limited to interpretation of data with respect to the context of the study. The interpretation feature of the program only provides a limited description without regards to the study conducted and as such, only serves as a reference

for the end-user to formulate a proper interpretation. Furthermore, the study is limited only to a system unit. A mobile rendition of the program would not be available.

Farmer-Buyer Linkage System

Background of the study:

In developing countries, farmers frequently encounter difficulties in selling their produce due to the influence of intermediaries who dictate pricing and distribution. These middlemen often offer prices too low for farmers to profit, forcing them to either leave their production in the field or harvest without immediate selling, leading to potential post-harvest losses. Delayed sales, combined with improper storage conditions, contribute to significant food waste and income loss. While traditional neoclassical economic perspectives attribute these challenges to market conditions, transaction cost economics suggests that the way trading relationships between farmers and intermediaries are structured also plays a crucial role (Williamson, 1975, as cited by Lind et al., 2018). Additionally, power imbalances in agricultural value chains often provide disadvantage to farmers, increasing risks, costs, and inefficiencies in the market (Collins, 2002, as cited by Lind et al., 2018). According to the Food and Agriculture Organization (2011), nearly one-third of food produced for human consumption is lost or wasted across the value chain, with most losses occurring at the initial farmer-intermediary stage in low-income countries.

To address these challenges, the Farmer-Buyer Linkage System is proposed as a marketplace application designed to eliminate unnecessary intermediaries by directly connecting farmers with buyers. This system enables farmers to list their products, set competitive prices, and update stock availability, while buyers can browse available produce, place orders, and arrange delivery or pickup. Additionally, the platform incorporates secure payment processing, customer reviews, and real-time inventory updates to foster trust and efficiency. By streamlining transactions and fostering direct connections, the Farmer-Buyer Linkage System aims to empower farmers, reduce costs for buyers, and enhance the overall efficiency of agricultural trade, ultimately improving farmers' income and reducing food waste.

Objectives of the Study

This study aims to develop a system that helps farmers sell their produce directly to consumers, eliminating the need for middlemen. By facilitating direct transactions, the project seeks to improve farmers income, reduce costs for buyers, and enhance market efficiency through a transparent and accessible platform. Additionally, the system can give better opportunities for the farmers by widening the customer's reach while maintaining the quality of the product.

Scope and Limitation:

The Farmer-Buyer Linkage System connects farmers directly with consumers, retailers, and wholesalers, removing the need for intermediaries. The system aims to increase farmers' income, lower consumer costs, and reduce food waste. However, challenges include dependence on stable internet access, farmers' adaptation to digital tools, and logistics, as users must arrange their own transportation. Additionally, the system's success depends on user participation, and financial constraints may affect its initial development and future upgrades.

TUP-MMM: Development of E-Commerce Management System for the Organizations in Technological University of the Philippines Manila

Background of the Study

The Technological University of the Philippines Manila campus (TUP-M) has various organizations that is well-recognized by the university. Colleges and departments within the university has its own organization that is only for the specific courses. TUP-M also have its non-college organization that is open to all students regardless of their course. Each of these organizations have their own merchandise that are open to all students and encourages students to support the organization by purchasing their products. There are two ways to order merchandises from these organizations. First is their limited time google forms that is posted in their respective social medias. The second is through an on-site booth usually set up during campus events such as the foundation week.

The researchers found this opportunity to create a project whereas students can access each organization's merchandises without having to wait for events. It will be named as TUP-MMM, which stands for TUP-Manila Merchandise Market. In this proposal, various organizations will be accommodated to showcase their merchandise and be open to all bonafide students of TUP-M. The concept is the same as other e-commerce websites or applications such as Shopee, Lazada, Shein etc., hence, the project will be a website built through the use of HTML, CSS and JavaScript.

According to Salehi et al. (2012) on their study of *The Impact of Website Information Convenience on E-commerce Success of Companies*, the effectiveness of having a website information can attract more customers. Aside from that, it can also improve the loyalty of a customer because of the materials that provided by the website which gives the customer a clearer view of the company's product and also saves the time of customers. By this study, it proves that having a website for a company can increase the customer satisfaction. Implementing TUP-MMM can be beneficial for the organizations inside TUP-M in both sales and customer satisfaction.

Objective of the Study

The project aims to develop the ordering system of merchandises from different organizations in order to be more efficient and accessible to students at all times. By developing a centralized website, it can reduce reliance on temporary google forms and remove the limitation of merchandise being available only during on-site booths. Additionally, it seeks to promote each organization's merchandises through being visible to the students, allowing them to have a better understanding of each organizations merchandise.

Scope and Limitation

The researchers will only gather the merchandises of the organizations in Technological University of the Philippines Manila Campus. The project is solely for the organizations that are registered and recognized by the University. Organizations that are not acknowledged by the University and organizations from other campuses of Technological University of the Philippines will not be included in this project.

Additionally, only HTML, CSS and JavaScript will be used in the website development process. No other programming languages will be integrated, keeping the project precise and simple. In this way, the development process can be objective while maintaining its simplicity and preciseness. Furthermore, the website will only accommodate the order placement of the user. Any payment transactions and shipping arrangements will be handled by the respective organization.

SECTION II

References

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SECTION III

APPENDIX A

We, the researchers of the following studies:

1. StatEase: The Development of a Quantitative Statistical Analysis Application Program for Philippine Undergraduates in Tertiary Education

2. Farmer-Buyer Linkage System

3. TUPP-MMM: Development of E-Commerce Management System for Organizations in Technological University of the Philippines Manila

hereby declare that this research work is our original creation and has been completed in accordance with academic integrity standards. Any references, sources, or materials borrowed from other authors, whether directly quoted or paraphrased, have been properly cited and acknowledged.

We affirm that this document is free from plagiarism and has not been copied, wholly or in part, from any other research, publication, or online sources without proper citation. The researchers understand that any form of academic dishonesty, including plagiarism, constitutes a serious offense and may result in disqualification or academic penalties.

We certify that all data, findings, and analyses presented in this study are genuine and have been obtained through ethical research practices. Furthermore, this document has undergone plagiarism detection and review to ensure compliance with ethical standards in research writing.

1. StatEase: Plagiarism checker

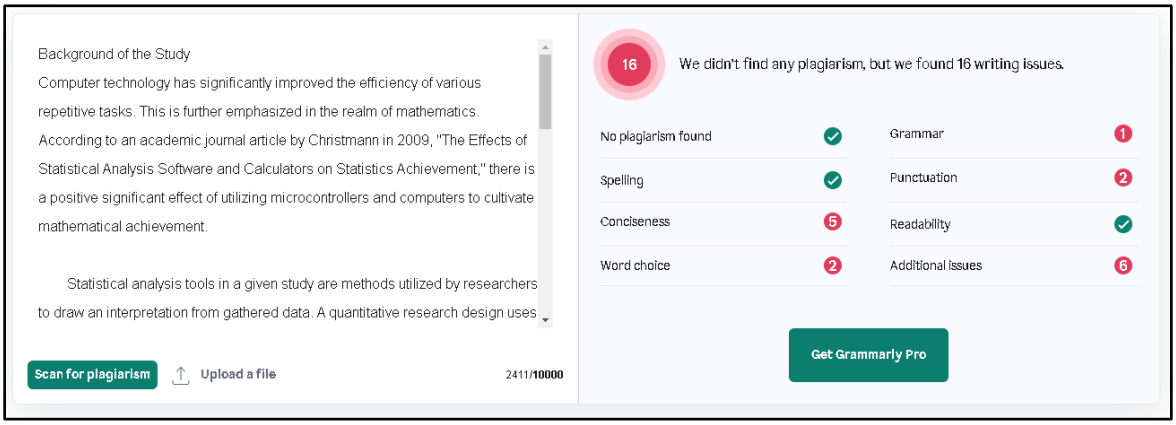


Figure 1.1 Background of the Study

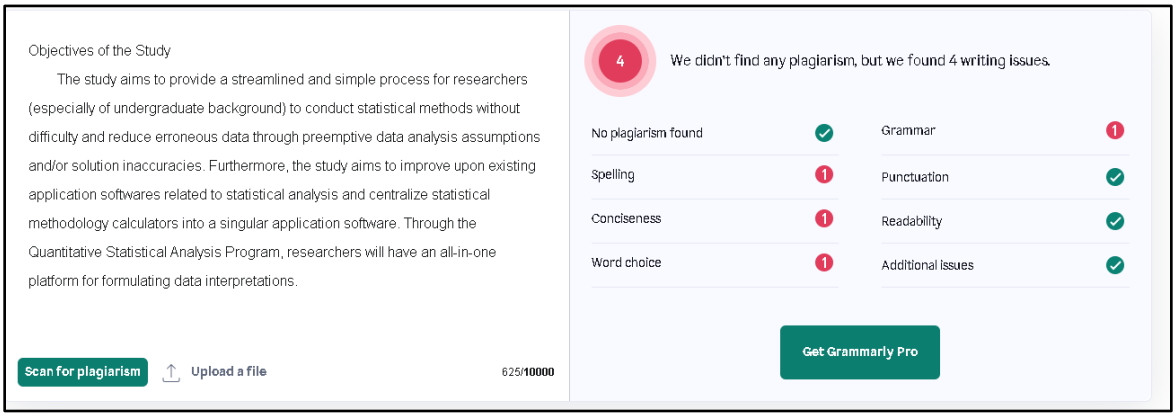


Figure 1.2 Objectives of the Study

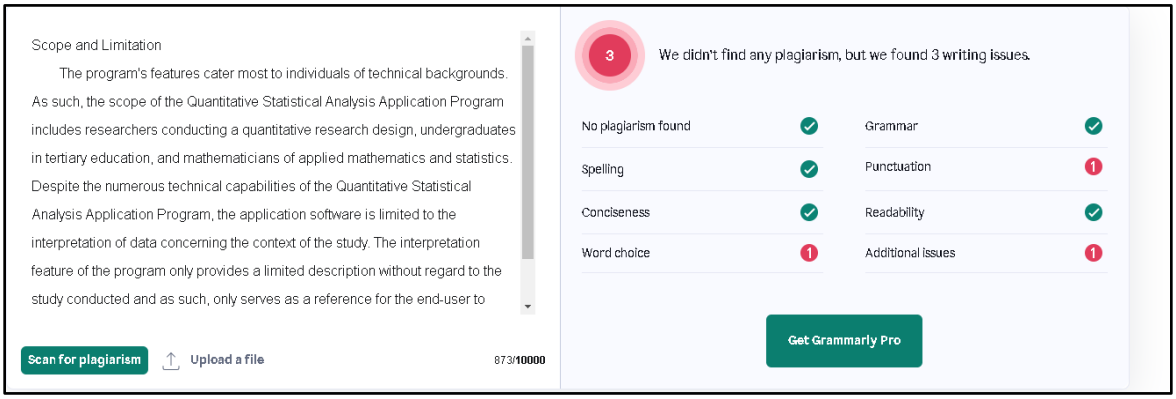
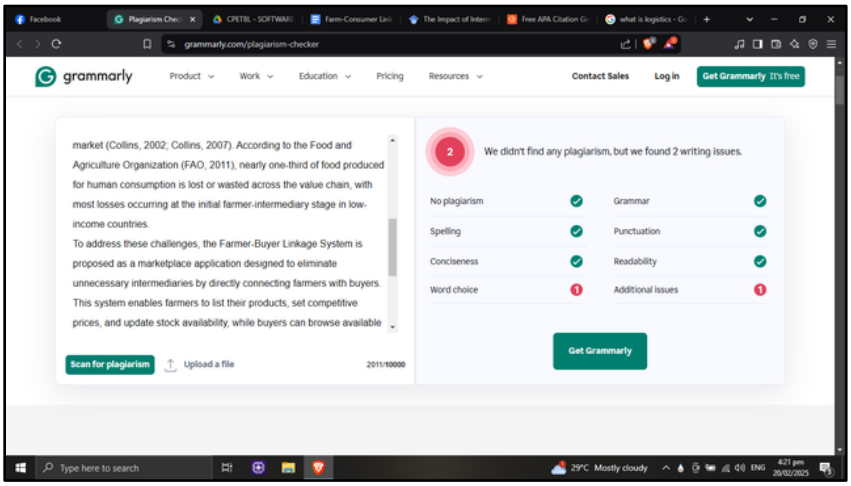


Figure 1.3 Scope and Limitation

2. Farmer-Buyer Linkage System: Plagiarism Checker



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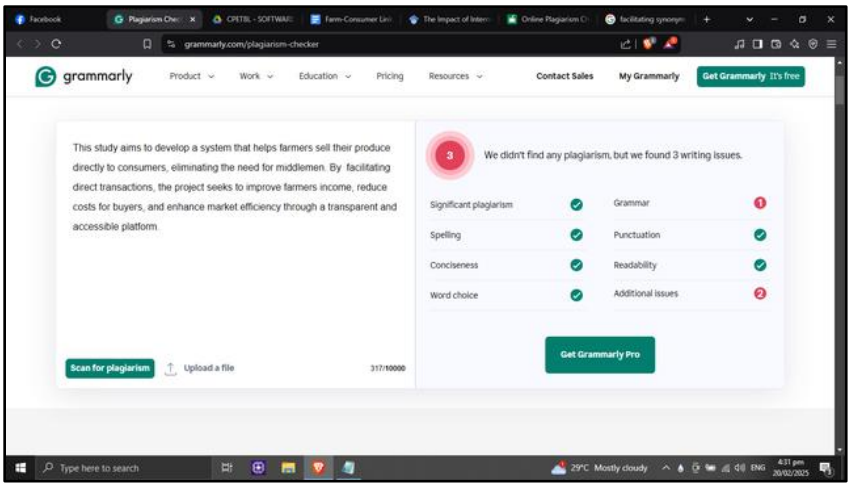

Figure 2.2 Objectives of the Study

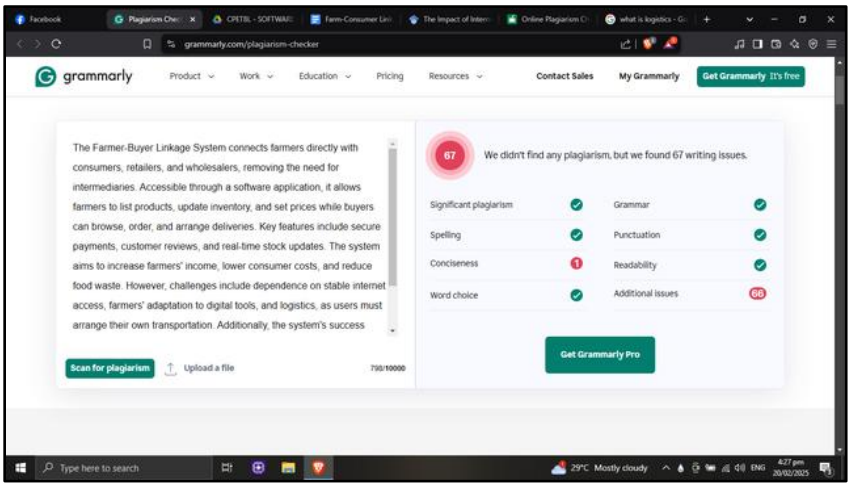

Figure 2.3 Scope and Limitation

3. TUP-MMM: Plagiarism Checker

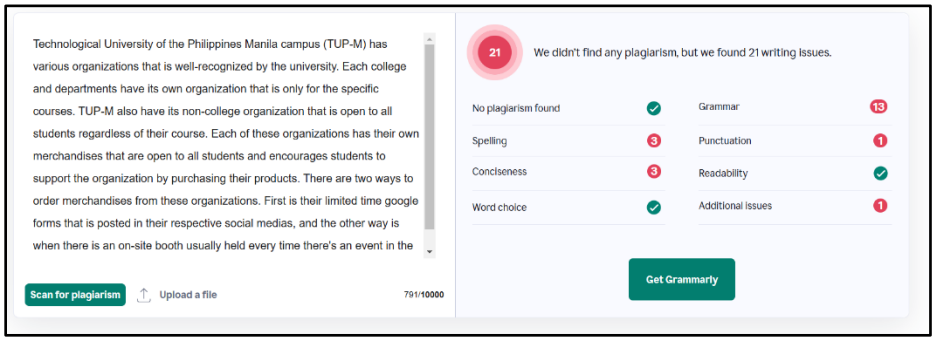

Figure 3.1 Background of the Study

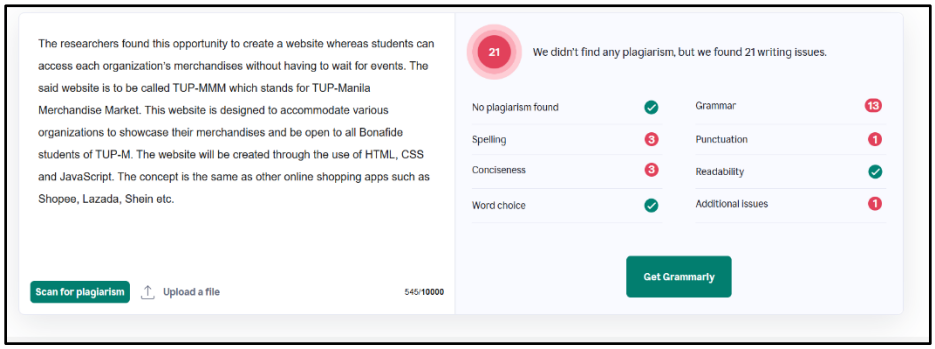

Figure 3.2 Background of the Study (continuation)

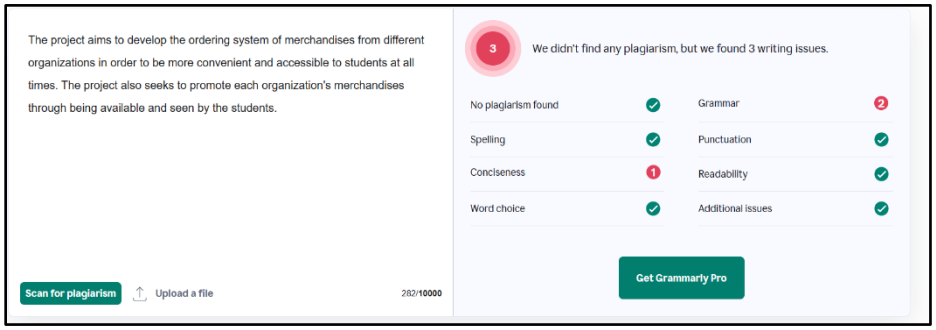

Figure 3.3 Objectives of the Study

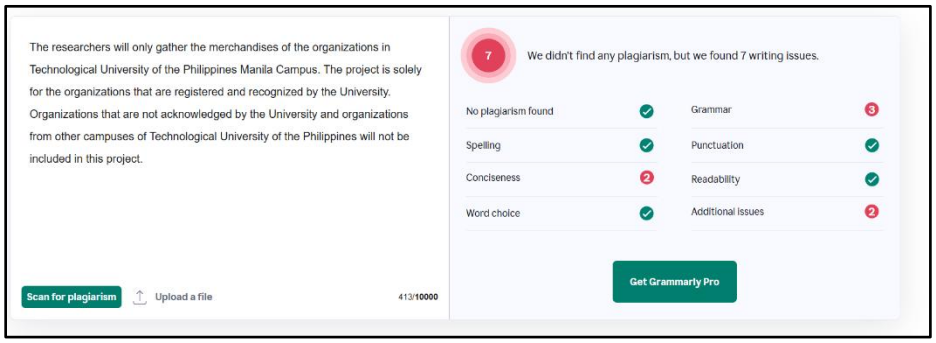

Figure 3.4 Scope and Limitations