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(1) Program / Project Title
Program: Bachelor of Science in Information Technology Project Title: BuiswAlz: A Data-Driven Business Assistant Tool for Small Business
(2) Program/Project Proponent
Program Leader: Renze M. Torino Project Leader: Renze M. Torino <i>*Please attach curriculum vitae</i>
(3) Program/Project Co-proponent and Research Assistant/s
Members: Cydrick James C. Cortel Carlito A. Pelaez Jose Zyruse C. Navarez
(4) Program/Project Proponent's Department/College/Office
Program: Bachelor of Science In Information Technology College: College of Computer Information Sciences
(5) Background and Significance

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Micro, Small and Medium Enterprise are among the essential contributors that serve as a backbone to Philippine economy growth. As of 2023 MSME's make up 99.63 % of registered businesses in the Philippines which contributes to 62.4% of national employment. In particular micro enterprise dominates the MSME here in the Philippines representing 90.43% of all registered MSME businesses (Philippine Statistics Authority, 2023). Despite the importance of it, many MSME businesses experience challenges due to limited resources, lack of business knowledge, and digital literacy (N90, 2024 and Tan, 2022).

MSMEs in the Philippines have a high rate of failure over time. Statistics from Asian Development Bank 2021 shows that around 20% of businesses fail within their first year. By the end of the second year it increased to 30% and after five years almost 50% of businesses closed, which by 10 years 70% of businesses were no longer in operation. This statistic highlights the needs of a support system for them to overcome the obstacle that threatens the growth of a business.

Due to minimal business knowledge in fields like accounting, inventory management, or strategic planning, it is difficult for individuals or business owners to establish their business. Additionally in the Philippines only 6% of MSMEs have adopted digital tools for their business and 23% have not adopted any kind of digital solution due to lack of knowledge or skills, limited access to technology, and concerns about initial cost of implementation (DTI 2023). Furthermore only 17% of organizations are prepared to adopt AI technologies due to financial constraints. This results for many MSMEs being left behind because they are missing advanced technologies that will help their business to move forward. Lastly, many MSMEs struggle to grow because of issues such as poor management and substandard working conditions which results in their profits slowing down.

To address these challenges. The researchers propose BuizwAlz: A Data Driven Business Assistant tool for Small Business that addresses shortcoming by offering a cost-saving for non-technical small business-owners. It is considered as a Business Partner for MSME since the system integrates inventory management, sales tracking, expense tracking and analytics. The system will enable business owners to manage their business while also providing summarized insights presented in a user-friendly format allowing the data and results to be easily understood even without technical expertise.

(6) Objectives and Research Questions

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**General Objective:** To offer a centralized management platform that consolidates, inventory management, sales management, while also reducing administrative workload with AI automation in one system.

**Specific Objective:**

- To develop a system that allows the micro enterprises to easily manage the business.
- To provide data-based support through generating clear weekly summaries of sales trends, expenses, and operational risks, aiming for increase in owner-initiated improvements based on insights.
- To help new business owners learn how business processes work and effectively implement them in their business within the first 3 months of system use.

**Research Problem:**

- Absence of an affordable unified platform to support streamline core business operations

**(7) Materials and Methods**

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**A. Study Design**

This study uses a mixed-method design of qualitative and quantitative methods that evaluates the usability and effectiveness of a system that integrates inventory management, sales tracking, expense tracking and an AI assistant, to a local MSME clothing store Informed consents will be given to the beneficiary. Beneficiaries will perform key business operations using BuiswAlz and evaluate and submit feedback through structured evaluation form and guided interview. Instruments Include:

- Likert-Scale Questionnaire = measures user satisfaction through a 5 point criteria
- Open-ended feedbacks = gathers user feedback, insights and suggestion through interview

Primary Endpoints include:

- User satisfaction will be evaluated by quantitative data results from the Likert-scale questionnaire and qualitative insights from open-ended interview feedback.
- Assessed system effectiveness through beneficiary feedback regarding system functionality and their overall experience while using BuiswAlz.

**B. Study Population**

The study population will consist of beneficiaries from a local MSME clothing store in Marikina City and some IT and Software Development Experts for technical and system evaluation. The participant includes the following:

**Inclusion**

- Business Owners, who are directly involved with the daily store operations.
- Aged of 18 years and above
- Experts with high knowledge with System Development
- Expert with work experience in System Development
- Participants that gave consents to be interviewed

**Exclusion**

- Individuals that are not involved with the store
- Aged of 18 below
- Participants that didn't give consent to be interviewed

**Groups:**

- This study will not include control or experimental groups since BuiswAlz is designed for the beneficiary who will be the primary user of the system. The study will involve two groups of participant:
  - o **Store Owners** - They will represent as the main end-users of the system who will provide feedback about overall satisfaction of the system.
  - o **Experts** - IT or System Development Experts who will evaluate the system's performance, database, and security ensuring that it is up to real-world standard

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**C. Assessment of Resources**

- The researchers will ensure that they have sufficient access and contact with the study population which consist of the store owners of the MSME clothing store in Marikina,ensuring that they are consented and informed about the study that the researchers are conducting. The study is also set in schedule within the given amount of time, to orient the participant of what the study is, system evaluation, data collection and analysis. The researchers also ensure under the supervision of our research adviser that the tools such as questionnaire contents are appropriate and properly administered. Additionally, research adviser and faculty-in-charge will also evaluate the data gathered from the participant ensuring that it is accurate and reliable. The study data collection will be conducted within the clothing store in Marikina allowing the participant to use the system within their workplace and evaluate it through interview questions.Finally, the researchers ensure that each one of them is well-prepared and oriented with the study procedures and ethical considerations.

**D. Study Procedures**

Include a description of the study procedures (as they relate to the subject). Be sure to include (as applicable):

Plans for Recruitment

- The number and estimated length of each study visit
- Procedures and/or interventions that will be performed for each visit (a chart may be helpful)
- If a drug study, include instructions for administering drugs, handling instructions, and storage and disposal instructions
- For biological samples, explain how the samples will be collected, as well as storage, testing, and disposal methods
- For behavioral studies, identify the instruments being used and who will be administering the instrument (including their qualifications
- If a survey study, include who created the survey, whether survey has been standardized, how survey will be distributed and returned, and how confidentiality will be maintained
- If chart review, indicate whether or not the materials will be obtained prospectively, or if the materials will come from previously existing specimens, records, or data. Explain what information will be used to identify potential human subjects for inclusion in research.

**E. Data Collection**

- How and what data will be collected (i.e. demographics, comorbidities, standardized tools etc).
- Reliability and validity of the research instrument

**F. Data Analysis**

- Sample Size Considerations
  - Power analysis based on previous studies or exploratory study?
  - Justifying the sampling procedure
- Statistical Methodology
  - Comparisons to be made and statistical tests to be used for the comparisons.

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(8) Safety and Monitoring Plan

Describe any provision for monitoring the data for safety. Cite steps/ways how the collected data will be stored. Who will have access to the collected data? For how long the collected data will be stored? How will the researchers destroy the collected data?

(9) Limitations

This refers to the potential limitations of procedures. Enumerate characteristics of design or methodology that might influence the interpretation of the findings of the study.

(10) Ethical Considerations

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A. Informed Consent (Applies to studies using human subjects)

1. Provide a description of the Informed Consent Process, including:

a) Circumstances under which consent will be obtained

b) How Consent will be documented

c) Special Provisions for Vulnerable Populations

d) Steps taken to minimize coercion

e) Who will be involved in obtaining consent

f) When will subject be approached

g) Method used to ensure that subject fully understands study procedures

2. If requesting waiver or alteration of consent, explain why it is needed to complete the study

B. Risks and Side Effects (Applies to studies using human subjects)

1. Potential Risks (include medical, psychological, legal, financial, social)

a) Assess for severity and likelihood

b) Procedures for protecting against or minimizing risks

i.e. Alternative treatment or procedures

c) Unforeseen risks

d) Time to be spent by the participants in answering survey questionnaires or attending interviews/ focus group discussion

2. Adverse events (please define)

a) Provisions for medical and professional intervention

b) Reporting adverse events

3. Compensation for Injuries

a) Where and from whom medical therapy may be obtained

b) Who will pay for the therapy

c) Whom to contact in case of injury

C. Benefits to Subjects (Applies to studies using human subjects)

▪ Explain the expected benefits in relation to the subjects (example: Improvement of oneself). Explain the benefit to general science or others if applicable.

D. Costs to Subject (Applies to studies using human subjects)

1. Clearly describe the financial costs (ex. internet load) that the subject may incur (if there are none, state as much).

a) Justify any costs that the subject will incur as a result of participating in the study.

E. Compensation to Subject (Applies to studies using human subjects)

▪ Describe any compensation that is received by the subjects, whether monetary or otherwise. When determining compensation, keep in mind what is reasonable based on the time and effort required of the subject. The use of benefits to offset the burden due to participation in the research should be incremental and not based on study completion.

a) Discuss schedule of payments based on their completion or partial completion.

b) Please state if the researchers will not provide compensation to subjects/participants

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F. Provisions for vulnerable subjects (Applies to studies using human subjects)

- Indicate whether there will be vulnerable subjects in the study (i.e. PWD, Senior Citizen, Minors, Indigenous people). State if there are no vulnerable participants.
- Describe additional protections provided to these subjects to protect their rights and welfare

G. Subject Privacy and Data Confidentiality (Applies to studies using human subjects)

1. Privacy of Participants

a) Describe appropriate provisions to protect the privacy of the subjects.

2. Confidentiality of Data

a) Provide a clear description of how the data will be disseminated. Outline the sharing of data with others outside of the institution, and include provisions for maintaining confidentiality. Additionally, describe how the results of the data will be used (i.e. presentations at professional organizations, submission to professional journals).

i. Will data be identified?

ii. How will Data be kept Secure (where will data be stored)

iii. Who will have access to the data?

3. Plan for Record Retention and Disposal

4. Limits to Confidentiality

(11) Plan for Dissemination of Findings

*This refers to the explanation of your dissemination plans (Defense/Paper Presentation/Publication).*

(12) References

*Please use the latest APA edition.*

(13) Appendices

*This refers to research instruments, rating scales, consent forms, etc.*

Signature	(14) Prepared by :	(15) Endorsed by:
Name of proponent		
Designation/position	Researcher	(Immediate Supervisor)
Date		

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