MAKERERE UNIVERSITY

Virtual Portfolio Manager

By

BSE 22-26

Name	**Registration No.**	**Student No.**
Bartile Kapkusum Emmanuel	**17/U/3508/PS**	**217003654**
Bwayo Joel	**17/U/3777/EVE**	**217010218**
Khalid Luwaki	**18/U/23400/EVE**	**1800723400**

Data Collection Report Document

DEPARTMENT OF NETWORKS SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

A Data Collection Report Document submitted to the School of Computing and Informatics Technology

For the Study Leading to a Project Proposal in Partial Fulfillment of the

Requirements for the Award of the Degree of Bachelor Of Makerere University.

Supervisor: Dr. Joab Agaba

Department of Networks School of Computing and Informatics Technology, Makerere University

blessedjagaba@gmail.com, +256-41-540628, Fax: +256-41-540620

Table of Contents

List of Figures

Abstract

Startups are founded by one or more entrepreneurs who want to develop a product or service for which they believe there is demand. Uganda is ranked one of the most entrepreneurial countries in the world, according to the Global Entrepreneurship Monitor. Statistics show 30 percent of Ugandans have started businesses. However, Uganda remains one of the poorest countries in the world.

This study aimed to understand the entire startup sector, challenges faced by the businesses, how the challenges are currently being solved and how we can use technology to improve the living conditions of startups. The team employed mixed research methods by taking into account both qualitative and quantitative methods where both primary and secondary data was collected. Data was collected from small scale businesses, incubators and investors using interview guides and questionnaires. The data was analyzed using python to get a deeper understanding of concepts like the business behavior during and before investments and the general perception of investors to startups in Uganda.

56.5% of the respondents were businesses, 13% were incubation hubs and 30.4% were investors. 65% of the businesses had experience with one or more investors. We also noted that 48% of the businesses went through incubators. We also noted that 84% of the businesses mentioned that they had a positive perception towards finding investors through online platforms. We therefore propose the design and implementation of the Virtual Portfolio Manager. The team also noted that investors and incubation hubs are manually tracking investments using excel sheets and bookkeeping. This is why the Virtual Startup Manager is proposed as it will ease the monitoring and tracking of investments for investors and finding investors for startups.

1. Introduction

1.1 Background

Startups are founded by one or more entrepreneurs who want to develop a product or service for which they believe there is demand. The word “entrepreneur” is derived from the French verb “entreprendre” which means “to undertake”. In the early 16th century, the Frenchmen who organized and led military expeditions were referred to as “entrepreneurs”. Schumpeter (1934) stated that “an entrepreneur is a person who carries out new combinations.

Uganda has a rich potential towards entrepreneurship - a democratic open society, a strong technology base (with capacity for leapfrogging), unparalleled diversity, vibrant capital markets (including growing private equity and venture capital markets), an increasingly youthful population (50% of Uganda’s population is below 25 years of age), a sizeable market of a large number of customers with vast unmet needs as well as an environment of full and free competition in the private sector (Website of Innovation Village, 2021).

It is with this background that we intend to come up with a system for investors, incubation centers and startups. The system well encampus the background about startups stats, the incubation centers and how tracking/managing of investments is currently done by investors, why it’s done that way, the gaps, and what we propose and why we propose it.

2. Methodology

2.1 Introduction

This section we discuss methods we used to carry out the study. The methods are categorized under sections including qualitative and quantitative research methods.

2.2. Data collection

The data was collected by the team members. Since our case study is focused on startups, investors and incubation centers, the team focused on understanding the investment processes and what is currently being done to track the investments. Throughout the process, we sought to understand the requirements needed to build the Virtual Portfolio Manager.

2.2.1. Objectives of the study

To understand the entire business startup processes, challenges faced by the investors, businesses and incubation hubs, how the challenges are currently being solved and how we can use technology to improve the living conditions of all participants.

2.2.3. Data collection methods

The team employed mixed research methods by taking into account both qualitative and quantitative methods where both primary and secondary data was collected. The primary data collection methods used included:

2.2.3.1 Interviews

The team chose interviews in order to get an in-depth understanding of the startup industry from the respondents since they give room for open ended questions. We interviewed 8 persons; 2 incubation hub managers and 4 startups and 2 investors. Most of the interviews were done on the entrepreneur investment day in Kololo.

2.2.3.2 Surveys

In respect to COVID-19 directives, the team also considered using surveys that were distributed online. The survey was distributed amongst incubation hub managers and startups and investors through various social media platforms for example twitter, Facebook, WhatsApp to reach a wider scope. We used a google form to create the questionnaire since it provides on the fly statistics generation, security of the data collected, automated data tracking and analysis. Additionally, google forms are free, have no limit to the number of correspondents and are accessible to both mobile and desktop users.

The questionnaire was the most efficient data collection tool for the survey method because it helped us to reach larger numbers of respondents, ask closed ended questions whose responses could be assigned numerical values to ease analysis. Additionally, the questionnaire is economical, rapid, enforced anonymity and provides uniform responses.

The team shared the questionnaire on social media platforms and was able to collect responses from 15 respondents. Of the 15, 9 were startups and the rest were investors and incubation hub managers.

2.2.3.3 Observations

The team systematically selected, watched, listened, touched and recorded the process of the startups and investors during the Kololo event. This method was considered since the team was going to spend a significant amount of time with the startups before, during and after the event. Since some of the interviews were done before the day, the team was able to understand some of the key characteristics and needs of startups and investors. The team created an observation checklist based on needs before and during the investment day that was shared with all startups.

2.3. Analysis

After the data collection exercise, the team took time to clean, code and analyze the data using the R statistical package. The meanings and implications arising from study participants' responses were then explored and synthesized to understand the data findings.

3. Results

3.1 Introduction

The results section of this document provides a detailed explanation of the analysis of the data collected. These figures in terms of graphs, pie charts and more were automatically generated by google forms, a spreadsheet of the responses generated, downloaded and uploaded as a csv data set for analysis using R. The team sent out one generalized form to startups, incubation hub managers and investors in order to collect relevant responses. The team was aiming at collecting responses from 35 respondents, 20 startups, 5 incubation hub managers and 10 investors both through online and physical tools. Due to the small number of available investors, incubation hubs, we collected 15 responses through the forms and 8 respondents through questionnaires, totaling up to 23 responses.

We have analyzed the data collected through the forms according to the following characteristics; Type of respondent and other demographic features.

3.2 Results and Discussion

In this section, we discuss analysis of the results from the data collected.

3.2.1 Results and Discussion

The team analyzed the demographic composition of the respondents according to the following characteristics, type of respondent.

From the figure below, the type of the respondents is summarized in the categories below;

- Startup
- Investor
- Incubation Hub Manager

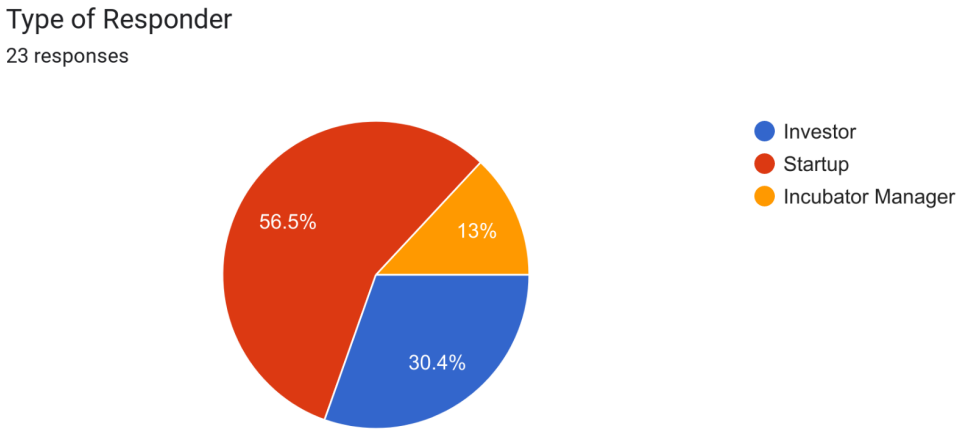

Figure 1 Type of Respondent Distribution

We analyzed the demographic composition of the entire dataset. We had 56.5% of the respondents register as startups, 30.4% as investors and 13% as incubation hub managers. This shows that our form was responded to by more startups than investors and incubation hubs. It supports the observation made during the physical interaction at the investor day that more startups showed up to support their business looking for the few investors out there.

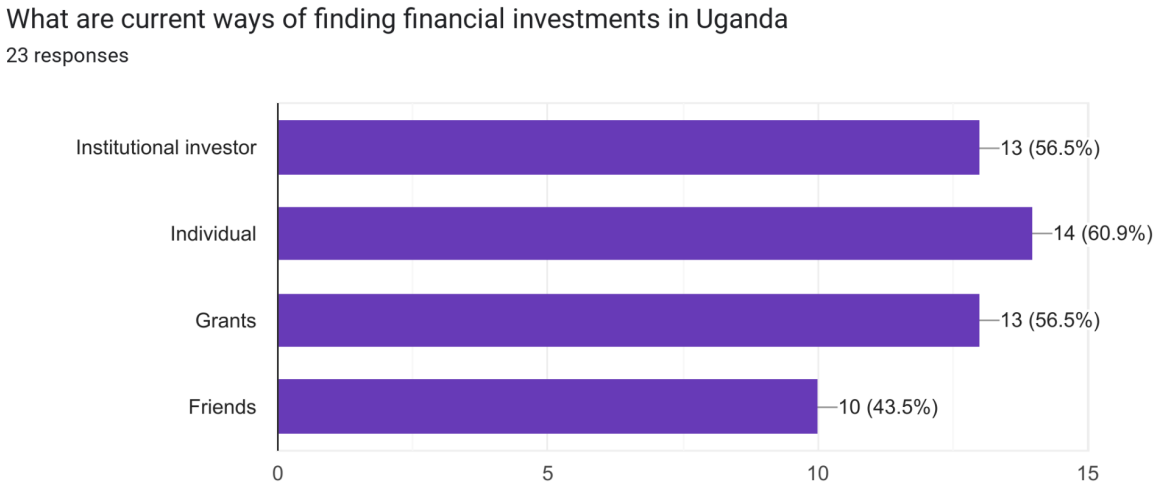

Figure 2 Current Investment States Distribution

From the figure above, the current state of investment is summarized in the categories below;

- Institutional Investors
- Individual Investors
- Grants from multiple sources
- Friends and Family

The response from this question was open and not limited to one answer. We analyzed the response of the entire dataset. We had 56.5% of the respondents believe that Institutional Investors finance investments, 60.9% through individual investors, 56.5% through grants and 43.5% through friends and family.

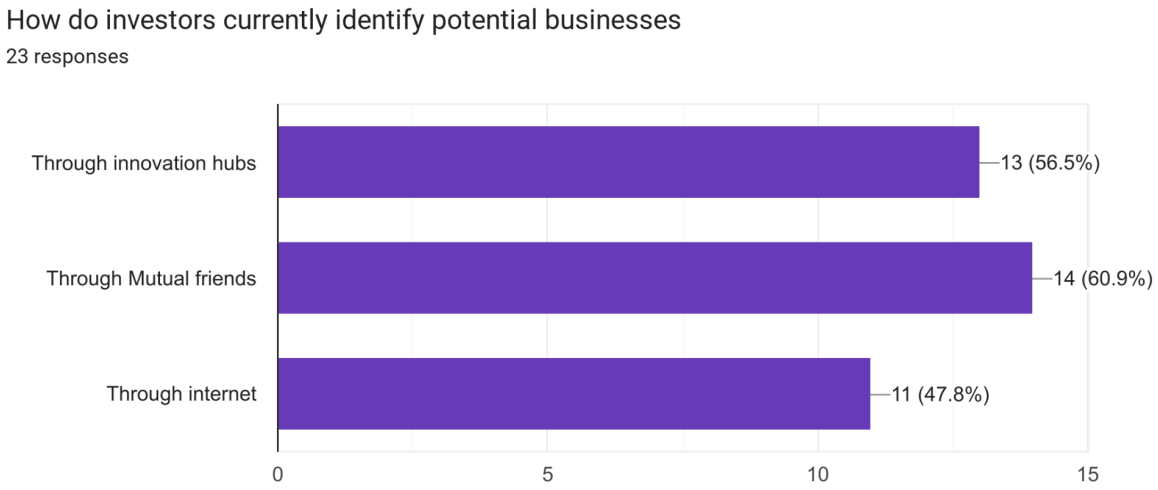

Figure 3 Investment Identification Distribution

From the figure above, how investors identify potential businesses is summarized in the categories below;

- Innovation hubs
- mutual friends
- internet

The response from this question was open and not limited to one answer. We analyzed the response of the entire dataset. We had 56.5% of the respondents believe or found investments through innovation hubs, 60.9% through mutual friends and 47.6% through the internet.

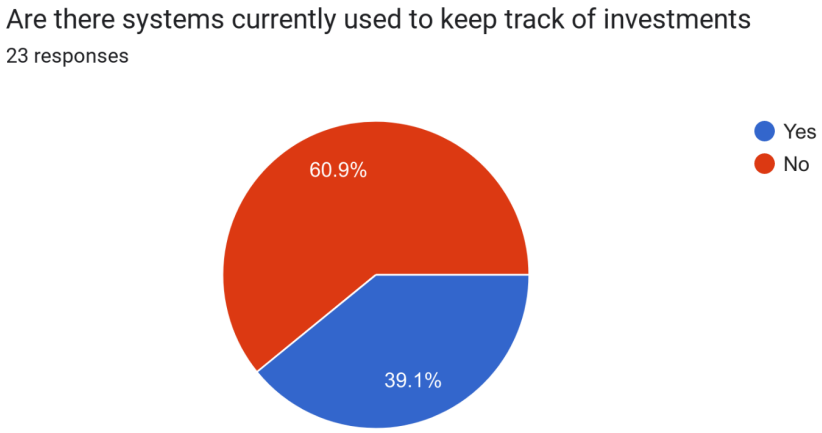

Figure 4 Investment System Distribution

From the figure above, shows that 60.9% of the respondents used systems to track investments while 39.1% never used systems to track investments.

4. Proposed Intervention

Based on the above results, we propose the design and implementation of the Virtual Portfolio Manager [VPM]. From the data collected and analyzed, 86% of the respondents mentioned that they had a positive perception towards software management of investments. According to the data collected, it was noted that there are few technological means of monitoring investments. This will aid in enforcing investment decisions on the users of the system.

5. Recommendations

In the light of the findings of the study made, the following are the recommendations;

The Virtual Portfolio Manager will help the startups and investors find each other easily. It will also help the investors manage the investments remotely since startups will use the system on a day today basis. Incubation hubs will be able to monitor a larger number of startups more efficiently as well as increase the number of startups per incubation hub.

6. Conclusion

This study found out that currently the respondents have little technological aid to face the challenges in investments. The respondents were very receptive to the idea of having a virtual portfolio manager to help them monitor the investments better. This means that our proposal for the system has a chance of being accepted and this will help to reduce the challenges faced by startups, investors and investment hubs on a day-to-day basis.

7. References

Schumpeter, J. A. (1934), The theory of economic development (Cambridge, MA: Howard University Press)'

Website of Innovation Village, innovationvillage.co.ug by - Innovation Village accessed as on 27-May-2021.