

# LESSONS LEARNT FROM AN ONLINE PILOT STUDY ABOUT STRATEGIC ALIGNMENT AT A HIGHER EDUCATION INSTITUTION

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## ABSTRACT

This article is a report on the lessons learned when conducting an interpretive case study in a developing country. From the literature review, it was apparent that there are few reported lessons from pilot studies about strategic alignment in higher education institutions from a middle management perspective in the developing countries. The aim of this article is to fill that gap. The pilot study was conducted to assess the feasibility of collecting data from Malawi, one of the countries with low internet access in the world. The case study organisation was a university that had been identified during the time that governments across the world had imposed travel restrictions during the COVID-19 pandemic. The pilot study involved evaluating the feasibility of collecting data online using the Luftman questionnaire for assessing maturity level for organisations and the use of Microsoft Teams for conducting online interviews within the context of a country where the majority of the population do not have internet access, and English is the de facto lingua franca. Among the lessons learned were the need for researchers to be careful to match case study organisations to research topic, the need to support participants understanding questionnaires in qualitative case studies to minimise risk of drop out and ensure participants understand any technical language being used, the effect that external factors such as weather might have on a study, and the limitations of automatic voice recognition for interview transcription.

## KEYWORDS

Strategic Alignment, On-Line Data Collection, Lessons Learned, Middle Management, Pilot Study

## 1. INTRODUCTION

The pilot study was conducted against a background of a dearth of research in the developing world in the areas of business strategy and information system strategy formulation and their strategic alignment, and middle managers' participation in these areas. The pilot study was based on an interpretive case study at a public university in Malawi. The inclusion criteria were that the participants should be middle managers who participate in the formulation of business strategy, information technology strategy and their strategic alignment.

According to Ismail et al. (2017) a Pilot Study (PS) is a small-scale research project that is carried out prior to the final full-scale study (Kim, 2010). It assists researchers in testing the feasibility of the research. It allows researchers, particularly novices, gain interviewing experience and refine the final road map for the main study (Aziz and Khan, 2021). A researcher can pilot a study to identify or refine a research question, determine which methods are best for pursuing it, and estimate how much time and resources will be required to complete the larger final version of the study. When conducting a qualitative study, it is critical to use a PS to test and identify how methods and ideas would work in practice (Aziz and Khan, 2021). According to (Ismail et al., 2017), PSs are commonly associated with quantitative studies but can still yield important feedback to inform the main study and reinforce methodological rigor.

As a principal investigator, the PS was not done from an entirely novice point of view. In previous line of work, the principal investigator had conducted many interviews during requirements elicitation for software development projects. The major concern for the principal investigator was that he had never undertaken any previous academic research work of this nature that placed him with the need for more self-awareness while

using less familiar qualitative methods, instruments, and techniques with a view to knowledge generation required from PhD study.

This is a reflexive report regarding the PS that was conducted prior to the final extensive study in Malawi. The aim was to test the methodological feasibility of carrying out a remote study in a location that is known for its poor internet connectivity while the principal investigator was based in the United Kingdom. This paper compiles the lessons learned with respect to access to potential host organisations, recruitment of potential participants, data collection methods, and the researcher's personal development.

The rest of the paper is organised as follows: Section 2 addresses some of the literature that was reviewed, followed by a discussion in Section 3 of lessons learned starting with the issue of access to the case study. This is followed by participant recruitment strategy, the use of English language for data collection and the impact of technology on transcription before the article is concluded in Section 4.

## **2. LITERATURE REVIEW**

According to Janghorban et al. (2013), a pilot study is “small scale of a complete survey or a pretest of a particular research instrument such as questionnaire or interview guide” which is concerned with the following areas: a) identification of issues that might arise with participants’ recruitment, b) providing real-world qualitative research experience for the researcher, c) assessing the suitability of the interview protocol, and determination of the research methodology. Another area that might benefit from conducting a pilot study is the project management aspect of the final study in terms of refining the estimates about the time and cost required (Ismail et al., 2017). Aziz and Khan (2021) found that there is a lot of literature about pilot studies in quantitative studies, there appeared to be a challenge in allocating adequate literature on pilot studies in qualitative studies. This study also had challenges locating reported pilot studies using online data collection from the developing world in areas of strategic alignment from the middle management perspective.

Following these aspects of pilot study as good practice, the study proceeded to test the feasibility of on-line data collection method. One of the aspects of this method to be considered was the availability and access of reliable internet among potential participants. The Malawi National Statistics Office puts the latest population figure at 17.2 million (Malanga and Chigona, 2022). According to (Worldometer, 2022), the latest population figure is 20.3 million, 18.5% of which is urban-based and the median age is 18.1 years. Malanga and Chigona (2022) quotes the rural population at 87% implying that only 13% live in urban areas. Only 13.9% of the population have internet access (Kainja, 2022) attributed to lack of state investment in ICT infrastructure, high corporate tax, and value-added tax rates. These result in high internet prices making the internet inaccessible to the majority, especially those who live in the rural areas (Malanga and Chigona, 2022).

While there is low internet access across the general population, there is a reliable quality internet access in urban areas especially among institutions. The participants to the semi-structured interviews were all members of staff at public university with fiber optic broadband. In addition to the semi-structured interviews which were conducted using Microsoft Teams, they were also asked to complete an online assessment of strategic alignment maturity using Microsoft Forms.

A universally accepted definition of who are middle managers is elusive. The shifting collegial nature of leadership in universities makes the identification of middle managers particularly hard. Defined very succinctly, “ middle managers have managers reporting to them and are also required to report to managers at a more senior level”, (van Niekerk and Jansen van Rensburg, 2022) p.277. In a single case study that they conducted at a university in South Africa, they identified exclusion and inclusion criteria based on job title. The following titles were excluded because they were considered senior managers: executive director, vice principal, chancellor, and vice chancellor. The inclusion into the middle management for the study, the middle managers were those that had been employed in non-academic positions with the following job titles: director, deputy director, and assistant director. (ibid.). Floyd (2015) carried out a case study of middle managers from two “culturally different English universities” who had different ways of identifying middle managers. In one university, middle managers were externally recruited, while in another they were seconded from among the academic staff. As a result of changes in stakeholder expectations from universities, heads of department are increasingly viewed as managers. This has resulted in these academic managers and administrative managers sharing responsibility for budgets and resource allocation (Floyd, 2015).

These middle managers, regardless of career path, are strategically important owing to their situation as a bridge between top management and the lower levels of the organisation (Tarakci et al., 2018). Their activities may lead to realisation of divergent strategies due to imperfect communication, or understanding (Baker and Singh, 2019, Balogun, 2006), or self-interest (Ates, 2014, Gibson and Groom, 2021, Tarakci et al., 2018, Wooldridge et al., 2008). Although the latter might appear politically incorrect, sometimes the divergent actions of middle managers may lead to an overall improvement in the competitive position of an organisation (Baker and Singh, 2019). From the viewpoint of formulation and implementation of business and information system strategies, and their strategic alignment it is important to note these will usually be agreed by top management. Once they have been approved it is the middle managers who have the responsibility to oversee that these are implemented in their business units (Netland et al., 2020). Through sensemaking and issue selling, middle managers exert strategic influence on, and from the bottom layers (Balogun, 2006) in a feedback loop. Sensemaking is concerned with interpretation of top-down intended corporate strategies into relevant business strategies for their business units. Where there is self-interest, misunderstanding, or misinterpretation, top management strategic goals may not be implemented as intended within business units. Sometimes when business units may note that intended corporate strategies are not coordinated with customer expectations, or not yielding intended results, they may have to improvise or raise issues for consideration of top managers which are routed through middle managers in what is called issue selling. Top management may consider some of these issues and subsequently amend corporate strategies to reflect the recommendations from the bottom.

One area in which middle managers at a university may exert their influence in the foregoing ways is the area of strategic alignment. This has been an issue of concern for top managers for over three decades based on the assumption that there is a positive relationship between strategic alignment between business strategy and information technology strategy (Luftman et al., 2017). Strategic alignment has been defined using various terms such as “fit”, “harmony”, “fusion”, “linkage” to describe managerial behaviours between the information technology and non-information technology business units of an organisation that aim to provide new services, improve business processes, and decision making resulting in increasing business value for the organisation (Luftman et al., 2017). In the case of a university the way in which this value might be increased could take many forms such as providing support for learners using on-line learning management systems, publishing prospectuses on websites, and enrolling students into open and distance learning programs.

The section has reviewed the relevant literature for this study. This has covered the importance of pilot studies in qualitative studies, the level of internet access in Malawi, the challenges of identifying middle managers, and how they may influence the formulation of business strategy and information systems strategy, and their strategic alignment. The next section is a discussion of lessons that were learned from conducting the pilot study.

### **3. DISCUSSION**

The participants for the pilot study were all drawn from a public university in Malawi after obtaining the necessary ethics approval and authorization. There were four participants in total who were requested to complete an assessment for the level of maturity for strategic alignment and to participate in semi-structured interviews. Each interview, which lasted about one hour, was conducted online using Microsoft Teams. A strategic alignment maturity assessment was completed using Microsoft Forms.

The study design was an interpretive single case study with two aims. The first aim sought to establish the level of maturity for strategic alignment of business strategy and information technology strategy. The second aim was to explore the lived experience of middle managers in the formulation of business strategy, information systems strategy and such strategic alignment. In order to answer the research questions, the principal investigator set out to approach managers of organisations with the following characteristics. The case study organisation should be capable of being characterized as having a middle management layer. As well as being involved in implementation of strategic directives set out by top managers, the middle managers should also be involved in contributing towards formulation of business strategy, information strategy and their strategic alignment. The following sections are a discussion of the lessons learned that were identified during the study starting with approaching case study organisations, participant access and recruitment.

### 3.1 Lessons from Obtaining Access to Case Study Organisation

To move the study forward, several organisations in Scotland and Malawi were contacted. For this purpose, the principal investigator contacted current and former work colleagues and former classmates during undergraduate study in Malawi and Scotland. This was at the beginning of the second year of studies. In total eight organisations were contacted as in table 1 below. Two of these organisations were based in Scotland. However, one was not as keen when it finally came down to start the data collection. The willing charity in Malawi was too small as it did not have a clearly distinguishable middle management layer with strategic responsibilities because they had only one person functioning as the information systems department. The willing charity in Scotland had a much flatter structure and was deemed unsuitable as well.

Table 1. List of potential case study organisations (source: authors)

	Location	Organisation type	Relationship between Contact Person and Principal Investigator	Observations
Charity 1	Scotland	Local Charity	Colleague. Works in same department	Showed signs of unwillingness to proceed
Charity 2	Scotland	International Charity	Social contact	Willingness but deemed not suitable for exploring research questions due to organisation form
Bank 1	Malawi	Subsidiary of international banking group.	Social contact. Works for former employer	Willingness but adversely impacted by adverse weather conditions
Bank 2	Malawi	Large local bank	Social contact of PI. Studied at the same university	Became unresponsive at some point
Government Agency 1	Malawi	Compliance of fiscal laws	Social contact. Studied at the same university	Became unresponsive at some point
Government Agency 2	Malawi	Participation in democratic participation	Social contact. Studied at the same university	Willingness but PI decided to proceed elsewhere because they were recruiting new Executive Director
HEI	Malawi	Public university	Social contact. Studied at the same university	Successfully hosted study with other issues in participant recruitment
Charity 3	Malawi	Local charity	Social contact. Studied at the same university	Willingness but PI decided the organisation form not suitable for exploring research questions

Before moving on to the next section, it is interesting to point out that one of the banks that had been approached had indicated a strong interest to host the study. The negotiations had gone on well between December 2021 and January 2022. However, this is the rainy season in Malawi. During this season, the country was hit by severe weather systems resulting in unusually heavy rains that significantly affected public infrastructure including the power grid. As a result, many organisations, including the banks with metropolitan and wide area networks were required to work on their disaster recovery capabilities. The lesson learnt was that sometimes a planned study might be affected by events outside of the control of the researcher and the potential host organisation. This did not deter the study as negotiations went on with other organisations and until the principal investigator was able to identify alternative case studies through persistence. This highlights the reality that even with the best of intentions, organisations may not be able to host similar studies and there is a need for researchers to develop negotiation skills and be willing to be flexible as the situation requires. Sometimes the researcher must accept that willing organisations might prove not to be as useful due to their unsuitability for exploring research questions as was the case with some organisations in this study. That is a very important aspect of experience as a researcher.

### 3.2 Lessons from Potential Participant Recruitment

One of the areas that was tested during the pilot study was participant recruitment. This is important because a PhD study requires empirical data. This requires a substantial amount of time and effort (Wray et al., 2017).

Participants were recruited via a gatekeeper after Lilongwe University of Agriculture and Natural Resources had authorised the study. This was done after the Ethics Committee at Edinburgh Napier University had indicated that the study posed low to medium level of risk to participants. An email with a participant information sheet introducing the study was sent to the participants through a key informant. From the literature review that was conducted, it had been established that globally there was a small number of studies from middle management perspective in strategic alignment studies at higher education institutions in developing countries. Up to the time of the pilot study, it had not been possible to access such studies from Malawi and the study proceeded from that perspective.

Having gained access to a public university, four middle managers were introduced to the principal investigator. This snow-balled to six through referrals during the interviews. One participant dropped out of the interviews because she had indicated that she found the Luftman maturity level assessment questionnaire too technical in its wording. She did not indicate the exact items that were problematic for her, and she was no longer available to clarify. A second participant dropped out because there were urgent work-related issues, and he would not be available on the date that he had indicated that he would be available.

The principal investigator learnt that the personal networks that one cultivates are helpful not only for social purposes. Sharing personal goals with friends and being open with social contacts about how the principal investigator felt they could assist were some of the things that helped gain access to potential participants for the study. The participants were individuals that could not have otherwise been accessible to if not for the people who introduced them. Although this method might not appear to be very scientific and formal, the lesson learnt was that a student researcher can use this method successfully to find not only willing case study organisations, but also volunteers willing to participate in such studies.

### **3.3 Lessons from Data Collection**

The data collection method has two aspects worthy of the readers' attention.

#### **3.3.1 Conducting Online Research**

The first aspect is that of conducting online interviews based in what is considered a developed nation where the principal investigator is currently based (United Kingdom) and a least developed country (Malawi) where the case study organisation is situated in with all participants. Malawi has low internet access among the general population, especially in rural areas. However, there appears to be a decent level of internet access in urban areas and institutions (Malemia, 2021). Only one session had a slightly poor quality compared to three interviews. However, the recorded file was still usable. For two interviews, it was possible to use video capabilities without problems.

Gruber et al. (2008) conducted an online study which enabled them to proceed in ways that would not have been possible otherwise. The respondents found it convenient to participate in the study without leaving the convenience of their homes. The main study with which this pilot study was associated had been conceived in the middle of lockdowns that were in place in many countries as a public health response to the Covid-19 pandemic.

The important lesson learnt was that online studies between the United Kingdom and Malawi are possible and this is an avenue that other researchers may wish to consider. This data collection method offers a cost-effective option (Gruber et al., 2008, Hewson, 2017) for those who wish to conduct research in remote places such as Malawi. The participants in the study were employees of a university who used their own equipment. However, where researchers who might wish to collaborate with participants, who cannot afford their own internet-connected equipment need to seriously consider what implications that might have on the overall data collection method and the financial cost implications and quality of their proposed study.

#### **3.3.2 Data Collection Instruments**

The next aspect to the data collection method is one regarding the instruments that were used for conducting semi-structured interviews. After conducting the literature review, the principal investigator produced research questions and decided to proceed with the study as an interpretive single case study using semi-structured interviews, Luftman Strategic alignment assessment model, and document analysis (Hewson, 2017, Yin, 2014, Torres-Moreno and Aponte-Melo, 2021).

### **- Semi-Structured Interviews**

An important consideration during interviews is the establishment of rapport between interviewer and interviewee. Gruber et al. (2008) recognises that this is easy to do during one-to-one interviews and experience confirms this. Setting up the environment to make sure the participants were at ease was not a challenge as it might have otherwise been had the interviews been conducted face to face. As part of establishing rapport with the study participants, at the beginning of the interviews, participants were asked to talk about themselves, their education, length of employment, or if they had worked elsewhere before joining the university. Listening to participants talking about themselves helped the principal investigator to establish how the probes to the key interview questions would be framed.

Each interview session began by reiterating the introduction to the study and further notification that participation was voluntary. The principal investigator was under the impression that there was parity between himself as the interviewer and study participants. The interviews were conducted in English and there were no language barriers to be overcome. This is because not only is English the official business language in Malawi, but it is also the medium of business communication and lesson delivery at the public university. At the end of each interview participants were asked how they found the sessions. They indicated the language used during interviews and manner of presentation had put them at ease.

### **- Luftman's Strategic Alignment Maturity Alignment Assessment Tool**

The first page of the assessment tool provided participants with details emphasising that participation to the study was voluntary. Should a participant decide not to continue with the study they could opt out at this point or simply close the tool at any point as they completed it. Once they completed and submitted the tool the information was saved anonymously on an Edinburgh Napier University server. The assessment tool was administered online using Microsoft Forms. The data was downloaded and analysed in Microsoft Excel.

Except for one out of six participants, all of them were able to complete all the thirty-nine questions within the model. Prior to the pilot study, the principal investigator had tested the instrument with colleagues at the School of Computing. One had stated that it could have been helpful to truncate the instrument because it might be considered too long in the field. However, none of the participants during the PS who completed the assessment had raised similar issues or any other issues with the tool.

The principal investigator's observations were that the layout for the tool was better rendered when using mobile devices (mobile phone or tablet) than it was on laptop computers. However, the PS participants did not raise these issues. So, the assessment tool will be used for the final study as it is. This position has been arrived after considering the findings of the PS which seem to indicate that the assessment tool may not fully explore the level of maturity for strategic alignment. However, the validation of the tool was carried out after it had been used in assessing maturity in 3000 participating companies (Luftman et al., 2017). So, any suggestions to amend the tool will invariably require more studies of similar institutions in Malawi to justify such amendment.

However, because a case study of this nature has a small number of participants compared to surveys, all care must be taken to encourage participants as much as possible to avoid dropping out of studies. To mitigate against loss of participants after going to great lengths to recruit them, it is recommended that the researcher must be careful to emphasise the availability of support for participants to explain any terms that might cause problems. To minimize the risk of dropping out, all potential participants who are willing to be interviewed for the main study using the Luftman questionnaire should be interviewed first and be encouraged to complete the assessment questionnaire with guidance from the research team.

## **3.4 Language**

The data collection was conducted in English according to design. Participants were comfortable conducting interviews without the requirement to translate in any vernacular language. Although the principal investigator could not locate strategic alignment research articles in English conducted in Malawi, the use of English as the official lingua franca dates back to colonial times (Chilora, 2000). The language enjoys a predominance over vernacular languages in delivery of lessons in education (Reilly et al., 2022, Matiki, 2001). As a result, it has attained a de facto official language status and did not pose any challenge during semi-structured interviews.

However, a challenge rose due to the speech recognition software for automatic transcription that is offered in MS Teams. The overall quality of transcripts was poor but provided a better starting point than would have been had the whole exercise been done from scratch. This was due to the voice recognition system not being

able to recognise some English words pronounced by Malawians as speakers of several languages. The principal investigator is familiar with several Malawian accents, and this assisted with the transcription. While this lack of automatic transcription might be deemed as drawback on the one hand, on the other hand it enabled us to get more acquainted with the semi-structured interview data which helped with coding and analysis. Someone who might not be familiar with how Malawians speak might require assistance with transcription but so far, the study shows that anyone familiar with English should be able to transcribe the interview data.

Once the transcription was done for each interview recording, copies were sent out to each participant to validate whether what had been transcribed represents an accurate record of what had transpired during interviews. All four PS participants affirmed that what had been transcribed was accurate. The transcripts were compiled in Microsoft Word which is one of the popular word processors across the world. Participants did not indicate any problems using Word.

### **3.5 MS Teams**

During interviews, two participants were willing to conduct interviews with their videos left on. Two participants switched off their videos. However, it was not possible to assess participants' body language even for the ones who had not turned off their video. Video interviews had a very slight edge over the audio interviews because it was possible to maintain some level of eye contact with participants. These did not appear to affect the quality of the interview process and the resultant data as there was a good flow of dialogue. The principal investigator was aware of the need to be respectful to the participants to enable them to speak and respond freely to the questions that were asked (Guillemin and Heggen, 2009). On average the interviews lasted around one hour.

## **4. CONCLUSION**

The purpose of the PS was twofold. Firstly, to verify the feasibility of conducting such a study online at a time when there were worldwide travel restrictions. The pilot study participants were all based in Malawi which is known for low internet access. However, the PS has shown that it is feasible to conduct a study of this nature remotely suggesting that the quality of internet is acceptable for purposes of data collection using software such as Microsoft Teams.

A pilot study may also be useful to gain research experience and develop personal skills and abilities that can make a significant contribution to the main study. From the time the principal investigator started approaching organisations to host the study to the time the pilot study was conducted, invaluable lessons were learnt. The first issue that arose was the realisation that even though some organisations may be willing to host a study, they may be unsuitable for any number of reasons. For example, two of the organisations that had indicated a willingness were rejected by the principal investigator because they had been considered unsuitable due to their operational forms. Even though another organisation had also been willing to host the study, it was overtaken by the recruitment of an executive director which might have raised internal political issues and resulted in the new leadership not being supportive of hosting the study. Yet another organisation could not proceed with the study because of extreme weather conditions that had caused the target potential participants to focus their attention on the disaster recovery planning. The lessons learnt include that as a researcher, one must be flexible and tenacious while anticipating that issues might arise due to the researcher's preference or circumstances beyond the researcher's control.

Retaining participants in a qualitative study can be a challenge if sufficient care is not taken to support participants respond to some of the technical issues that are being explored in a study. Another issue that might arise is the researcher becoming too dependent on technology. This is particularly true of automatic voice recognition facilities in the software applications that are prolific on the market these days. At present, the automatic voice recognition for non-native speakers of English does not provide levels of acceptable accuracy. This means that any researcher planning to conduct interviews in places where English might be spoken need to provide sufficient time for transcription, or to enlist the services of speakers of English from that region to mitigate against the poor transcription quality provided by the automatic voice recognition systems available on the market.

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