

Advancing Namibian Higher Education: Promoting the Debut of MOOCs in Namibia

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LIST OF ACRONYMS

AVU - African Virtual University

ICT - Information and Communication Technologies

ICWE - International Conferences, Workshops, and Exhibitions

IT - Information Technology

IUM - International University of Management

MOOCS - Massive Open Online Course

NESAP - New Economy Skills for Africa Program

NUST - Namibia University of Science and Technology

ODeL - Open Distance and eLearning

SMG - Service Management Group

TASCHA - Technology and Social Change

TLU - Teaching and Learning Unit

UNAM - University of Namibia

UNESCO - United Nations Educational, Scientific and Cultural Organization

WPI - Worcester Polytechnic Institute

CHAPTER 1: INTRODUCTION

As a recently independent country, Namibia is striving to increase the quality of life of its people in several aspects including higher education. Namibia had not established a higher education system until 1992, after the country gained independence from South Africa in 1990. In 2004, the Namibian government created Vision 2030, a plan to improve Namibian life to the level of the developed world (Nujoma, 2004). To achieve this goal the Namibian Ministry of Education must improve the education quality at Namibian universities by 2030. Given the high demand for qualified instructors and the need to better prepare students for the Namibian workforce, universities in Namibia are seeking innovative strategies to bolster their education. Some universities are turning to online learning as a solution to fill gaps that exist in university education (Victor, 2011).

In light of the Vision 2030 initiative, UNESCO, the Ministry of Basic Education, Art and Culture, the University of Namibia and the Namibia University of Science and Technology (NUST) developed an online course delivery platform called Kopano. The Teaching and Learning Unit (TLU), the academic center at NUST responsible for educational improvements, has scheduled Kopano for launch in February 2017. The TLU plans to utilize the Kopano micro-learning platform to host short Massive Open Online Courses (MOOCs) to extend students' knowledge outside of the classroom.

There is a perceived soft skill gap among students at NUST, and the TLU hopes to use MOOCs to address this gap. These soft skills include personal traits that NUST students do not learn directly, such as time management, critical thinking, and problem solving. The TLU is creating two preliminary MOOCs to educate students on time management and effective use of technology in education. The TLU desires a well-designed promotional strategy to accompany the MOOC launch. The promotional strategy will inform students of the benefits and use of these MOOCs at NUST. Therefore, the promotional strategy must be both persuasive and informative in order to convert students from non-users into enrolled users on the MOOC platform.

Since NUST's MOOC project will be the first such initiative in Namibia, it is useful to

understand how MOOCs fit into the context of Namibia and potential barriers to adoption, in order to best promote them. Several ongoing MOOC projects in other African countries provide insight into the way MOOCs can influence African higher education. The African Virtual University is the most extensive eLearning network in Africa, comprising 53 partner institutions across 19 African countries (*AVU at a glance.*, n.d.). Other programs in Tanzania and Rwanda use existing MOOCs to supplement students' higher education and better prepare them for the job market (Escher et al., 2014). Although this approach can potentially save resources, there are also challenges. Because vast majorities of MOOCs originate from the Western world, contextualizing them for African higher education can be difficult (Czerniewicz et al, 2014). Additionally, when it comes to integrating MOOCs in developing countries, researchers found that lack of awareness and time were two of the largest barriers to MOOC adoption (Garrido & Koepke, 2016).

Although some educators have experimented with the integration of MOOCs in Africa, the topic of promoting them remains largely unexplored. The Kopano platform, as the pioneer of MOOCs in Namibia, does not have specific precedents to follow in the Namibian cultural context. In the Western world, information is available about marketing major MOOC platforms such as Coursera and edX, however the topic of promoting MOOCs at institutions is still a new frontier. Since MOOCs have not yet launched in Namibia, student perception and interaction with them remains unknown. This gap in research makes promoting MOOCs at NUST a unique and exciting challenge.

The goal of this project is to implement an effective promotion strategy for two MOOCs at NUST. The team will contact students through a variety of recruiting methods to assemble two pilot groups. One pilot group will experiment with the MOOCs and review the accuracy and messaging of the preliminary promotional materials. The other pilot group will comment on the persuasiveness of the materials from an outside perspective. Using the feedback received from both pilot groups, the team will refine the promotional materials. Once the promotional materials are sufficiently refined, the team will release them to the NUST community. These complementary materials will create a cohesive MOOC promotion strategy.

CHAPTER 2: BACKGROUND

Online learning is changing the landscape of education as it gains more popularity around the globe. In particular, Massive Online Open Courses (MOOCs) provide students with easy access to higher education and can enable ubiquitous learning. Developing countries in Africa are investigating MOOCs as a means of advancing their higher education systems. This chapter will discuss the advantages and disadvantages of MOOCs, and the factors affecting the application of MOOCs in developing countries. The chapter will also describe the educational resources in Namibia, and different promotion strategies.

2.1 Online Learning

Online learning, or “eLearning”, is a type of educational instruction in which participants can access academic material using the Internet. Universities across the globe utilize online learning to provide their students with an opportunity to take courses off campus or to supplement classroom-based learning. MOOCs are open to an unlimited number of students via the Internet and made their first appearance in 2008 and have emerged as a popular mode of learning (Lewin, 2013). The next sections include a history of online learning, benefits of MOOCs, and challenges MOOCs face today.

2.1.1 History of Distance Learning

Educating students who cannot physically attend class is a challenge. Educators around the world have tried solving this challenge for several centuries. Sir Isaac Pitman, the developer of a method for writing shorthand, carried out one of the earliest experiments in “distance learning.” Pitman used mail correspondence courses to educate people on his method from far distances. Throughout the 20th century, further advances in distance learning expanded on mail-based correspondence courses by utilizing radio and television broadcasts to incorporate rich media into the curriculum (Matthews, 1999). The growth of the Internet has led to the modern incarnation of distance learning via online learning, allowing for much more interactive and expansive courses than ever before. Educators around the globe integrate online learning into

traditional institutions, as they realize the benefits of applying online learning to supplement traditional classroom-based education.

2.1.2 MOOCs in Higher Education

In 2008, University of Manitoba professors Stephen Downes and George Siemens pioneered a new model for online learning. Their course, titled “Connectivism and Connective Knowledge,” expanded the reach of an existing course at the university by allowing approximately 2,200 students to participate via the Internet. Participants in the course used blogs to share information and learn from one another. This course represented the first true Massive Open Online Course, or MOOC. Inspired by the success of this first course, two Stanford professors offered their “Introduction to Artificial Intelligence” course online to around 160,000 students, putting the idea of massive scale into MOOCs (Marques, 2013).

Downes classified MOOCs as either an xMOOC or a cMOOC. cMOOCs represent Downes’ original vision for an interconnected network of students that learn from each other using web platforms such as blogs, discussion boards, and wikis. cMOOCs leverage the idea of “Connectivism,” as seen in Downes’ original MOOC. Alternatively, xMOOCs arose from universities as a more traditional, lecture-based approach to online learning, in which students watch recorded videos and complete online assessments.

Today, the majority of MOOCs offered are xMOOCs. Both private companies and nonprofit organizations, as well as educational institutions themselves deliver xMOOCs on digital platforms. Some platforms, such as edX, represent partnerships between top institutions under a nonprofit organization. It is common to charge a certification fee, but the options for obtaining institutional credit vary (Daniel, 2012a). Table 1 summarizes some of the major MOOC platforms.

Table 1: Main xMOOC Platforms (Chen, 2014)

Initiatives	Introduction	For profit	Certification fee	Institution credits
Coursera	An educational company founded by two Stanford professors in April 2012.	Yes	Yes	Partially
Udacity	A start-up founded by Stanford professors offering free courses in partnership with colleges and professors.	Yes	Yes	Partially
edX	A joint partnership between Massachusetts Institute of Technology (MIT) and Harvard in December 2011.	No	Yes	No
Udemy	A learning platform founded by investors.	Yes	Yes	Partially

2.1.3 Benefits of MOOCs

The introduction of MOOCs can potentially benefit both the learners and the providers of online courses. For learners, these platforms provide low-cost online courses and make higher education accessible to Internet users. MOOCs eliminate the need for students to travel to classrooms, enabling students to learn remotely and saving transportation cost. Many MOOC platforms waive the expensive tuition for students to take courses from elite universities around the globe, such as MIT, Harvard University, and Stanford University. Study times become more flexible as students can learn at a comfortable pace (North, 2014). MOOCs also enable lifelong learning as they attract users ranging from teenagers to retirees (Pappano, 2012).

MOOCs also help with the marketing of institutions, experimenting with courses, and increasing visibility of instructors. A number of MOOC platforms offer courses independently or in collaboration with universities. Figure 1 demonstrates the online course distribution among different MOOC platforms, with edX and Coursera providing the most courses. Institutions can use MOOCs as tools of marketing and branding to increase visibility and potentially attract talent (Yuan & Powell, 2013). The policy-makers at the institutions can experiment with this inexpensive, low-risk platform to address budget constraint problems and lower the cost of degree courses (Carey & Berdik, 2013).

MOOC instructors can benefit from skill improvement and career development by scrutinizing their own teaching and building their reputation through MOOCs. Since users can play the recorded videos repeatedly, instructors generally take into consideration their teaching styles in order to avoid mistakes. Such consideration helps the faculty sharpen their teaching skills (Chen, 2014). According to a survey among 103 professors who taught online classes, MOOCs could increase faculty's visibility among their colleagues, media, and the public, thus increasing their earning ability and helping them obtain tenure (Kolowich, 2013).

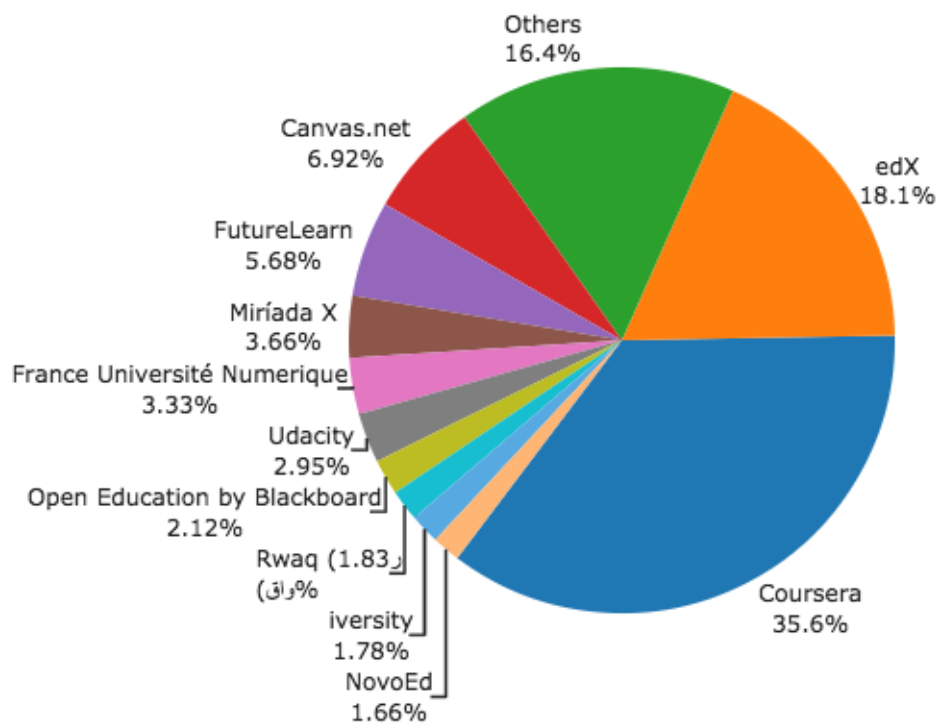


Figure 1. Course Distribution by MOOC Providers (Shah, 2015).

2.1.4 Challenges of MOOCs

MOOCs face several key challenges including content quality, social integration, and course completion. The course quality of MOOCs remains questionable (Chen, 2014; Straumshiem, 2014). A university's ability to conduct high-quality research does not necessarily correlate with its ability to produce high-quality online courses (Daniel, 2012). According to a

study on interactions among teachers and students in online courses, social presence, student interaction, and teacher presence are crucial to the success of online learning (Raven M. Wallace, 2003). However, the distance in online learning can result in a lack of academic and social integration in comparison with learning in traditional classrooms (Bejerano, 2008). A survey among 100 college students at Johnson & Wales University suggests that 80% of the sample students who took online courses consider traditional courses more effective than their online counterparts (Shi, Du, Jiang, & Saab, 2011).

Due to the ease of enrolling and lack of incentives for completion, typically less than 10% of students enrolled in professional English language online courses complete them (El-Hmoudova, 2014). Accurate and efficient online assessments remain a challenge as well. In a 2009 study by King et al., 73.6% of the students in a sample of 121 undergraduate university students held the perception that it is easier to cheat in an online course than in a traditional course (King, Guyette, & Piotrowski, 2009). Moreover, MOOCs require computer hardware and robust Internet access, which possess barriers for regions or institutions with technical and financial limitations in adopting MOOCs.

2.1.5 MOOCs on Mobile Devices

The need for mobile-friendly MOOCs is on the rise as an increasing number of people are accessing online content on mobile devices (Kendrick, 2011). The use of mobile devices for communication has become so extensive that non-technical people globally are minimizing computer use at home (Kendrick, 2011). However, not all MOOC developers integrate their MOOCs on mobile phones. In a 2016 survey among 79 bachelor students with MOOC experience, only 12% used mobile devices to access the MOOCs (Dalipi et al., 2017). Possible reasons for limited use of mobile devices with MOOCs include the constraints of mobile devices such as restricted text entry, small screen size, and limited battery life (Shuler, 2009).

To overcome hardware limitations, MOOC providers are working towards ubiquitous learning by incorporating microlearning. Microlearning fits the nature of mobile learning because developers divide the course into small units (Kamilali, 2015). Platforms such as

Coursera and Udacity have already incorporated the concept of microlearning into their content packaging. For example, Udacity breaks its *Intro to Machine Learning* course into 17 modules, consisting of various numbers of videos under three minutes each (Thrun & Malone, n.d.). The combination of MOOCs and mobile devices could potentially enable learning in a more ubiquitous fashion, in which learners can access content wherever and whenever they choose (Kamilali, 2015). This strategy could also provide more individuals with equal access to education (LTSIG Webteam, 2016). Platforms such as Coursera and Omni Study have developed mobile apps for delivering MOOCs (Eaton, 2014) and users have given mostly positive reviews. The Coursera Android app has an overall rating of 4.4 (out of five) stars from 77,956 votes in Google Play store (Coursera Android, 2014) and 4.5 stars from 7,824 votes in iTunes store (Coursera iOS, 2015). Mobile MOOC providers expect MOOCs to enhance ubiquity of online classrooms and bring accessibility of MOOCs to the next level (Sharples, 2015).

2.1.6 Incorporating Soft Skills in MOOCs

The emphasis on soft skills in the modern workforce has driven MOOC providers to create more soft skill courses. Technical skills alone are insufficient for success in today's dynamic, distributed, and complex workplace (Joseph et al. 2010). Soft skills are the abilities of individual to determine the best fit between oneself and the demands of the environment (Meunier, 2003). These skills are observable when individuals apply their self-management, communication, and interpersonal skills to work-related contexts (Joseph et al., 2010). According to a study at a university in South Africa, ten out of eleven lecturers and seven of the twelve respondents from industry indicated that students do not develop desired soft skills adequately at the university (Taylor, 2016). Soft skill training is challenging because it requires people to change communication techniques and habits they have developed over a lifetime (Olsen, 2013). Moreover, some uncertainty remains about who should be responsible for helping students develop these skills (Taylor, 2016).

The incorporation of soft skills in MOOCs provides a potential solution to the development of soft skills. Coursera provides a variety of courses related to soft skills, including

Critical Thinking for University Success by University of Sydney, *Conflict Resolution Skills* and *Time Management for Personal & Professional Productivity* by University of California, Irvine (Olston & Alexander, n.d.; DeBow, n.d.; Meloni, n.d). EdX also provides a series of courses, *Stuff You Don't Learn in Engineering School* by IEEE, tailored to advancing the technical careers of engineering students (Selinger, 2012). MOOC developers design these courses with the concept of microlearning because they only require a few hours of engagement per week. Notably, *Time Management for Personal & Professional Productivity* consists of an estimated four to eight hours of videos, readings, and quizzes in total (Meloni, 2015). The minimal time commitment of these courses alleviates the workload of both the instructors and the students. In addition to major MOOC platforms, individual institutions are incorporating soft skills into their curriculum with MOOCs as well. For example, an Italian university, Politecnico di Milano, has developed soft skill courses in order to equip students for a working environment (Corti et al., 2014). Even though plenty of soft skills courses are accessible through the Internet, the decision makers at Politecnico di Milano decided to create their own using the Italian language because many skills strongly connect with local cultural issues (Corti et al., 2014). They also involved students in the design process because students are the target user group of the course (Corti et al., 2014). Furthermore, the time-flexible nature of MOOCs themselves could potentially improve valuable soft skills (de Freitas, Morgan, & Gibson, 2015), such as task prioritization and self-management.

2.2 Applying MOOCs in Developing Countries

With respect to implementing MOOCs in developing countries, there are several common motivations for adopting MOOCs, but also common roadblocks to MOOC adoption. These roadblocks include lack of awareness and time, and technical limitations. There are also key cultural considerations present when integrating western MOOCs in developing countries. In particular, contextualization of MOOCs for different cultures remains a challenge. Contextualization of MOOCs can have far-reaching implications. A number of ongoing MOOC projects in Africa provide key insights into the ways in which various institutions are navigating

the complex task of adopting MOOCs to improve higher education.

2.2.1 Motivations for MOOC Adoption in Developing Countries

The motivations for using MOOCs in developing countries differ from those in developed countries. In a study by the Technology & Social Change Group (TASCHA) at the University of Washington Information School (Garrido et al., 2016), researchers investigated the use of MOOCs among individuals in Colombia, The Philippines, and South Africa. Researchers found that among the three countries, the most common motivations for using MOOCs were to gain specific skills for a current job, prepare for further education, or obtain professional certification. Overall, the purpose for using MOOCs in developing countries is for education and career advancement. Approximately half of the users in the study completed MOOCs to certification (Garrido et al., 2016), which is a clear contrast to developed nations where completion rates are often below 10% (El-Hmoudova, 2014). This may indicate more serious and committed usage of MOOCs in developing countries.

MOOCs are an appealing option for extending the resources of universities in the developing world. By integrating existing MOOCs from top universities, developing world universities have the potential to increase the quality of their courses. This is especially useful in disciplines such as engineering, where innovative knowledge from MOOCs can supplement the lack of instructors and access to high-quality equipment. Some researchers also see great value in employing the “flipped classroom” model in developing countries, in order to conserve valuable resources. In this hybrid between online learning and traditional learning, students utilize online lectures to learn the material and then spend class time focusing on applying that knowledge. This model could potentially enable developing world universities to more efficiently utilize their often-limited teaching staff by allowing instructors to focus on leading hands-on class periods instead of creating lectures (Escher, Noukakis, & Aebischer, 2014).

2.2.2 Barriers to MOOC Adoption in Developing Countries

While MOOCs present an interesting opportunity, several key obstacles to MOOC adoption remain in developing nations. According to the TASCHA study, the most common

reason for not using MOOCs was a lack of awareness. 79% of MOOC non-users report that they were unaware of MOOCs (Garrido et al., 2016), indicating the need for more effective promotion of MOOCs in developing countries.

Figure 2 provides a view of the different promotion channels through which non-users first become aware of MOOCs. For users in the three countries surveyed (Colombia, South Africa, and The Philippines), “online search” was the most common channel through which users first learned about MOOCs, followed closely by “teachers and professors”, and “friends and family.”

The study also found that among non-users who were aware of MOOCs, 50% cited lack of time as a reason for not using MOOCs, and concluded that this was the largest barrier to MOOC adoption in this particular group. Surprisingly, only 4% and 2% of MOOC non-users cited lack of computer access and computer skills respectively, making them the least significant barriers to use, according to this study.

Likewise, researchers found income level as a relatively insignificant barrier to MOOC use, in contrast with what the study considered as “commonly held assumptions.” In the study, 80% of the MOOC users belonged to the low and middle-income levels (Garrido & Koepke, 2016). At the same time, there are several technical challenges that make MOOC content delivery difficult in developing countries. Information Technology (IT) hardware capable of supporting the video-rich content of most MOOCs tends to be expensive. Additionally, many universities in the developing world have a limited number of computers for student use and are often unable to provide an Internet connection with enough bandwidth to reliably stream video content (Escher et al., 2014).

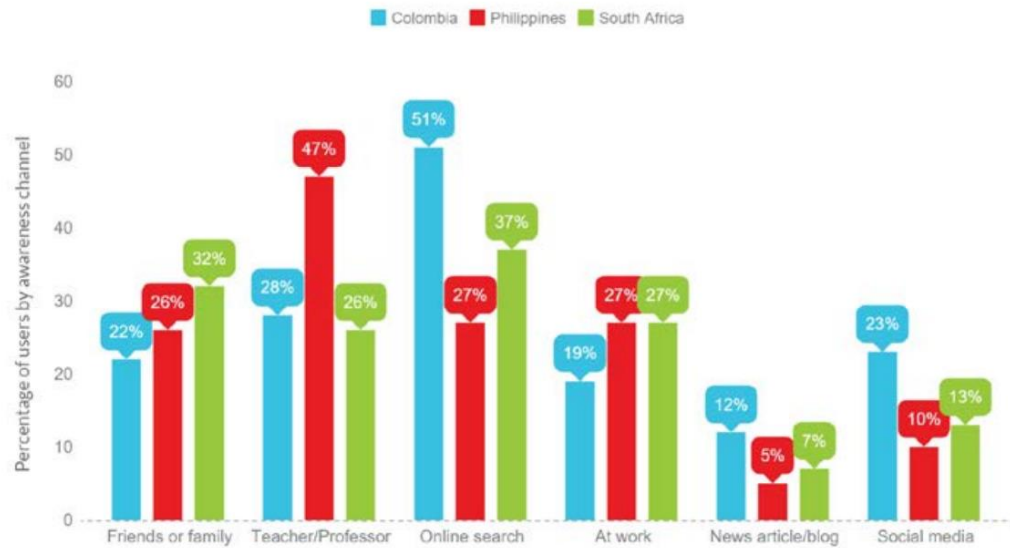


Figure 2. Awareness channels through which users first learned about MOOCs. (Garrido & Koepke, 2016)

2.2.3 Cultural Implications of MOOC Adoption in Developing Countries

While the convenience of integrating MOOCs from popular platforms into university curriculum may be desirable for many developing world universities, a number of issues arise when trying to transfer MOOCs across cultural divides. By drawing on pre-existing MOOCs, resource-limited universities can reduce the time and expense needed to create MOOCs from scratch; however, this approach has potential drawbacks. Since the vast majority of MOOCs originate from the United States and other Western countries, the developers strongly base the content on Western culture and ideals. Many researchers question whether the practice of utilizing these courses in the developing world further entrenches Western worldviews (Czerniewicz, Deacon, Small, & Walji, 2014). Some, like Boston College Professor Philip Altbach, further argue that this practice constitutes a form of neo-colonialism. Altbach contends that this side effect of cultural infiltration by MOOCs is inadvertent, something that neither MOOC creators nor consumers intend. However, Altbach maintains that by primarily publicizing the voices of prevailing global knowledge centers, such as New York, London, and Boston, the

MOOC movement could potentially disrupt the rise of local knowledge centers around the world. This could have a homogenizing effect on the world's knowledgebase. Even when translated into other languages, MOOCs retain the same underlying philosophies, methodologies, and research of the culture from which they originated (Altbach, 2013). MOOC copyright restrictions further complicate the issue. Since most MOOC creators do not design MOOCs with adaptability in mind, MOOC licenses often do not allow modification. As a result, MOOCs often fall short of the customization needs of specific cultures and institutions, making contextualization difficult (Czerniewicz et al., n.d.).

In addition, African teaching styles often contrast with the innovative and interactive methods employed in many MOOCs (Escher et al., 2014). Researchers at the University of Cape Town are challenging Africans themselves to create MOOCs about traditional philosophical concepts, which are uniquely African, in order to strengthen Africa's identity and voice on the global stage (Stam, 2013). Overall, those who seek to integrate MOOCs in developing countries are left with a surprisingly multifaceted dilemma: whether to draw on the existing resources of Western MOOCs or to expend the substantial effort required to implement tailored solutions to the particular location.

2.2.4 Current MOOC Projects in Africa

Examining ongoing efforts to implement MOOCs in Africa provides a glimpse into the various strategies by which universities utilize MOOCs to reshape African higher education. For example, the World Bank's New Economy Skills for Africa Program-Information and Communication Technologies (NESAP-ICT) program in Tanzania supplements existing higher education courses with MOOCs from world leading universities to provide students with a higher quality education. The overall goal of the program is to offer a tailored curriculum that improves the Information Technology (IT) skills of graduates and enables them to meet the needs of the Tanzanian job market (Escher et al., 2014).

While the NESAP-ICT program uses a blend of online and traditional classroom-based instruction, other ongoing efforts in Africa forgo face-to-face instruction almost entirely and choose to focus their resources on online courses. The Kepler project in Rwanda takes an innovative approach to higher education by building a campus entirely around MOOCs.

Developed independently from existing higher education institutions, the Kepler project allows students to complete a four-year course of study using MOOCs from top universities. The Kepler project administrators specifically chose the current MOOCs to meet the requirements of Rwandan students. Students in the program live and learn together and receive assistance from knowledgeable staff members (Escher et al., 2014).

Both the NESAP-ICT program and the Kepler project operate in close collaboration with businesses to ensure that course material aligns with the needs of future employers, and to offer internships to high-achieving students (Escher et al., 2014). The strategy of centralizing online learning programs in physical locations, as seen in the Kepler project, is gaining traction throughout Africa. This model provides students access to locations with the computer hardware to be able to support online learning, as well as a community of learners who can support each other.

Another major effort in African eLearning is the African Virtual University (AVU), an organization dedicated to providing Africans with access to high-quality education through online learning. The organization, which operates a collaborative between the governments of 19 African countries, represents the largest network of Open Distance and eLearning (ODEL) institutions in Africa (*AVU at a glance.*, n.d.). Since 2009, the AVU has been continuously launching ODeL Centers across Africa and as of 2017 has incorporated 53 partner institutions into its network. These ODeL centers provide a physical facility where faculty can participate in AVU eLearning training programs to learn more about utilizing distance learning in their institutions. AVU hopes that the ODeL centers will be self-sufficient and eventually have a positive return on investment, by enabling the sponsoring institutions to generate revenue from eLearning (*ODEL centers launch.*, 2016).

In addition, with the vision of enhancing education and development in Africa through technologies, the International Conferences, Workshops, and Exhibitions (ICWE) host the eLearning Africa conference annually with collaboration from multiple African governments to share progress and advancements in eLearning (Duncan, 2014). In 2015, 1,389 educators and researchers attended the conference, from 68 different countries (eLearning Africa 2016 / international conference on ICT for development, education and training, 2016). This conference represents the enormous interest and potential for future development in African eLearning.

2.3 Educational Resources in Namibia

To present the potential impacts of the implementation of MOOCs, this section will provide a brief history of Namibia's higher education system, Namibians' access to information and communication technologies (ICT), and eLearning adoption at NUST. NUST plans to incorporate MOOCs on soft skills into their curriculum and make the courses accessible to students worldwide. Soft skills are valuable traits that make students more employable after graduation.

2.3.1 Higher Education System in Namibia

There are three universities in Namibia, two public and one private, namely: The University of Namibia (UNAM), Namibia University of Science and Technology (NUST) and International University of Management (IUM). Higher education in Namibia has expanded since its introduction in 1992. Starting with approximately 3,000 students in 1992, UNAM's enrollment in 2015 was over 20,000, including full-time, part-time, and distance education students. The introduction of distance learning and the increasing availability of information and communication technologies are positive strides towards improving the education quality in Namibia (Katjavivi, 2016).

Prior to independence in 1990, Namibia had no formal higher education opportunities for its citizens. In 2004, the Namibian government launched the "Vision 2030" initiative. The goal of the Vision 2030 initiative is to "improve the quality of life of the Namibian people to the level of their counterparts in the developed world, by 2030" (National Planning Commission, 2004). According to this initiative, Namibia will need to develop into an "innovative, knowledge-based society, supported by a dynamic, responsive and highly effective education and training system" (National Planning Commission, 2004). This aspect of Vision 2030 emphasizes improving the quality of education and raising the standard for educational institutions to match those in the developed world. Integrating MOOCs into Namibian universities will provide students with a valuable educational resource and Namibian universities will have more visibility on the global

stage.

2.3.2 Information and Communication Technologies

Several studies and reports have highlighted the opportunities and the potential benefits of information and communication technologies (ICT) for improving education quality. Researchers view ICT as a “major tool for building knowledge societies” (UNESCO, 2003). Honorary Professor Peter Katjavivi, speaker of the national assembly of the Republic of Namibia stated, “There is a need to use ICT more widely and particularly in rural and remote areas where it has not yet been used adequately due to lack of electricity” (Katjavivi, 2016). Minimal knowledge on the repair and maintenance of these technologies is another reason for the lack of ICT in rural areas. As a result, modern technology and its benefits are unavailable to school-aged children in these areas thus negatively affecting their education quality. In Namibia, there are a greater number of mobile Internet users than computer Internet users so information will reach a larger audience if it is mobile friendly. In 2012, 56.1% of the population owned a mobile phone compared to 13.2% of the population that owned a computer or laptop (Calandro et al., 2012). The mobile phone has become the most easily accessible and ubiquitous communications device in the developing world due to affordability and ease of use (Bhavnani et al. 2008).

2.3.3 Online Soft Skill Instruction at NUST

The Namibian University of Science and Technology (NUST) uses a variety of online learning platforms to provide students with an opportunity to expand their learning outside the classroom. NUST utilizes an online learning portal called myNUST where students can access e-courses. These e-courses can be part of classroom-based courses, hybrid classes, or fully online courses. Currently, several technical online courses are available to students through myNUST (Namibia University of Science and Technology, n.d). Reduced Internet speed and lack of computer accessibility on campuses have been problematic in the past for online learning at NUST (Mercer et al., 2013). Technical capabilities of the university are critical to the implementation of MOOCs, as students will need both accessible computers or smartphones and a reliable Internet connection to complete these courses.

The TLU wishes to use MOOCs to improve students' soft skills. In particular, the TLU aims to help students master the "NUST graduate outcomes," a proposed set of soft skills that will make students more employable in the workforce after graduation. The graduate outcomes include critical thinking, problem solving, communication, and writing. The TLU wants students to start developing these skills as soon as they enter NUST.

To deliver these MOOCs, the TLU plans to utilize a new eLearning platform called Kopano. Kopano is a collaborative system between UNESCO, the Ministry of Education, Art and Culture, University of Namibia and NUST. NUST will utilize Kopano's micro-learning solution to deliver short-format MOOC content. The TLU designed the MOOCs to be concise and not interfere with students' academic schedules. Course topics will include time management, critical thinking, interpersonal skills, reflective thinking and eLearning. The TLU tested and finalized the Kopano platform in 2016 and Kopano is set to launch in February 2017. The TLU will launch two preliminary MOOCs, titled, "Time Management", and "Technology to Foster Effective Learning." NUST will open these courses up to students from UNAM, IUM, and around the world. The TLU believes that the participation of students from other universities will motivate NUST students to participate in the MOOCs.

2.4 Promotion of MOOCs

To effectively promote the launch of the MOOC platform, it is necessary to understand effective promotional practices. Advertising is a key component of promotion. This section will begin by discussing past research on the advertising preferences of university students, as well as factors that influence black South African millennials' attitudes towards advertising. It will also cover best practices for new product launches and marketing methodologies, which adapt well to short timeframes and changing requirements.

2.4.1 Promotional Methods on University Campuses

Studies have indicated certain trends to promote to university students, the target demographic for this project, such as peer influence. The Refuel Agency College Explorer is a lifestyle study of 1,511 US university students between ages 18 and 34. As part of the study, researchers attempted to determine the most effective advertising techniques for targeting university students (Figure 3). Researchers asked students how much attention they paid to different forms of advertising. Paying “a lot” of attention means the particular advertisement has a high influence on their decisions while paying “a little” attention means the advertisement has minimal influence. Paying no attention means the advertising method has no influence at all. According to the study, approximately 80% of the students surveyed pay “a lot” (43%) or “a little” (38%) attention to recommendations from friends and family, making this the most effective advertising technique for reaching university students. After recommendations, researchers found television advertisements and samples to be the most effective methods of advertising (White, 2015). Another study administered by Service Management Group (SMG), an international customer research firm, also found that university students are “heavily” influenced by their peers (Fromm & Garton, 2013). Researchers at SMG found, “Most millennial and university consumers turn to friends before making a decision on a product or service” (Fromm & Garton, 2013). The information from these surveys will assist in determining the most efficient promotional methods for MOOCs at NUST.

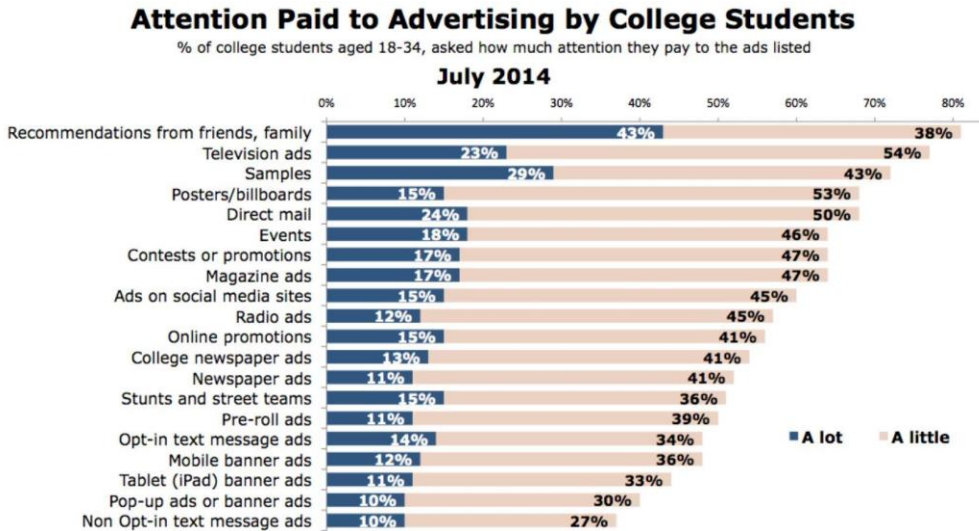


Figure 3: Attention paid to advertising by college students (White, 2015)

2.4.2 Factors that Influence Millennials' Attitudes Towards Advertising

Having grown up in an era when smartphones are prevalent and texting is a fixture in communication, millennials fluently speak the digital language (Fromm & Garton, 2013). They are the most Internet-literate generation to date and lead the way in technology adoption (Ferguson, 2011). Despite the different advertising methods that organizations may utilize, research suggests that they need to augment their existing campaigns with mobile advertising in order to reach millennials (Rubadiri, 2012).

Researchers at Northwest University in South Africa studied black South African millennial's perception of advertising at the university. The researchers sent 440 questionnaires to a random sample of black students. Based on the study's findings, Figure 4 illustrates a proposed model of the six factors that most affect black millennial students' attitudes towards advertising: entertainment, informativeness, credibility, personalization, perceived control, and intrusiveness (Akpojivi & Bevan-Dye, 2015)

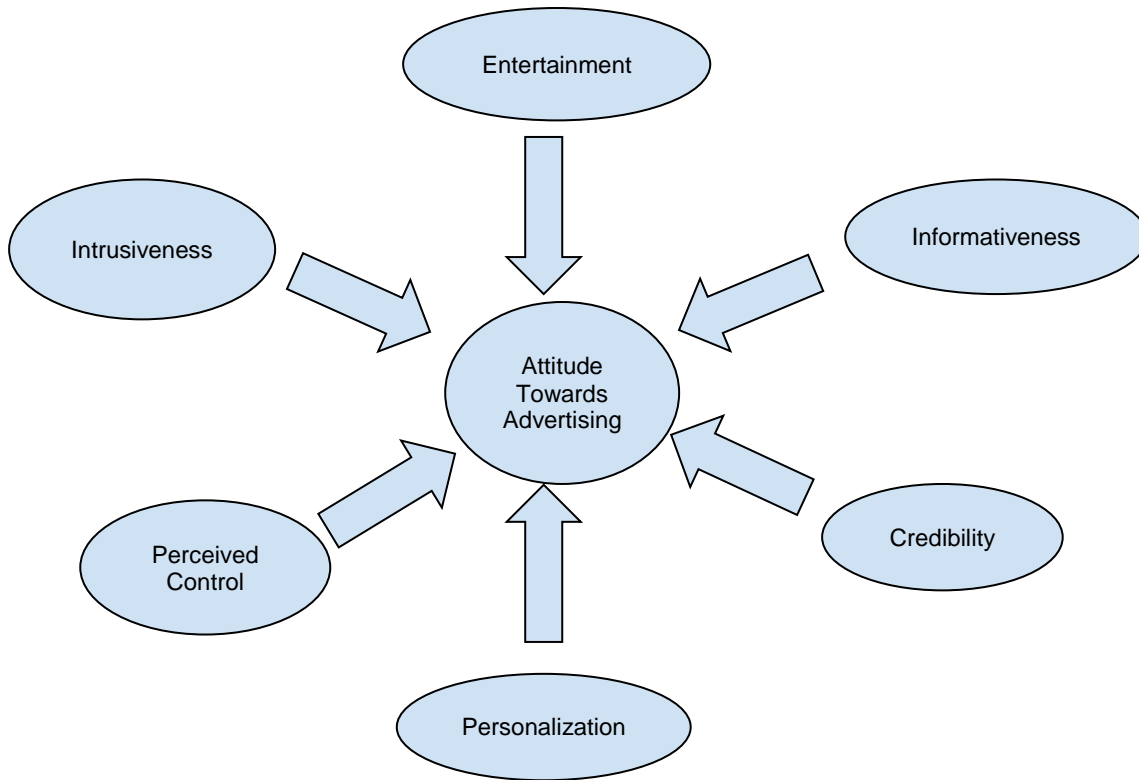


Figure 4: Proposed model of the factors that affect black South African millennial students' attitudes towards advertising (Akpojivi & Bevan-Dye, 2015).

Entertainment is the extent to which an advertisement appeals to consumers' needs for passing time, emotional release or aesthetic enjoyment (Coursaris, Swierenga, & Pierce, 2010). Entertainment is important because it helps engage the consumer.

Informativeness is the term given to the rational element of advertisements, in which marketers attempt to communicate important information about the product or service to the consumer (Akpojivi & Bevan-Dye, 2015).

Credibility, in terms of marketing, is a consumer's perception of how dependable and trustworthy the information is within an advertisement (Venable et al., 2011).

Personalization of advertising involves tailoring messages to the needs of individual consumers and addressing the message personally to them (Chen, Hsu, & Lin, 2010). An

example of personalization is a consumer receiving a personal message addressed to them inviting them to try a new product, as opposed to a generic message.

Perceived control is the degree to which an individual believes they can control the outcome of a particular event or situation. A consumer who perceives that he or she has some measure of control is more likely to become involved in a particular activity or event, compared to one who feels that he has little or no control at all (Akpojivi & Bevan-Dye, 2015).

Intrusiveness is the term used to explain why some consumers view advertising as irritating and other advertising as delightful. The intrusiveness of advertising is the degree to which advertisements interrupt a consumer's goals when using a particular medium (Li, Edwards, & Lee, 2002). Pop-ups while browsing the Internet are an example of intrusive advertising.

2.4.3 Promoting a Successful Product Launch

A successful product launch revolves around customers. HubSpot, a successful marketing and sales software company, uses a defined and well-tested strategy to launch each new product that it develops. One of the first steps in the strategy involves creating rough preliminary messaging about the product and its value proposition in the pre-launch phase. Then, it is critical to create groups of early adopters to test the product. These groups, along with other key stakeholders, can provide critical feedback on the value proposition and other messaging. Once the producers adjust the messaging based on feedback from all the stakeholders, the next step in the plan is to develop creative marketing assets to spread this messaging and to choose the channels through which to promote the material (Andrews, 2016).

The concept of the marketing funnel demonstrates the value of utilizing different channels in a promotional plan. The marketing funnel is a model that describes the process through which marketers convert prospects into customers. Figure 5 illustrates one version of the funnel. First, prospective customers become aware of the product, and then they consider buying it and compare it to the alternatives, before they finally become customers. This model also introduces the concepts of customer loyalty, which represents repeat and long term customers, and advocacy, in which the most loyal customers become advocates for the product and

recommend it to others (*Understanding the marketing funnel: 5 strategies to improve your email marketing.*, 2016).

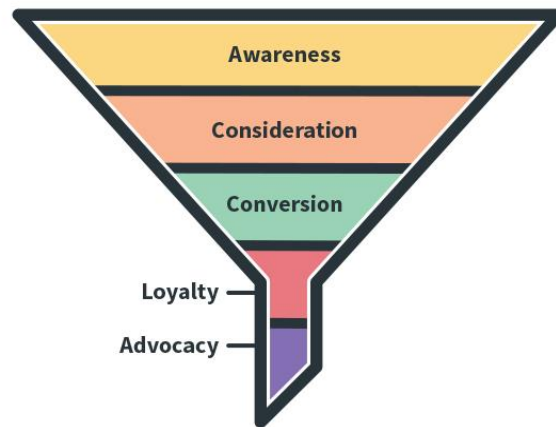


Figure 5: The marketing funnel. (Understanding the marketing funnel: 5 strategies to improve your email marketing., 2016)

HubSpot suggests that multiple “touchpoints,” or interactions between the seller and potential customer, are often necessary to convince someone to try a new product. Utilizing just a single promotional channel may serve to make a potential customer aware of the product, but is often insufficient to move them down the funnel and convert them into a customer. Rather, it is important to utilize several complementary promotional channels which work together to convert customers. Example of channels include social media, email and print communications. HubSpot also cautions that utilizing as many channels as possible is an ineffective approach. It is better to choose a few channels that complement each other and effectively reach the target market (Andrews, 2016).

HubSpot’s strategy also uses events to support product launches. Events can be a powerful method for building awareness and connecting with the target market in a personal and informative way (Andrews, 2016). Other product-marketing experts echo this sentiment, saying that events are “an excellent way to get the media and your audience to take [the product] more seriously” (Barker, 2016). According to a study on successful product launches, market

education plays a significant role in launches for products with which the target market is unfamiliar. In this case, seminars and lectures can play a major part in educating a market on the product and the benefits it brings. These educational tactics are strongest when they not only build awareness of the product but also portray a vision for the future that this product can bring (Beard & Easingwood, 1996). MOOCs are a new product for NUST and the other Namibian universities. As a result, the marketing plan for this project may benefit from a significant educational component in order to teach students and faculty alike about MOOCs and the TLU's vision for how MOOCs will benefit Namibia as a whole in years to come.

2.4.4 Incorporating Agile Principles

When working with short timeframes and constantly changing requirements, project teams must be able to adapt quickly. This is especially true of teams that are working in unfamiliar environments, where it is crucial to be able to refine the product rapidly based on new information gathered. The stage-gate model is a traditional product delivery process. It describes the process of developing an idea into a delivered product (Karlström & Runeson, 2005) with five stages: scoping ideas, building business cases, development, testing, and launching. Project teams typically complete these phases sequentially, and then review the product at the end of all five stages. The rigidity of this standard product development process makes it difficult for teams to adapt to changing requirements, especially in short timeframes.

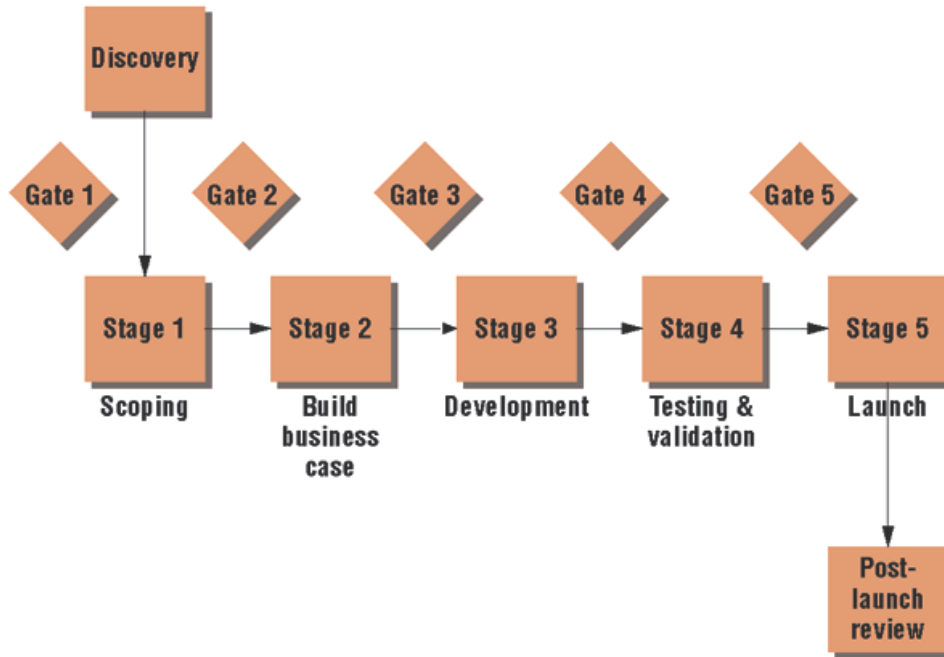


Figure 6: Stage-gate project management model (Karlström & Runeson, 2005)

In contrast with traditional product delivery processes, such as stage-gate, “Agile” principles advocate for adaptive planning, iterative development, and continuous improvement (process shown in Figure 7). Agile originated in software development, but a wide range of industries can apply its principles. Scrum is a popular framework that enables project teams to implement Agile principles. In the Scrum method, the development lifecycle is divided into one-week or two-week periods of time called sprints (Scrum sprint. 2010), with each sprint focusing on a certain subset of features to implement or defects to fix in the product. Every sprint begins with a sprint planning meeting to gather ideas and prioritize tasks. During the sprint, team members check in with each other through daily scrum meetings, called standups. After the sprint execution, the team demonstrates the potential deliverable product during a sprint review meeting and reflects on the progress and team dynamics through a sprint retrospective meeting (Scrum sprint. 2010).

The Agile process enables users to produce a first draft of a product in a couple weeks and receive immediate feedback that a team can use to improve each subsequent version of the product. This method is ideal for projects that require several versions or iterations and is more effective than waiting for months for updates on a flawed version of a product. Agile increases

productivity, creativity, and flexibility within project teams (Sussex, 2014). In one study, 90% of participants said that using Agile practice improved their ability to manage changing priorities and 84% claimed it improved their project visibility (VersionOne 2012 Agile Dev Survey, 2012). Marketing and promotional strategies, when combined with Agile, can work more effectively and adapt more quickly to market changes and customers' needs (Ewel, 2016).

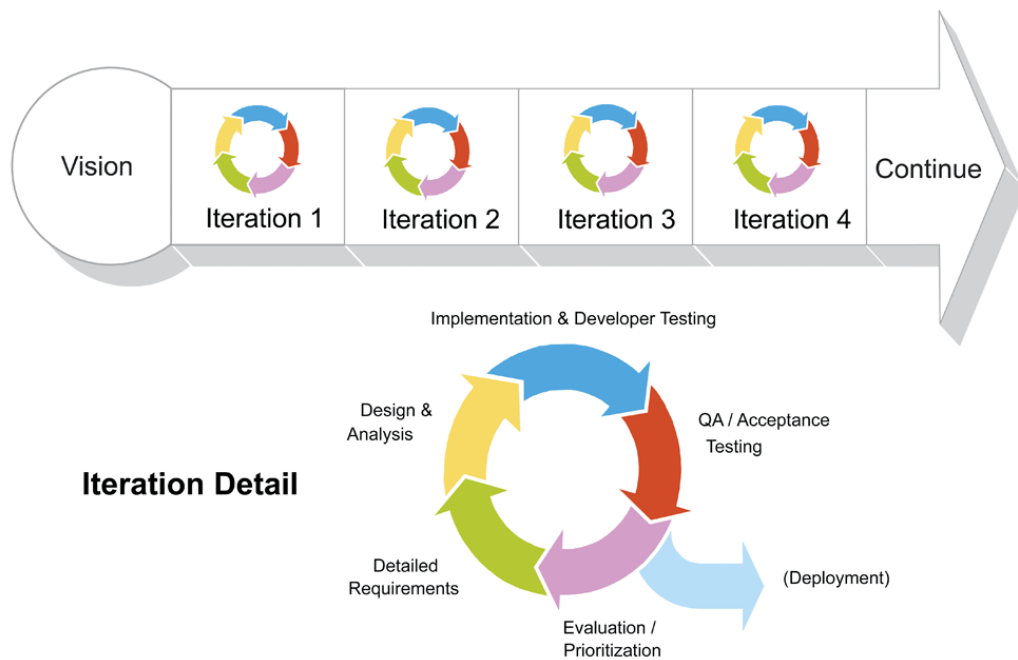


Figure 7: Scrum blends all development activities into each iteration, adapting to discovered realities at fixed intervals. (James, n.d.)

CHAPTER 3: METHODOLOGY

The goal of this project is to assist the Teaching and Learning Unit of the Namibia University of Science and Technology in promoting the launch of two MOOCs at the university by engaging with student pilot groups to develop and implement an effective promotional strategy.

The overall objectives of the project are as follows:

1. Recruit students for pilot groups
2. Develop promotional materials
3. Engage with pilot groups to obtain and analyze feedback
4. Refine and release promotional materials

The project will focus on promoting the TLU's two preliminary MOOCs: "Time Management," which will launch on March 27, 2017, and "Technology to Foster Effective Learning," which will launch on April 18, 2017. The promotional strategy will consist of multiple complementary promotional methods. The incorporation of Agile principles will aid the process of implementing the promotional strategy as Agile adapts well to the brief timeframes and frequent changes anticipated. This process will function as a feedback loop in which the project iterates through objectives 2 through 4 repeatedly (Figure 8). The first six weeks of the project will break down into three two-week sprints, or repeated work cycles. At the beginning each sprint, the team will choose several promotional materials to develop for the duration of the sprint. Then the team will seek feedback from the student pilot groups. Based on the feedback received for each promotional material, the team will decide whether to release it or to push off it off until the next sprint for further refinement. The following sections cover the details of this process. The Gantt chart in Figure 9 shows how the team will iterate over objectives 2 through 4 during the three sprints.

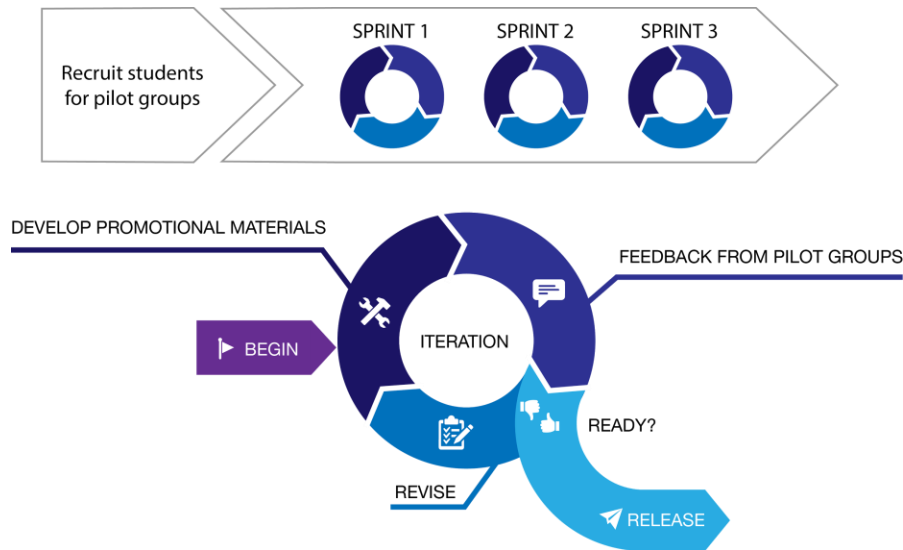


Figure 8: Sprint Iteration Illustration

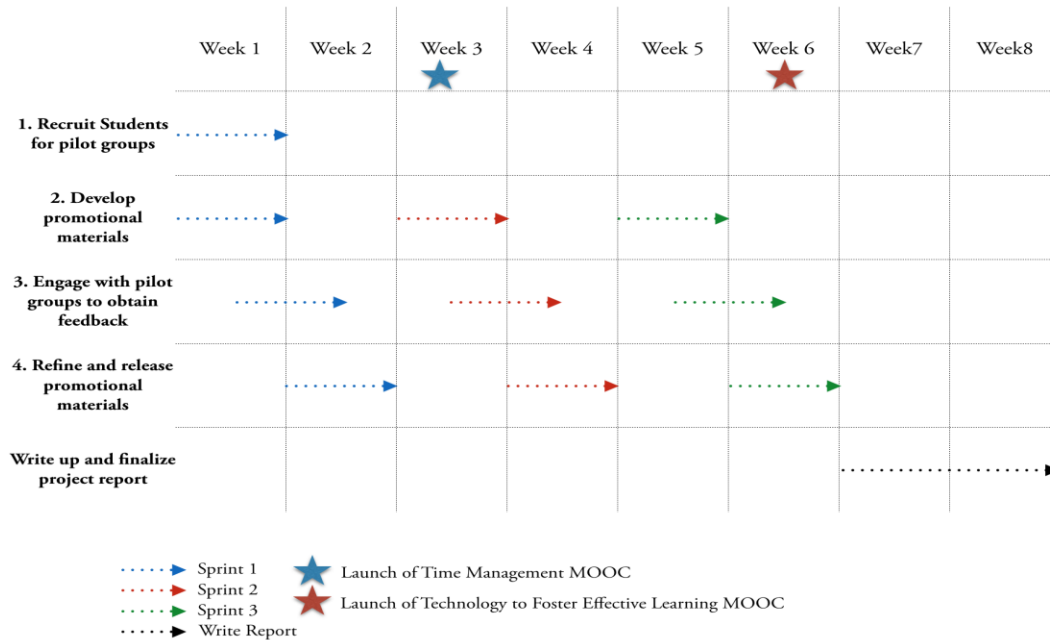


Figure 9: Project Timeline with three sprints

3.1 Recruit Students for Pilot Groups

To properly promote MOOCs at NUST, our team will first recruit student volunteers to form two pilot groups, which will provide feedback on the promotional materials the team develops. It is essential that a sufficient number of students volunteer to participate in the pilot groups as the project process relies heavily on their feedback. The team will use a variety of

methods to reach out to students including a social event on the NUST campus, electronic communication, and pitches to students during lectures. The pilot groups will consist of five students each to maximize one-on-one communication while still receiving representative feedback.

3.1.1 Social Event

The team hopes to utilize the benefits of face-to-face interaction to successfully recruit volunteers. Research shows that face-to-face communication is the most effective advertising method among college students (White, 2015). Our team will contact the Student Representative Council, the governing student body at NUST, to coordinate a social event for recruiting student volunteers for our pilot groups. This event will allow us to talk with the NUST students in a social setting where the team can establish friendly relationships with students and advertise the project on their campus. Those that attend the social event can then further spread our project information to other students through word of mouth. This event will serve as a recruiting event for volunteers and facilitate interaction between WPI and NUST students.

3.1.2 Electronic Communication

Electronic communication is another useful tool for connecting with a wider range of students during our pilot group recruiting process. NUST students and departments regularly use social media. The majority of students have a Facebook account (Mercer et al., 2013). The university itself and several departments at NUST, including the Teaching and Learning Unit, use Facebook pages to post announcements and advertise upcoming events. The team will develop basic electronic recruiting materials, and then use Facebook to spread our communications. The TLU will also provide our team with access to the campus radio station and mailing lists that campus organizations use for campus-wide announcements and will serve as another method for communicating our messages.

3.1.3 Lecture Pitch

In addition to holding the social event and utilizing electronic communication, our team will visit lectures to give a brief talk about MOOCs and the pilot groups. This will serve as

another form of face-to-face communication with NUST students and will be a valuable recruiting method. The Teaching and Learning Unit will arrange these classroom visits for our team. These visits will consist of 3-5 minute pitches describing the MOOC project and the purpose of our pilot groups, and will end with a request for volunteers.

3.1.4 Recruiting Methods Overview

In addition to the formal recruiting methods, a number of informal recruiting opportunities may also present themselves through interactions with students. Both the formal and informal recruiting methods will provide us with preliminary experience with electronic and face-to-face promotion at NUST. This experience will serve to guide our decisions later on in the project. The team can evaluate the effectiveness of these methods during the recruiting phase and consider using them again for the promotion of MOOCs themselves further detailed in section 3.4.

3.2 Develop Promotional Materials

The team will develop pilot groups and preliminary promotional resources simultaneously. A decision matrix will aid in the process of selecting promotional methods. The initial list of potential promotional methods is based on input from the TLU as well as knowledge gained in the background chapter on the advertising tactics for college students, and South African black millennials (Section 2.4).

3.2.1 Selection of Preliminary Promotional Materials

To aid in the selection of preliminary promotional methods to develop, the team created a decision matrix to compare the attributes of potential promotional methods (Table 2) based on background research and information received from the TLU. The decision matrix compares factors that influence the effectiveness of various promotional methods. The matrix may include additional attributes and methods as the project progresses. The team estimated the value and cost of the chosen attributes in the matrix and filled Table 2 to illustrate the use of the matrix. This tool will provide insight into how different promotional methods complement each other. The team will start from scratch estimating the values of each attribute once the project begins

onsite. The TLU has suggested the team focus on electronic and face-to-face promotional methods. Face-to-face content includes seminars, social event and pitches given to lectures.

Table 2: Decision matrix for potential promotional methods

Method	Required resources	Cost	Time	Entertainment value	Informative value
Online flyers	Design skills	low	medium	medium to high	low
Integration with existing course	Administrative permission	low	high	low	high
Promotional Video	Computer, Camera	low	medium to high	medium to high	medium
Video testimonials of students	Computer, Camera	low	high	high	medium
Email	Access to email aliases or newsletter	low	low	low	medium to high
Seminars / Presentations	Space, time, administrative permission	low	high	medium	high
Video tutorial for MOOC platform	Computer, video editing tools	low	high	low to medium	high
Pitches at the beginning of lectures	Cooperation of NUST professors / faculty members	low	low	low	medium

For the purposes of this project, the term promotional method refers to any general, theoretical technique for promotion. A promotional material is a specific, physical implementation of a promotional method. A promotional channel is a means through which the team can release promotion materials. The specific combination of promotional materials and

channels the team utilizes represents the promotional strategy. For example, the team may decide to use promotional method of a digital flyer by creating a specific promotional material--a digital flyer portraying the benefits of time management skills. Then team will work with the TLU to release it through the channels of campus email lists and Facebook. This implemented material, in conjunction with many more, represents the overall promotional strategy for the project.

When selecting complementary promotional methods from the list of possibilities, the team will consider the target audience. For example, it is not good practice to choose only digital methods of promotion, as it neglects those without access to digital devices. Instead, an example of a well-balanced and diverse promotion strategy might include quick talks given at lectures, and promotional video and graphic materials that the team shares through mailing lists and social media, as well as in-person seminars. It is important that this strategy incorporates multiple complementary promotional methods rather than just one. This ensures that there will be multiple touchpoints, or interactions between our promotional materials and our target audience. This repeated interaction will move students further into the marketing funnel and convert them into MOOC users.

3.2.2 Development of Promotional Materials

Based on the list of preliminary promotional methods selected, the team will then create preliminary promotional materials. At the beginning of each sprint, the team will choose a few promotional materials to develop based on the amount of time each requires as well as other factors on the decision matrix (Table 2). As the team receives feedback from the pilot groups, there may be additions or subtractions to the overall list of materials to develop.

When first developing promotional materials, the team will not have all the details needed to complete them. Instead, the creation of mockups will allow the team to further refine the promotional materials later, based on pilot group feedback. This process follows HubSpot's product launch strategy and will allow the team to build up creative promotional assets early on, rather than waiting until all the necessary information is available (Andrews, 2016). Although this project will utilize a continuous development strategy, the materials released will form an overall cohesive promotional strategy.

3.3 Engage with Pilot Groups to Obtain and Analyze Feedback

A pilot study is a trial run of a larger project that can help identify potential problems, prevent them from escalating, and accomplish several goals before the full implementation.

Before releasing our promotional materials, pilot testing can help with the following:

- Confirm whether the plan is ready for full-scale implementation
- Gauge target population's reaction
- Make better decisions about time and resource allocation
- Refine metrics that measure the success of the promotional plan (The National Campaign to Prevent Teen and Unplanned Pregnancy, n.d.)

3.3.1 Plan and design the pilot study

The end goal of this pilot study is to evaluate following five aspects of each of our promotional material and gain feedback on how to improve:

- *Clarity*: How well the target audience understands the promotion material
- *Entertainment*: The extent to which an advertisement appeals to consumers' needs for passing time, emotional release or aesthetic enjoyment
- *Attractiveness*: How well the material captures target audience's interest
- *Accuracy*: How accurately the material describes and conveys the value of the MOOC
- *Persuasiveness*: How effectively the material convinces the target audience to sign up for the MOOC

To effectively evaluate the above five promotional material attributes, the pilot group study will involve two pilot groups, one group that will experience the MOOCs firsthand and another that will not experience the MOOCs. The group that has MOOC experience (Group 1) will review our preliminary promotional materials as well as evaluate the accuracy of the portrayal of each MOOC. The group with no MOOC experience (Group 2) will provide feedback on how persuasive the promotional materials are to individuals without MOOC experience.

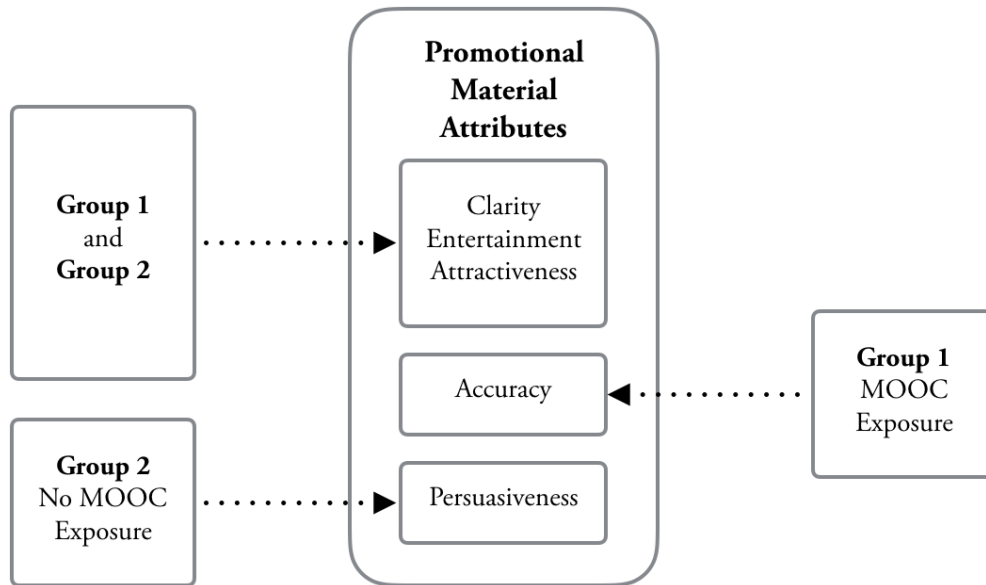


Figure 10: Pilot Groups and Promotional Material Attributes

Two forms of information gathering apply in this study:

- Group Discussion
- Anonymous questionnaire

The study benefits from group discussion in that face-to-face communications personally engage participants of the conversation and encourage qualitative real-time responses (The importance of face-to-face communication, 2013). However, finding a time to fit all group members' schedules for group discussions can be challenging. Therefore, each pilot group will consist of only five members. The team will also obtain quantitative feedback by giving questionnaires to the pilot groups. Anonymous questionnaires can provide a comfort zone for individual group members to express their honest opinions by granting privacy. Our meetings with the pilot groups will consist of both group discussions and anonymous questionnaires. Because Group 1 and Group 2 serve different evaluation purposes, the team designed two sets of questionnaires and discussion questions tailored to each group. Appendix A includes all the preliminary questionnaires and discussion questions.

3.3.2 Conduct Pilot Study.

This study will consist of one meeting per group per sprint, for three sprints. The team will distribute a questionnaire (Appendix A.1) to both pilot groups during the Sprint 1 meetings to understand the background of individual group members. Another purpose of the first meeting with Group 1 is to expose Group 1 to both MOOCs and have a discussion (Appendix A.2) to obtain their promotion ideas for each MOOC. After the MOOC discussion, the team will present their promotional materials and ask the pilot group participants to fill out a quantitative questionnaire (Appendix A.3.1) for each material to evaluate its readiness for release. Another discussion will follow (Appendix A.5.1) to examine how each promotional material could improve. Appendix A.6 contains the preliminary meeting agenda for the first meeting with Group 1.

The first meeting with group 2 follows the same procedures except for the MOOC discussion (Appendix A.3.2 and A.5.2). The following Sprint 2 and 3 pilot meetings will only include quantitative evaluation and qualitative discussion, using the same forms in A.3 and A.5.

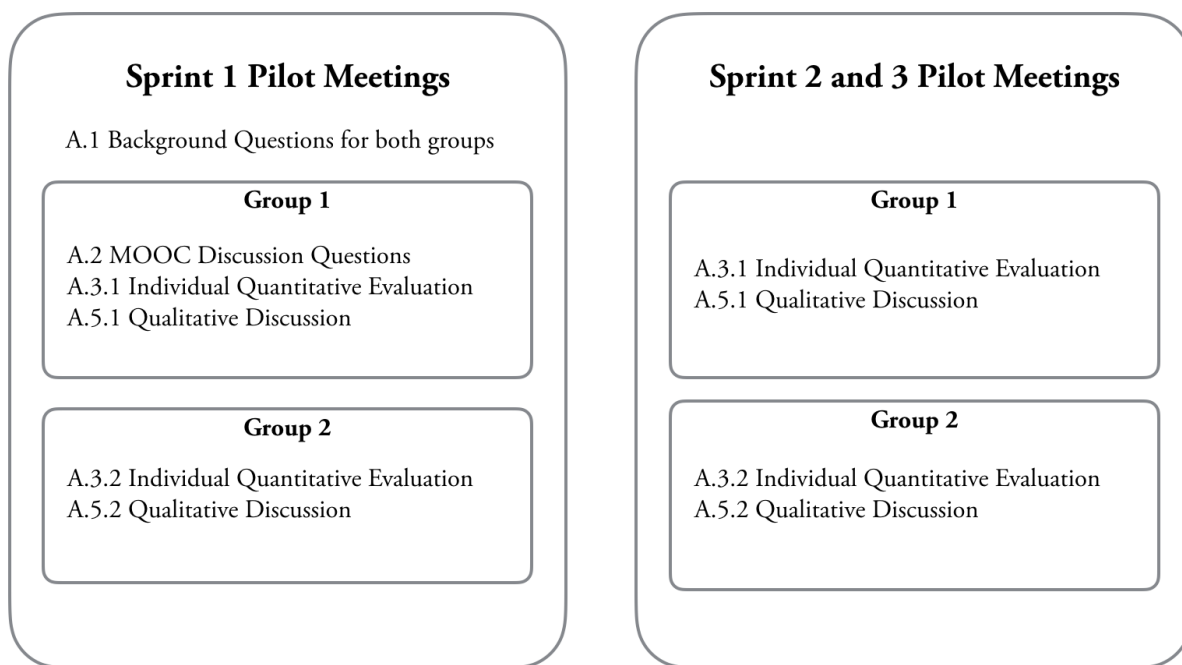


Figure 11: Forms and Meetings Plan

3.3.3 Evaluate Pilot Results

In order to determine when a promotional material is sufficient for release, the team will utilize data received from the pilot groups. Appendix 3.1 and 3.2 contain the questionnaires designed for Pilot Group 1 and Pilot Group 2 respectively. A weighted average of the answers will aid in determining whether each promotional material is ready for release. For each set of results obtained from the A.3 questionnaires, the team will calculate the averages of the total scores for each of the five questions among the five members of each group.

$$\text{Average score vector: } S = [s_1 \ s_2 \ s_3 \ s_4 \ s_5]$$

The team has assigned weights on each attribute of the promotional material that maps to a question on the questionnaire on Appendix 3. The weight of each answer is based on the relative importance of the particular attribute to the team on a scale of one to three. Calculations scaled the weights so that all the averaged weights adds up to one (Table 3 & Table 4). One scaled weight vector will contain these five weights. Each set of quantitative questionnaire results thus has scaled weight vector W as well:

$$\text{Scaled weight vector: } W = [w_1 \ w_2 \ w_3 \ w_4 \ w_5]$$

We use dot product to calculate the promotional material readiness indicator R .

$$R = W \cdot S = w_1 \times s_1 + w_2 \times s_2 + w_3 \times s_3 + w_4 \times s_4 + w_5 \times s_5$$

If a promotional material receives a score of 3.5 or higher, it is considered ready for release. Appendix 4 includes an example of the weighted average calculation for one promotional material.

Table 3: Group 1 (has MOOC exposure) weight table

	Weight	Scaled Weight
Clarity	2	2/11
Entertainment	1	1/11
Attractiveness	2	2/11
Accuracy of MOOC description	3	3/11
Portrayal of MOOC value	3	3/11
Total:	11	1

From Table 3, the scaled weight vector for group 1: $W_1 = [\frac{2}{11} \frac{1}{11} \frac{2}{11} \frac{3}{11} \frac{3}{11}]$

Table 4: Group 2 (no MOOC exposure) weight table

	Weight	Scaled Weight
Clarity	2	2/10
Entertainment	1	1/10
Attractiveness	2	2/10
Fit at NUST	2	2/10
Persuasiveness	3	3/10
Total:	10	1

From Table 4, the scaled weight vector for group 2: $W_2 = [\frac{2}{10} \frac{1}{10} \frac{2}{10} \frac{2}{10} \frac{3}{10}]$

3.4 Refine and Release Promotional Materials

After the team calculates the readiness indicator for each promotional material developed in a given sprint, the team must use that information to decide whether to release or refine the material. To determine this, the team must consider not only the readiness indicator but also the amount of time it would take to improve that score. If the pilot groups indicate that a small fix would improve a given promotional material, the team may decide to simply carry out that fix immediately to get the material ready for release in the current sprint. If the indicator is much lower, and the team determines that the promotional material requires significant revision, the team will revise and develop it in the next sprint. As seen in Figure 12, each material developed in a given sprint receives independent consideration. Some materials may be sufficient for release after only one sprint, while others may require multiple.

The team must also choose appropriate channels through which to release the materials to the target audience. Some materials, such as a transcript for an SMS message, may only have one possible promotional channel for release. Others, such as digital flyers, may spread through both email and social media.

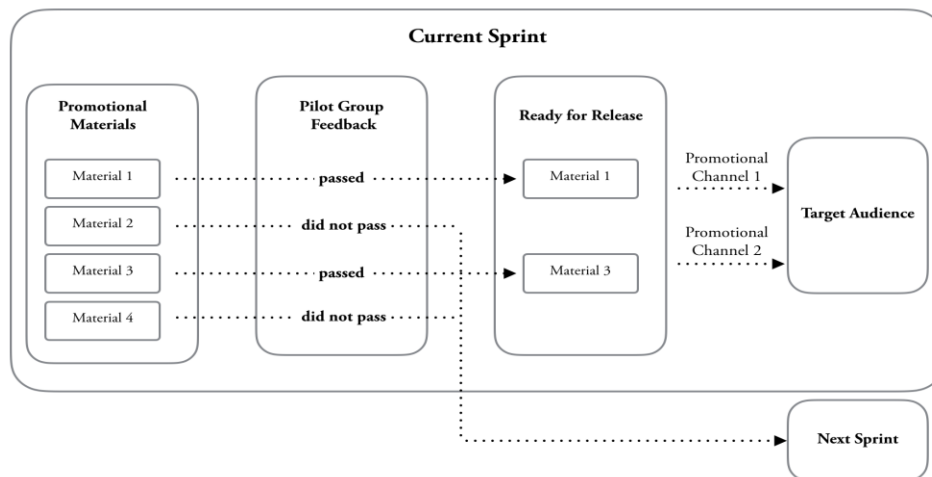


Figure 12: Sprint Flowchart

The team designed this process to maximize efficiency by working within a tight feedback loop to adapt the promotional materials to fit within the Namibian context and to address our target market. This process will also address the TLU's need for promotion before and after the launch of each MOOC. Instead of waiting for all the promotional materials to be ready for release, this continuous delivery process will ensure that promotion is an ongoing effort.

3.4.2 Assessing Promotion Success

In addition to implementing our promotion strategy, our team plans to assess the effectiveness of our promotion using several metrics and the concept of the marketing funnel. In order to gather more information on the relative performance of each promotional channel used, our team plans to collaborate with the TLU to integrate a simple, one-question survey given to Kopano users. The options on this survey will change according to the finalized promotional methods, but the basic structure is as follows:

How did you hear about the Kopano eLearning platform?

- ☐ Promotional video
- ☐ Seminar
- ☐ Lecture
- ☐ Radio
- ☐ SMS message
- ☐ Facebook
- ☐ Word of mouth
- ☐ Other: _____

In the long term, the TLU wishes for the MOOCs to educate 15,000 students, across the three Namibian universities. Since this is the first MOOC project at NUST, it is unclear what the rate of adoption will be. It is also difficult to estimate concrete benchmarks for successful promotion in the context of NUST. Regardless, a well-functioning promotion strategy will show signs that students are moving down the marketing funnel from the Awareness phase into the

Conversion phase (Understanding the marketing funnel: 5 strategies to improve your email marketing., 2016). At the end of each sprint, a compilation of the data for various metrics will indicate the effectiveness of the promotion strategy. These metrics correspond to each phase of the marketing funnel. The metrics may change according to the choice of promotional methods, but the preliminary structure is as follows:

Awareness

- Number of impressions, clicks, and likes on social media
- Number of students reached in person (Seminars and lectures)
- Number of views (for videos)
- Number of impressions through SMS
- Estimated audience of radio listeners

Consideration

- Number of users who have registered on the Kopano platform

Conversion

- Number of users enrolled in each available MOOC

Loyalty

- Number of users who complete one of the two MOOCs

Advocacy

- Social media shares
- Number of users who indicate on the Kopano survey that they found out about the MOOCs by word of mouth

Over the course of this project, the team hopes to see an increase in the number of users across all phases of the funnel. In particular, an increase in the number of users enrolled in the MOOCs, which, in marketing terms, would represent successful conversion of leads into customers. The loyalty and advocacy phases of the funnel may be harder to assess during the timeframe of this project. Factors out of our control, including the MOOC platform design, may also influence the outcome of the project. However, if there is activity in these phases of the

funnel, that would be a positive sign. User loyalty and advocacy could be an indicator that the promotional materials accurately and effectively conveyed our message, and that these students were satisfied with their experience. In the long term, the TLU can use perceived or measured improvement in students' time management and educational technology skills for an indicator of the success of the project.

3.5 Conclusion and Sustainability

To maximize the effectiveness of the promotion of the two MOOCs at NUST, the team will engage with two student pilot groups from NUST: one with MOOC exposure and another without. The team will select promotional methods and then develop preliminary marketing materials and to distribute through different channels. By collecting feedback from the two pilot groups, the team will refine our promotional materials and then release them in three iterative cycles.

Our project will serve as a starting point for promoting the next wave of MOOCs at NUST. The TLU plans to recruit a team of students to continue the work of our team this first project. The final report will document the promotional strategy and include the methods used and the lessons learned. In addition, it is crucial that the promotional materials developed in this project remain organized and accessible for future work.

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APPENDIX A: PRELIMINARY PILOT GROUP QUESTIONS AND FORMS

A.1 Preliminary Pilot Group Background Questions

The team will use this questionnaire at the first meeting of each pilot group to better understand the backgrounds of the participants.

- What is your name?
- What year are you at NUST?
- What is your course of study at NUST?
- Do you own a laptop?
- Do you own a cell phone? With Internet access?
- Do you use social media? If so, which ones?

A.2 Group 1 (has MOOC exposure) MOOC Discussion Questions

These questions will be discussed as a group with Pilot Group 1 after they are exposed to each MOOC:

MOOC

- ☐ Time Management
- ☐ Technology to Foster Effective Learning
- Do you think you would benefit from taking this course?
- Which part of the MOOC do you think would be most valuable to you?
- Would you recommend this course to your friends? If so, how?

A.3 Promotional Materials Quantitative Evaluation Forms

A.3.1 Individual Promotional Material Evaluation Form for Group 1(has MOOC exposure)

Promotional material: ____ (Filled out by MOOC team)_____

Material Description: _____ (Filled out by MOOC team)_____

MOOC (Filled out by MOOC team):

- ☐ Time Management
- ☐ Technology to Foster Effective Learning

(Filled out by individuals in Group 1)

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.					
This promotional material is entertaining.					
This promotional material captures my attention.					
This promotional material accurately describes the MOOC.					
This promotional material accurately conveys the value of the MOOC.					

A.3.2 Individual Promotional Material Evaluation Form for Group 2(no MOOC exposure)

Promotional material: ____ (Filled out by MOOC team)_____

Material Description: _____ (Filled out by MOOC team)_____

MOOC (Filled out by MOOC team):

- ☐ Time Management
- ☐ Technology to Foster Effective Learning

(Filled out by individuals in Group 2)

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.					
This promotional material is entertaining.					
This promotional material captures my attention.					
I could see this promotional material functioning well at NUST.					
This promotional material would persuade me to try the MOOC.					

A.4 Promotional Material Readiness Indicator Calculation Sample for Group 1

Group 1 Member 1:

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.			X		
This promotional material is entertaining.				X	
This promotional material captures my attention.				X	
This promotional material accurately describes the MOOC.			X		
This promotional material accurately conveys the value of the MOOC.			X		

Group 1 Member 2:

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.				X	
This promotional material is entertaining.					X
This promotional material captures my attention.					X
This promotional material accurately describes the MOOC.		X			
This promotional material accurately conveys the value of the MOOC.	X				

Group 1 Member 3:

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.		X			
This promotional material is entertaining.	X				
This promotional material captures my attention.		X			
This promotional material accurately describes the MOOC.				X	
This promotional material accurately conveys the value of the MOOC.				X	

Group 1 Member 4:

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.					X
This promotional material is entertaining.					X
This promotional material captures my attention.					X
This promotional material accurately describes the MOOC.					X
This promotional material accurately conveys the value of the MOOC.					X

Group 1 Member 5:

	Strongly disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]
This promotional material is understandable.					X
This promotional material is entertaining.			X		
This promotional material captures my attention.			X		
This promotional material accurately describes the MOOC.				X	
This promotional material accurately conveys the value of the MOOC.				X	

Average score sheet:

Member/Scores	Question 1	Question 2	Question 3	Question 4	Question 5
Member 1	3	4	4	3	3
Member 2	4	5	5	2	1
Member 3	2	1	2	4	4
Member 4	5	5	5	5	5
Member 5	5	3	3	4	4
Average	3.8	3.6	3.8	3.6	3.4

Weighted Score Sheet:

	Weight	Averaged Weight	Average Score	Weighted Score
Clarity	2	2/11	3.8	0.69
Entertainment	1	1/11	3.6	0.33
Attractiveness	2	2/11	3.8	0.69
Accuracy of MOOC description	3	3/11	3.6	0.98
Portrayal of MOOC value	3	3/11	3.4	0.93

Total Score:	3.62
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A.5 Promotional Materials Qualitative Discussion Questions

A.5.1 Promotional Material Qualitative Discussion for Group 1(has MOOC exposure)

Promotional material: ____ (Filled out by MOOC team)_____

Material Description: ____ (Filled out by MOOC team)_____

MOOC (Filled out by MOOC team):

- ☐ Time Management
- ☐ Technology to Foster Effective Learning

How would you make this material more understandable?

How would you make this material more entertaining?

How would you change this material to better capture your attention?

How would you change this material to more accurately describe the MOOC?

How would you change this material to more accurately convey the value in taking this MOOC?

A.5.2 Promotional Material Qualitative Discussion for Group 2(no MOOC exposure)

Promotional material: ____ (Filled out by MOOC team)_____

Material Description: ____ (Filled out by MOOC team)_____

MOOC (Filled out by MOOC team):

- ☐ Time Management
- ☐ Technology to Foster Effective Learning

How would you make this material more understandable?

How would you make this material more entertaining?

How would you change this material to better capture your attention?

How would you change this material to make it fit in better at NUST?

How would you change this material to make it more appealing to your peers?

How would you make this material more persuasive?

A.6 Agenda for Sprint 1 Pilot Group 1 meeting

Sprint 1 Meeting Agenda

Group: Pilot Group 1

Members:

Date:

Meeting Agenda/ Discussion Points

1. Ice breaker and background information collection
2. Expose pilot group to MOOCs
3. Brainstorm ideas on how to best promote the MOOCS
4. Present team's preliminary promotional materials to group and evaluate them

1. Ice breaker and background information collection

We will conduct icebreakers to get to know the members of the pilot group and then we will give them the Preliminary Pilot Group Background Questions in Appendix 1

2. Expose pilot group to MOOCs

We will expose the pilot group to the Time Management and Technology to Foster Effective Learning MOOCs.

3. Brainstorm ideas on how to best promote the MOOCS

After the group has seen the MOOCs we will ask them for ways they would promote these MOOCs.

4. Present team's preliminary promotional materials to group and evaluate them

We will present our preliminary promotional materials to the group and get feedback based off their responses in the questionnaire in Appendix 3.1 and an open discussion that we will have with the group. The discussion will be on the quality of the MOOCs and the team will record their findings in the form found in Appendix 5.1.