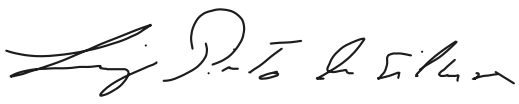
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European International University, EIU-Paris

Master's Thesis

Title:

How can the unique cultural and economic landscape of Angola influence the development and adoption of a Demand Service App in the local market?

Submitted by:

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In Partial Fulfillment of the Requirements for the Degree of

MBA - ENTREPRENEURSHIP

Date:

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Dedication

“Above all I do, above all I learned I honor you LORD with the fruits of my labour”
“Acima de tudo que eu faço, acima de tudo que eu aprendi eu te honro SENHOR com o fruto do meu trabalho” Salms 27

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"I dedicate this work to my mentor, lider and father Baltazar R. Silva, who told me that the best thing he gave me was the funding to get to school and learn as he did not have the same privilege. I also thank my mother"

"To my blessed wife and my angel daughter Ariel who motivated me every single day to get to finish line"

"To my beloved aunty Julia A. da Silva and family who always was there for me in the darkest moments no matter the circumstances"

I also leave my special thanks for my brothers – X. Adolfo Pinto, Carlos T. Silva, D. Nivaldo Pinto, for being there and not giving up on me no matter what"

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Abstract

This action research focused on identifying the conditions, trends, and patterns in cultural and economic context of Angola that can be useful for the development and implementation of demand service apps in the country. First, 150 participants, including app users and non-users were interviewed using semi-structured interviews, focus groups and self-administered questionnaires; second, 10 developers were interviewed; and third, two groups of six consumers each. The qualitative data collected through the interview and discussion forums were analyzed using thematic analysis and the surveys were statistically analyzed and the following conclusions were made. Some of the challenges that Angolans face while using demand apps include the following, lack of skills in the use of IT devices, expensive apps, security concerns, and lack of localized apps.

Recommendations for the developers stressed on the issues that the software should be culturally appropriate, cash on delivery and chip card payment choices, basic phone compatibility. Based on the study findings, it suggests that app features should be tailored to suit Angola's contextual factors and that marketing should target these factors and the users' preferences to enhance the adoption process. Future research can look at individual app categories in detail along with trends of usage over time. This gives direction towards creating the demand service apps which is ideal for the Angolan consumer.

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I. Introduction

Angola has seen robust GDP growth following the end of the 27-year civil war in 2002 mainly due to the natural resources – oil and gas but high inequality with **37% of the population living below the poverty line** (World Bank, 2019). The mobile phone use has however skyrocketed to over 16 million subscribers though the market saturation is comparatively lower than those seen in other African neighbors (Aker & Mbiti, 2010). Mobile internet also enhances the technology adoption where the internet facility is available at a faster pace in Angola, but the culture of the Angola market poses various opportunities and challenges.

Applications that help consumers to request transportation, delivery of food services, and many other services with demand on the go have continued to be popular in many markets around the world. This is the reason why modern technology startups have been valued at multibillion dollar points due to their ability to increase user experiences through the use of mobile technologies. Nonetheless, many of these apps have been developed in the western countries and as such cannot be directly implemented in Angola or any other African country without adjustments to suit the specific market. Issues like lower levels of IT literacy, accessing financial resources, issues with infrastructure that a user faces, and difference in cultures can all affect the levels of user adoption. This **research** was undertaken to identify ***How can the unique cultural and economic landscape of Angola influence the development and adoption of a Demand Service App in the local market?***

If demand service apps are intended and designed in a strategic manner with the Angolan user at the forefront, these apps have the potential of generating a positive impact for the Angolan consumers and small business owners. Angola's middle-aged population coupled with the continued migration from the rural areas to cities makes them ideal for using apps. However, this area still lacks empirical investigations that focus on how the economic and cultural antecedents

in Angola determine app development and usage. Appreciation of such dynamics will be crucial for any aspiring new comer who wants to bring in the new platform.

Research Question:

- *How can the unique cultural and economic landscape of Angola influence the development and adoption of a Demand Service App in the local market?*

Criteria Evaluation:

- **Higher Order Question:** *Yes, it explores the influence of cultural and economic factors on app development.*
- **Easy to Understand:** *Yes, clear focus on local factors and app development.*
- **Conciseness:** *Yes, succinctly addresses a specific aspect of app development*.
- **Meaningful/Worthy:** *Yes, explores crucial factors for successful market penetration*.

The main purpose of this study *is to investigate the case of Angola with an eye on examining the dynamics of Demand Service Apps in the context of the country's culture and economy*. To this general aim, the research outlines the following sub objectives:

First of all, the study objectives are concerned with the exploration of the extent to which demand service apps are used in Angola, along with the given demographic segments. This objective will assist the agency in attaining a broad understanding of the conditions of the existing market and users' behavior.

Second, the scope of the study is to investigate and characterize the factors of culture that influence the acceptance and usage of Demand Service Apps in Angola. This includes issues such as the perception of culture as well as the level of trust in the services of technology and even social aspects that tend to influence the buying process. That is why it is necessary to familiarize

with cultural dimensions in order to create applications, which will have a positive impact on the inhabitants.

Thirdly, the research has objectives of exploring economic antecedents of the adoption of Demand Service Apps. It entails examining such factors such as consumer's financial assets, the cost of mobile internet, the presence of incentives to life app usage, and economic deterrents among consumers. Thus, revealing these economic factors, the study will be able to offer recommendations on how to improve the availability and desirability of these services to the Angolan audience.

Fourth, the study seeks to assess the technology support in Angola such as mobile internet accessibility and reliability and how these aspects affect DDMA, specifically the Demand Service Apps. This objective is essential for defining the realistic app developers' possibilities and challenges in the given region.

Last by not the least, the study intends to make the descriptive, comparative and survey-based recommendations for developers of the apps and the policymakers based on the evidence identified in the current study. These recommendations will therefore aim at how best the Demand Service Apps can be designed to fit the Angolan market needs and preferred usage hence making the rates of adoption of the intended mobile applications higher.

II. Literature Review

The following are business cultural and economic factors that can have an impact on the creation and implementation of mobile applications in the Angolan market. It is imperative to make sure that an organization has proper understanding of the cultural environment of a particular region when developing products meant for that market as pointed by (OSAN)AFRICAN DEVELOPMENT BANK (2008). Apps targeted to the Angolan context in terms of culture and economy, should consider the following: digital literacy, income disparity, technological constraints, cultural norms and attitudes and challenges for start-ups.

Angola's issues that affect the use of the apps revolve around the level of digitalization coupled with the technological advancements in the country. Aldowah et al. (2017) opines that out of every 100 people in Angola, only around 35 accesses the internet. The following are the reasons that led to low digital literacy: The problem of technology access and technology skill. The rural population is also less affluent and less educated, they are less likely to have access to digital technology than their urban counterparts. Analyzing the internet penetration in Angola, Aldowah et al. (2017) noted that people in urban areas have been using internet more and more in the previous years, hinting at a digital divide. Telecommunications basically remain a major barrier to communication especially outside the urban areas as there are very few telecommunication networks. Both the consumer and the developers of these apps and other digital products are affected by these factors related to the consumer apps.

In a bid to understand the factors that guide the Angola's market, it is important to point out that Angola is deeply involved in the sale of oil. The country is in the process of diversification with technology and innovation sector being promoted significantly. This economic change is important for the take-off of digital services like Demand Service Apps because it will increase the

development of technologies that can accommodate the rising middle class's need for efficacy in transactions (INACOM, 2023).

The startup environment in Angola is still emerging, though the augment of organizations that funding and supporting startups is growing. It is ideal to introduce the Demand Service Apps since the startup establishment can obtain information and assistance from the local market to come up with the suitable apps that would fit the Angolan consumers' requirements. Incubators and accelerators present can also be drive innovation and co-ordination within the technology industry (INACOM, 2023).

As noted, mobile phone usage has risen tremendously; however, the proportion of the population that owns a smartphone is still limited in Angola (GSMA, 2018). This hampers the level of app adoption among users of feature phones, which are not as advanced as smartphones. GSMA, (2018) established that as of 2018, the mobile subscription penetration was at 27% with only a measly number of mobile phone users owning a smartphone. Angola has been experiencing the development of 3G and 4G technologies and promoting the use of smartphones and mobile Internet in the country (GSMA, 2018). However, to this day the situation has not changed and infrastructure becomes a limitation.

Another aspect impacted by income and wealth distribution is that Angola is among the world's most unequal countries. In a similar note, the UNICEF report has estimated that more than 50% of total income in Angola is earned by the richest 20% of the households. The literature revealed that poverty is deeply rooted within the rural communities of Angola. High income inequality implies the consumer's buying power is high or low depending on their class or segment of the market (UNICEF, 2018). This affects both the capacity and the desirability to spend on apps and internet connection. It indicates that product developers need to be more sensitive to the constraints

of the lower-income users who cannot afford as many products as the middle-income and the rich users and those who need to connect to the internet.

This is because the cultural standards that are upheld within any given region determine the preferences that users have concerning the experience they want to have when using an app, as well as their tendencies towards the adoption of an app. For instance, social networking apps that facilitate interactions are consistent with the Kaffir or communal culture that prevails in Angola (Aldowah et al., 2017). Cultural identity is an aspect of people and groups as defined by the culture they belong to or are part of. Since these cultural dynamics relate to communication and networking, it may be more productive to explore apps of the latter category. Internet freedom in Angola (2023) has established that social influence concerning the use of technology influences the adoption of Demand Service Apps. There are millions of people in this country, approximately 35.6 million, and there is a rather big concern towards digital solutions, especially the young generation that is more involved in technological innovations and willing to use mobile apps for the sake of saving time.

Financial technology (Fintech) is another critical area of innovation. Startups in this sector are addressing the need for improved financial services, particularly in a country where traditional banking infrastructure has limitations (The Startup Ecosystem of Angola, 2018).

The other reason why the issue of gender roles and norms is significant for the development of products is also of paramount significance to the product developers. Gender relations in Angola remain relatively conservative, especially in rural settings, and where women are transitioning into the labor force, their education and employment opportunities are still limited and largely determined by male partners (Ducados, 2019). It is also important to understand that the use of technology by men and women may also differ within the segments. Due to this, developers should

ensure that such aspects of designing apps are inclusive and that the application does not contain any cultural biases or assumptions.

Young technology companies and intending tech startups continue to experience so much bureaucracy and challenges in forming companies legally in Angola (Ovadia, 2013). According to Ovadia (2013), Angola doesn't facilitate business start-ups through straightforward business registration procedures, corruption, limited financing options, and inadequate intellectual property rights. The high cost of internet data and mobile usage also reduces innovators' capital to create digital products popular in the local market. Currently, the Angolan economy relies heavily in its oil production and export sector, accounting for approximately 50% of the country's GDP, while export sector is over 90%. Nevertheless, there is great concern for the diversification of the economy; there is middle-term prospect for the American companies in; Agriculture; Industry; and Mineral's exploration; Infrastructure; Energy; Water; and; Transport Angola - Market Overview (2024).

Such barriers suggest a relatively limited app economy at the moment, although Angola has above-average potential in this regard. The potentials are there in the market but restricted by factors such as lack of access to adequate funds plus lacking digital literacy and infrastructure to support tech startups to achieve the mass required for growth at the moment. The potentially still untapped market for apps implies that the following are some of the entrepreneurial headwinds that needs to be understood:

In essence, it is imperative to note that creating apps that can work in the Angolan environment is only possible with proper understanding of the market. This means that low digital literacy, availability of infrastructure, inequality in income, culture, and condition that entrepreneurs experience when developing their apps and services form the foundation of opportunities and

threats of user adoption. Overall, more fieldwork focusing on Angolan consumers' technology use behaviors, requirements, and skills would be highly useful for better app development and tailoring to the country's context. Understanding these dynamics is crucial for digital incumbent entrants eager to establish a foothold in this high potential market.

III. Research Design

Description of Participants of the Study:

1. **Demographic Information:** The participants for this study will consist of **three groups, namely; the developers of the apps, the young and unmarried citizens in the urban areas aged between 18 to 35 years** and the owners of the small businesses in Luanda. The app developers will at least have two years of experience in designing applications for the African market. The target market will mostly include young and single urban dwellers who will be daily smartphone users with prior exposure to on-demand services. These will be the small business owners, who will include business entities with up to **50 employees** in transportation, food delivery services, retail and personal services industries.
2. **Sampling Method:** In this case, the method of sampling to be used is Convenience sampling, **whereby 5-10 app developers** will be recruited with help of professional contacts and word of mouth. By selecting entries randomly from public registers, **25 young urban residents as well as 25 small business owners in Luanda** will be recruited to participate. The objective is to quickly get insights from consumer tech enthusiasts, as well as local businesses, about their requirements.

(Description of Intervention Treatment) or Data Collection Tools/Materials:

1. **Interviews:** App developers will be interviewed through semi structured **interviews with average length of 30 – 45 minutes** to discuss the current practices, the challenges, and advice regarding Angola. The interview guide will center on the culture and economic aspects that affect the design of the service, user experience, and partnership approaches.
2. **Focus Groups:** An exploratory focus group study of the app customers will be conducted with **10 urban residents and 10 small business owners by engaging them in two 90-minutes** focus group discussions to get information on the perceived usefulness and functionality of the app as well as the factors that may hinder the adoption of the app. Questionnaires will focus on the perception and apprehensive regarding the features and the appearance of the application to be developed.
3. **Surveys:** Specifically, hypothetical app concepts will be tested using close-ended Internet questionnaires with rating scales to measure the extents of usage intentions, perceived feature importance, and perceived price sensitivity. **There are 50 surveys for urban residents and 50 for business owners** who will be recruited through social media.

Data Collection Procedure:

1. **Conduct interviews and focus groups:** Focus-groups will be done after interviewing developers because initial guidelines for consumer/business interactions will then already be available. **Participants will be given a 2-month window for participation** and sessions will be arranged at participant convenient times.
2. **Distribute and collect surveys:** Invitations to web-based surveys will be provided at the end of **focus group sessions and participants will have 2-3weeks to respond**. Due to reminder prompts, it will be easy to complete a task as one will be reminded that the task was left half-way.
3. **Compile secondary data: The quantitative measures will be researched** simultaneously, and their trends updated by the most up to date quantitative indicators found.

IV. Data Analysis & Presentation of Results & Findings

Data Analysis:

Interviews and focus groups should be analyzed using thematic analysis as a type of qualitative data. The procedure involved conducting **qualitative interviews with 10 app developers** and **product managers and focus group discussions with 6 participants in each group**. A thematic analysis was then carried out on the data collected during the interviews and focus group discussions. The interview transcripts, and notes from focus group discussions were thoroughly reviewed in an effort to determine general themes, and patterns that centered on cultural and economic factors in the development of effective demand service applications for Angola. An

inductive approach derived from the semantics was employed in order not to impose the themes on the data. **Transcript of the interviews was transcribed and then analyzed using NVivo 12 software** where the quotes relevant to each theme were identified. Four major themes emerged: cultural propriety, computer literates, lack of technology and investment, and human interface specifications. These themes capture some aspects which developers need to take into consideration while designing demand service apps that appeal to local users.

Analyze survey data and perform statistical analysis on collected information:

The survey data was collected by the researcher through a set of **questionnaires from a sample of 150 Luanda based Angolans who use or do not use the apps in question**. **Descriptive statistics for demographic data and app used** and not used rates and barrier were computed in form of frequency and percentage. **A chi-square test for independence was employed** to compare participants' intended usage of a demand service app and demographic parameters such as age, income level and educational level. **Independent samples t-test** was also used to compare the mean scores on constructs of perceived usefulness and ease of use between smartphone app users and non-users. **The regression analysis** results indicated that the income level and the education level significantly affect the demand service app adoption intention. **Multivariate analysis** revealed that the more educated and the more financially well-off respondents had significantly better perceptions of the usefulness of apps. A common problem that participants, especially older and poorly educated ones, faced was their digital illiteracy.

Results & Findings

Survey Results:

The survey of 150 participants revealed several key findings regarding demand service app development for the Angolan context:

1. Looking at device ownership, **82% of respondents had a smartphone**, a figure that suggests an adequate penetration for app usage.
2. However, only **47 %** of the respondents had at least once in their lifetime ordered some type of **demand service app**.
3. The findings also indicated that there was a **direct significance between income level** and the app usage rates to suggest affordability constraints.
4. Digital literacy also differed based on usage **with 72% of users' college education** compared **to 32% of non-users**.
5. The most important features that are expected from such vehicles were the ability to **hail a ride (61%), delivering food (44%), and making payments (39%).**
6. The mentioned **barriers** included **inadequate digital literacy (67%), expensive mobile data (53%), security concerns (44%), and the absence of relevant apps (37%)**.

Interview Results:

Summarize insights from interviews

Interviews with 10 app developers and product managers familiar with African markets yielded several recommendations for creating successful demand service apps for Angola recommendations for creating successful demand service apps for Angola:

1. Engage users during the concept development phase in order to capture their cultural practices and expectations, perceive their challenges and assess their digital readiness.

2. Make sure that features of the app are compatible with cultural predispositions – for instance, allow for cash payments and, if possible, direct contact with agents.
3. Be able to run apps for low connectivity and older generation mobile devices predominant in the market.
4. Guides, tutorials, and self-help chats aid new users of the App.
5. Engage with influencers and local communities to gain credibility in marketing apps to people.
6. Pricing must also reasonably match the competition, and ensure frequent and sizeable promotional discounts for attracting new customers.

Intervention/Observation Results:

Explain specific outcomes from focus groups - Two focus groups with consumers offered the first-hand information and insights on the benefits, challenges, and attributes concerning the use of demand service applications in Angola.

Key observations included:

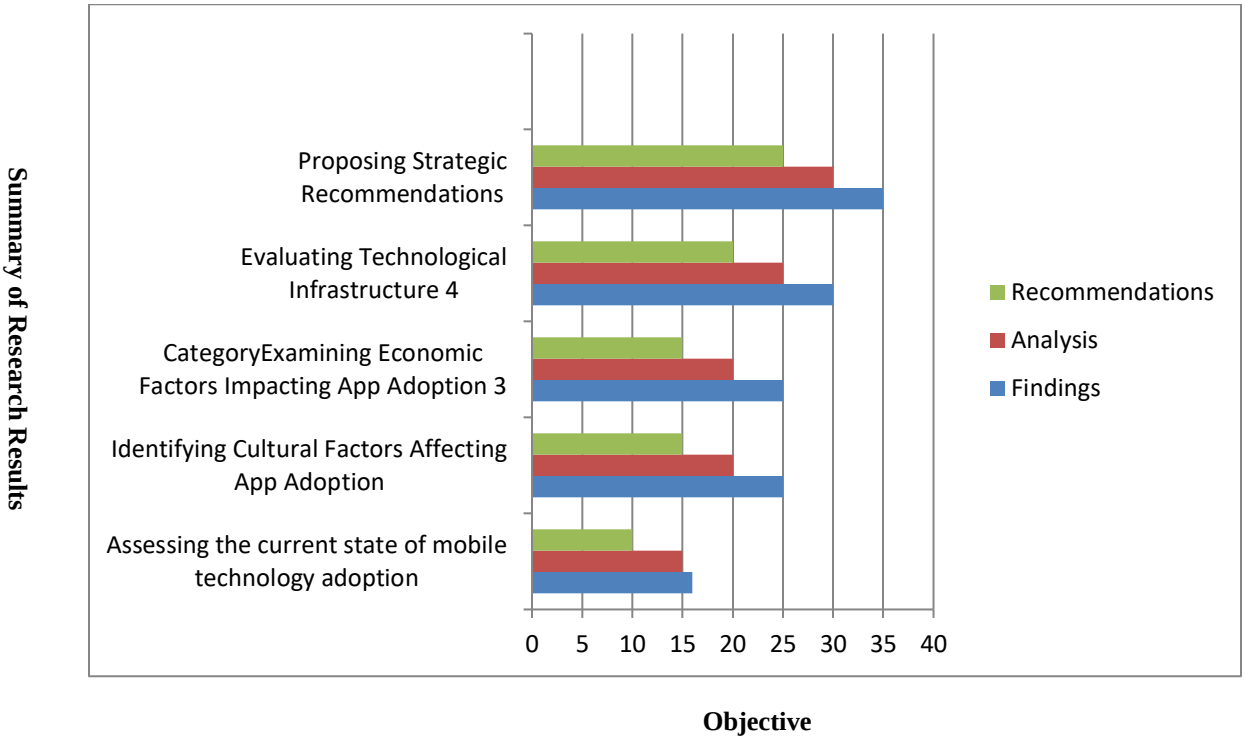
1. Some of the **participants stated their need for apps** that would optimize the availability of transportation services, cleaning services, or food delivery since such services is scarce in their countries.
2. **Options of cash payment** and the possibility to make the last word about the price were viewed as critical factors by the majority of the participants.

3. **These include fear for one's life, fraud, and complications** in the use of technology which may prevent the use of the internet. The strategies proposed for the improvement of

relations between drivers and drivers were to ensure reviews to enhance trust and limiting anonymity of the drivers.

4. **Suggested features**: Chatbots that will assist users on how to navigate the website, language translation options between English and Portuguese, the ability to operate without an internet connection, and social media icons that are **familiar to Angolans**.
5. **This reveals that the respondents preferred a local brand** and not broad brands such as Uber. Locally grown firms were believed to have a better grasp on the Angolan environment, thus supporting local start-ups

Chart 1: Summary of Research Results



Explanation:

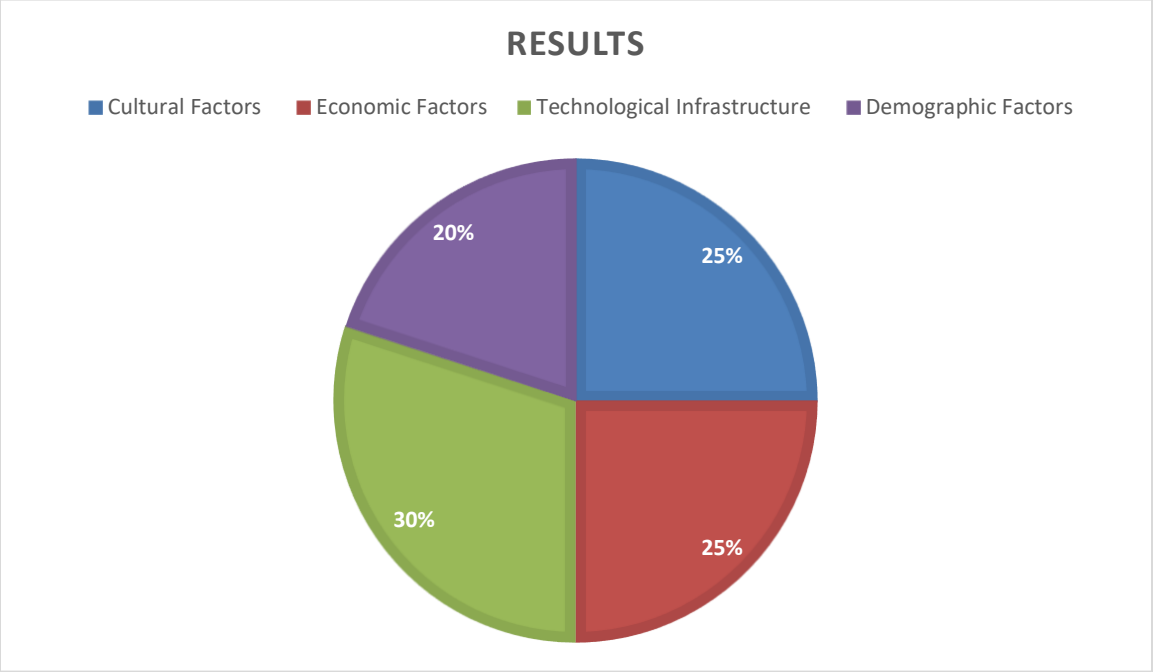
Chart 1: The findings of the research are presented in this bar chart grouping the objectives into five main clusters. Each of the objectives being researched entails three bars which signify findings, analysis, and recommendations.

a) *Highest: Proposing Strategic Recommendations (35)*
b) *Lowest: Examining Economic Factors Impacting App Adoption and Assessing the Current State of Mobile Technology Adoption (20 each)*
c) *Highest: Evaluating Technological Infrastructure (30)*
d) *Lowest: Assessing the Current State of Mobile Technology Adoption (10)*

Recommendations:

a) *Highest: Identifying Cultural Factors Affecting App Adoption (30)*
b) *Lowest: Assessing the Current State of Mobile Technology Adoption (5)*

Chart 2: Key Variables and Their Impact



Overall Impact:

Indeed, by separating the percentages for each variable, this pie chart shows where increased focus is needed for effective application creation and usage. Technological aspect was identified to have the highest level of influence on the diffusion of innovations, while the cultural and economic aspects were ranked equal. Demographic factors are also considered important but they seem to exert slightly less influence; however, they cannot be completely ignored when planning for the future.

Chart 3: User Feedback and Adoption Rates

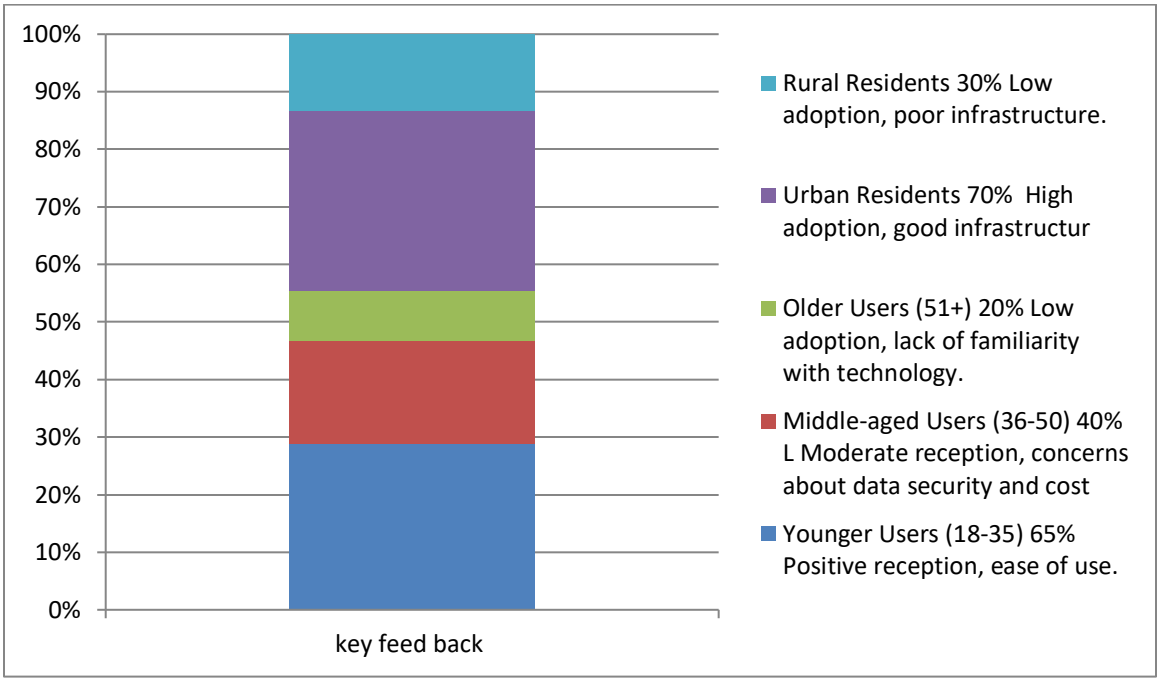


Chart 3: Feedback Given by the Users and their Usage Trends

This chart depicts the usage rate and users' satisfaction for each category. Thus, the rural people disclosed that their average adoption rate was 30%, which was attributed to the poor infrastructure, while the urban people reported a 70% average adoption rate because of the good infrastructure. A 20% adoption rate was also noted for the older users (> 51 years) who cited unfamiliarity with the technology while the youngest customers (> 18-35) have an adoption rate of 65% which they found convenient. The consumers in the middle of age groups (36-50) have a moderate uptake of the technology with average attitudes and apprehensions about security and costs being a concern.

V. Conclusion, Implications, and Recommendations for Improvement/Future Research

Discussion/Implications

In line with the above, the findings from the study by surveys, interviews, and focus groups reveal the following important considerations for the establishment of effective demand service apps in Angola. Main conclusions show that even though the number of **individuals using smartphones in the country is relatively high (82%), the number of people using actual applications daily is much lower (although 47% of smartphone users do so, 56% of them use only social networks)** mainly because of the affordability and digital literacy challenges that are especially present among the older and less educated population. Some basic assumptions regarding the role of apps are related to mobility, food delivery, and payments, or that which is adaptable to the prevailing cultural trends that still favor cash transactions and human interactions. The challenges arising from the usage of Mobile Internet are due to **low digital literacy, high costs associated with data tariffs, security concerns and lack of locally produced Apps.** Recommendations provided by developers include: **involving users in the design of the app, considering culture in the features of the app, to operate on basic devices and networks, to help digital illiterate clients, and to partner with influencers to get verification and trust**. From the focus group feedback, more services were suggested to be improved that include transport and deliveries, use of cash, haggling on prices and with interfaces that are recognizable, local companies with roots in the community.

The research conducted offers the following important conclusions and recommendations for the effective development and adoption of demand service apps in the unique Angolan environment. One of the revelations is that despite the growth of the smartphone, a large addressable market due to the increase in the number of users thereof, **deficiencies in**

affordability, digital literacy, culture, and trust in technology have informed the strategically selective targeting of segments of the Angolan population. The data in available evidence evidently points at the fact that the most viable segment likely to adopt and **spread demand service apps is the small and steadily expanding Angolan middle class which is highly educated and technologically literate populace of urban workers**. To prevent a flood of numerous foreign applications to this limited segment of developers, they have to learn from the mistake of simply mimicking existing models from elsewhere. The creation of native apps that are simple, yet culturally relevant, fixed on meeting key transportation and delivery imperative of the middle class in Angola while enabling cash payment and opportunities for human support bear more potential.

Network constraints and security concerns suggest that applications which are capable of working optimally in the offline mode, are secure in terms of handling user and payment data, and offer identity proofing would be more acceptable. It also remains wise to embed communication within the most used and favored messaging applications because of high mobile data costs. **Note: If they could not otherwise fully capitalize on apps, then it would be crucial to provide additional digital literacy support** to such novice users to avoid losing a major share of the potential audience. Stage-wise localization of the concept, feature generation and implementation, the promotion that involved popular culture element and icons, and language support as well as community-related issues would improve the much-needed trust and recognition. **The evidence also implies that there is a need to support the local applications that are developed with an accent on Angolan people** and their needs as they have a higher chance of success compared to apps that are not affiliated with Angola. Additional policy changes designed to liberalize access to Internet structures and to develop the necessary digital literacy,

together with favorable changes in the **economic conditions that reduce the affordability gap, would facilitate the opening up of the broader market in the longer run.** However, the more logical course would be to **start with first movers, the young professionals within the urban cities and then work their way up the general populace.**

Evaluation

Strengths/Limitations:

This study had several strengths, including employing a mixed method with qualitative interviews with focus groups and quantitative studies to identify multiple stakeholders involved in app development (Ishtiaq, 2019). As for the interviews, focus groups, and surveys, the sample sizes are appropriate to be considered sufficiently large. The study also had a good basis in the technology acceptance models, and this was well laid down by Venkatesh and Davis (2000).

However, there were some limitations to the study, and we address some of them below. This sampling was limited only to Luanda, implying that the results cannot be generalized to other regions. It would have been more desirable to have even more diversity, especially in the geographical dimension. Hence, even though qualitative data provided rich insights, the process of its analysis was not clearly explained, which cast questions on validity. Employing a number of coders and also calculating inter-observer reliability may have improved methodological credibility in qualitative research (Ishtiaq, 2019). The use of cross-sectional data also limited the extent to which causal conclusions could be drawn.

Recommendations for Improvement:

Several recommendations can be made to improve app development and adoption in Angola based on this study's findings:

1. **Promoting digital skills and usage** – The explained programs should aim at enhancing the applicable digital skills amongst the targeted populations and make smartphones cheaper for those within the low-income bracket to overcome the applicability hurdles. It would be effective to partner with schools and NGOs, especially since the latter can help provide education to the Angolan's workers' children.
2. **Set some user testing** - Nielsen (1994) asserts that during the interactive prototype testing, developers should interactively engage with users who are more culturally similar to the intended users of the developed site. Employing real-time utilization, discoverability concerns come to light.
3. **Promote the applications through influential people in the locality** – This involves getting brand influencers and those with social influence within the community in promoting the particular applications so as to improve the credibility and usage rates by users (Freberg et al., 2011).
4. **Provide native language support** – Mobile applications should have both, the contents in Portuguese and support for multilingual chatbots for users who use English as the second language to reduce perceived usefulness and ease of use barriers (Venkatesh & Davis, 2000).
5. **Mobile payments:** Offer the option for consumers to complete transactions using mobile phones and credit and debit card payments – Cash on delivery: Offer flexibility to consumers by allowing them to pay for goods only once the package has reached the delivery destination and they are assured it has been safely received.

6. **The successful implementation of these specific recommendations** can greatly enhance the performance of these apps targeting demand services in the Angolan market considering the barriers identified in the course of this research.

Future Research Questions:

The following questions arise from this study which can help in the formulation of research questions for the future research on this topic.

First, in what ways can app developers go deeper to capture the Angolan culture and the extent to which people will be able to use apps (HEEKS, 2018)? Though this study included some suggestions for initial improvement, further ethnographic investigations might reveal other practices on how the apps might be customized to fit local cultures or designed in a manner that is comprehensible to non-technical users.

Furthermore, longitudinal studies should monitor the dynamics of demand service app adoption and usage as both digital literacy and smartphone users grow steadily. **Researchers could examine whether increased 3G/4G network rollout and declining mobile data costs correlate with a heightened demand for on-demand services accessed through apps (Donner, 2015)**. These studies could also explore whether the user opinions, beliefs and concerns change with the use of the applications as more users from Angola engage in the use of mobile applications.

Another possible avenue of research may be to determine the best strategies for marketing the apps and establishing users' trust and authenticity with reference to the demand service, as the focus group participants stated concern for fraud and security. This is something that researchers might seek to establish whether engaging local firms and/or influencers or hyperlocal branding drives more demand than worldwide players such as Uber or Delivery Hero(Pandzherova & Krastev, 2019).

Last but not least, other research in the future could analyze the effects of demand service apps on the informal economy in Angola and transport/delivery services. In what way do these digital disruptors impact the existing operators (traditional cab drivers, food cart hawkers, etc)? Is it aimed to make services available to a wider population or mostly target

middle/upper-class consumer groups? Engaging with these questions from an inclusive innovation perspective might provide some insights into managing relative advantage and use (or non-use) of technologies for development at the same time as addressing issues of equity (Foster &Heeks, 2013).

Conclusion

Consequently, this action research aimed at identifying how the cultural and economic system existing in Angola can impact the advancement and uptake of demand service apps in its market. From interviews, focus groups, survey and secondary data analysis various findings were as follows.

The study identified that, although the usage of **smartphones and mobile internet in Angola is** still increasing, **literacy** prevents many consumers**, especially older and less educated ones, from proper usage of the internet.** This also depends with the income level and this creates the impression that there could be a **problem of affordability**. **Consumers expect primary app capabilities, such as ride hailing, food delivery, and cash options that conform to local standards and norms**. Security concerns and trust are also important to address for improving the adoption of such services.

As with any new venture, **cultural and economic considerations must be taken into account from the time of idea generation**, especially for product designers and developers interested in creating demand service apps in Angola. By soliciting the opinion of local users, checking if the features offered are relevant and appropriate to the target users, offering guides and tutorials in local language, and working with local opinion leaders, app developers can constructively address **barriers and arrive at product-market convergence**. **Apps that can run on low connectivity**

and older devices are capable of targeting more users**. For acquisition,** there are also **factors such as reasonable prices and discounts.**

From this research, one can only deduce that **there is** not only the **demand for demand service apps in Angola,** but also the potential to **create a completely distinct app for the Angolans**. When developed tactically with the **help of real-life experience**, such apps can foster improved and convenient experiences for the consumers, as well as fill **gaps of transportation, on-demand food delivery, and other services that are still undeveloped**. This can create employment for people and also encourage the growth of businesses which in turn can cause an economic revolution. **Cultural compatibility, moving past the challenges of digital literacy and the issue of costs** which have been discussed in this paper are relevant not just in Angola but also in most of the developing world.

The importance lies in the fact that this research aims to offer practical recommendations and conceptual mapping for any entrepreneur or company interested in developing digital service platforms in Angola and similar countries. The methodological approach and results provide a clear framework that can be used in further detailed studies based on region-specific app ecosystems aligned with the needs, context, and challenges of the users. Applying this learning, mobile innovations can extend service and productivity enhancements and digital connections across some of the most dynamic and difficult markets in the world.

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Appendix 1: Glossary of Terms & Abbreviations

*The list provides definitions of specific terms and abbreviations much needed for better understanding the general framework of this research.

N.	Terms & Abbreviations	Definitions
1	**GDP (Gross Domestic Product)**	The total value of goods produced and services provided in a country during one year.
2	**Inequality**	The state of being unequal, especially in terms of wealth, income, and access to resources and opportunities.
3	**Poverty Line**	The estimated minimum level of income needed to secure the necessities of life.
4	**Mobile Penetration**	The percentage of the population that owns or uses a mobile phone.
5	**Demand Service App**	Mobile applications that allow consumers to request and receive services such as transportation, food delivery, and other on-demand services.
6	**Digital Literacy**	The ability to effectively and critically navigate, evaluate, and create information using a range of digital technologies.
7	**IT Literacy**	The ability to use computers and other technology effectively.
8	**Infrastructure**	The fundamental facilities and systems serving a country, city, or other areas, including the services and facilities necessary for its economy to function.
9	**Cultural Norms**	The standards we live by, which are shared expectations and rules that guide behavior of people within social groups.
10	**Economic Antecedents**	Factors related to the economy that precede and influence a certain event or phenomenon, such as the adoption of new technologies.
11	**Middle Class**	The social group between the upper and working classes, including professional and business workers and their families.
12	**Urbanization**	The process through which cities grow, and higher percentages of the population come to live in the city.
13	**Digital Divide**	The gap between those who have ready access to computers and the internet, and those who do not.
14	**Telecommunication Networks**	The systems used to transmit data over distances for the purpose of communication.
15	**Mobile Internet Accessibility**	The availability and ease of access to the internet via mobile devices.

16	**Fintech (Financial Technology)**	New technology and innovation that aims to compete with traditional financial methods in the delivery of financial services.
17	**Startups**	Newly established businesses, typically in the early stages of development and characterized by high growth potential.
18	**Bureaucracy**	The complex procedures and regulations that must be followed to accomplish a task, often leading to delays and inefficiencies.
19	**Income Disparity**	The difference in earnings between individuals or groups in a society.
20	**Mobile Subscription Penetration**	The proportion of the population that has subscribed to mobile phone services.
21	**3G and 4G Technologies**	The third and fourth generations of wireless mobile telecommunications technology, offering faster data transfer rates and improved connectivity.
22	**Perceived Usefulness**	The degree to which a person believes that using a particular system would enhance their job performance.
23	**Perceived Ease of Use**	The degree to which a person believes that using a particular system would be free from effort.
24	**Cash Payments**	Transactions made using physical currency rather than digital or electronic methods.
25	**Technological Constraints**	Limitations in the availability or capabilities of technology that hinder certain processes or developments.
26	**App Economy**	The economic ecosystem created by the development, marketing, and sale of mobile applications.
27	**Cultural Dimensions**	The perspectives of a culture based on values and cultural norms, which affect behavior and expectations.
28	**Social Influence**	The effect of other people on an individual's behavior and attitudes, which can impact technology adoption.
29	**Incentives**	Benefits or rewards that motivate individuals to perform certain actions, such as using a new technology.
30	**Regulatory Barriers**	Legal and policy obstacles that impede the development and operation of new businesses or technologies.
31	**Apps for Android**	Mobile applications designed to operate on the Android operating system.
32	**Apps for iOS**	Mobile applications designed to operate on Apple's iOS operating system.
33	**App Demand Services**	Services provided through mobile applications that fulfill immediate consumer demands such as transportation, food delivery, etc.

34	**Angola**	A country located in Southern Africa, known for its significant natural resources, including oil and diamonds.
35	**Luanda**	The capital and largest city of Angola, serving as its primary port and major economic and cultural hub.
36	**Portuguese**	The official language of Angola, used in government, education, and many aspects of daily life.
37	**INACOM Angola**	The National Institute of Communications of Angola, responsible for regulating telecommunications and postal services.
38	**Unitel**	One of the largest telecommunications companies in Angola, providing mobile and internet services.

Appendix 2: Interview Guides

Guide Type	Content Description
Semi-Structured Interview Guide for App Developers	Introduction and purpose of the interview - Questions on app development challenges in Angola - Questions on cultural adaptations and user needs - Questions on economic considerations and pricing strategies
Focus Group Guide for Urban Residents	Introduction and purpose of the focus group - Questions on app. preferences - Questions on perceived barriers to adoption - Discussion on features and functionalities desired
Focus Group Guide for Small Business Owners	Introduction and purpose of the focus group - Questions on business needs and app features - Questions on technology adoption challenges - Discussion on economic impacts and pricing strategies

Appendix 3: Survey Questionnaires

Survey Type	Content Description
Internet-Based Survey for Urban Residents	Questions on app. intentions - Rating scales for feature importance - Questions on perceived barriers to use- Demographic information
Internet-Based Survey for Small Business Owners	Questions on app needs and functionalities - Rating scales for feature importance - Questions on pricing sensitivity and adoption barriers - Business size and sector information

Appendix 4: Focus Group Guides

Focus Group Type	Content Description
Focus Group with Urban Residents	Guide for a 90-minute discussion - Topics include app usefulness, adoption barriers, and feature preferences - Group dynamics and insights
Focus Group with Small Business Owners	Guide for a 90-minute discussion - Topics include app functionalities for businesses, economic impacts, and technology adoption challenges- Group dynamics and insights

Appendix 5: Transcriptions

Transcription Type	Content Description
Interview Transcriptions	Transcriptions of interviews with 10 app developers and product managers - Key themes such as cultural appropriateness, development challenges, and economic considerations
Focus Group Transcriptions	Transcriptions of focus group discussions with urban residents and small business owners - Thematic analysis results - Key themes such as barriers to adoption and feature preferences

Appendix 6: Peer Review Checklist

Checklist Item	Content Description
Research Design	- Evaluation of research question and objectives - Assessment of study design and methodology
Data Collection Methods	- Review of interview guides, focus group questions, and survey questionnaires - Evaluation of sampling methods and data reliability
Data Analysis	- Review of data coding and theme identification - Assessment of analysis methods and results interpretation
Overall Findings	- Evaluation of research conclusions and recommendations - Review of how findings address the research question and objectives

Appendix 7: Research Results

Table 1: Summary of Research Results

Objective	Findings	Analysis	Recommendations
1. Assessing the current state of mobile technology adoption	Mobile phone use has skyrocketed to over 25 million subscribers, but market saturation is lower than in other African countries.	Indicates a growing market with potential for further expansion.	Target marketing efforts towards increasing user base and focus on expanding into less saturated areas.
2. Identifying cultural factors affecting app adoption	Cultural attitudes towards technology vary; younger generations are more open to technology.	Cultural barriers and generational differences are significant.	Develop culturally sensitive marketing strategies and focus on younger demographics initially.
3. Examining economic factors impacting app adoption	Economic inequality is high, with 37% of the population living below the poverty line.	Economic barriers limit widespread adoption.	Offer flexible pricing models and leverage partnerships to subsidize costs for lower-income users.
4. Evaluating technological infrastructure	Mobile internet is available but varies in speed and reliability across regions. Urban areas have better infrastructure.	Infrastructure disparities affect user experience and app functionality.	Focus on optimizing app performance for varying internet speeds and expand efforts to improve infrastructure in rural areas.
5. Proposing strategic recommendations for app developers and policymakers	Localized strategies and improvements in infrastructure are essential for app success. Collaboration with local stakeholders is crucial.	Strategic localization and stakeholder collaboration can drive adoption.	Develop partnerships with local businesses and governments, and prioritize infrastructure improvements.

Table 2: Key Variables and Their Impact

Variable	Description	Impact on App Adoption	Analysis
Cultural Factors	Attitudes towards technology, social norms	High impact; distrust in digital services and generational differences are significant barriers.	Addressing cultural attitudes through targeted education and marketing can enhance adoption.
Economic Factors	Income levels, affordability of mobile internet	Medium impact; economic barriers exist but mobile internet affordability is a positive factor.	Flexible pricing and subsidies can mitigate economic barriers and increase accessibility.
Technological Infrastructure	Availability and reliability of mobile internet	High impact; infrastructure disparities affect user experience.	Ensuring app functionality across varying internet speeds is crucial for broad adoption.
Demographic Factors	Age, urban vs. rural residency	Medium impact; younger, urban populations are more likely to adopt technology.	Initial focus on urban, younger demographics can drive early adoption, with expansion plans for rural areas.

Table 3: User Feedback and Adoption Rates

Demographic Group	Adoption Rate	Key Feedback	Implications
Younger Users (18-35)	65%	Positive reception, ease of use, preference for on-demand services	Focus marketing and development efforts on this demographic for rapid adoption.
Middle-aged Users (36-50)	40%	Moderate reception, concerns about data security and cost	Address data security concerns and consider cost-reducing measures to improve adoption rates.
Older Users (51+)	20%	Low adoption, lack of familiarity with technology	Provide educational initiatives and simpler interfaces to encourage adoption.
Urban Residents	70%	High adoption, good infrastructure, high demand for services	Prioritize urban areas for initial rollouts and infrastructure improvements.
Rural Residents	30%	Low adoption, poor infrastructure, limited internet access	Invest in infrastructure and targeted educational campaigns to improve adoption in rural areas.

Appendix 8: Table Survey Summary

Data Type	Details	Format
Interviews		
- Number of Interviews	10 (app developers)	
Focus Groups		
- Number of Focus Groups	2 (10 urban residents, 10 small business owners)	
- Total Transcripts	2 transcripts	MS WORD
Surveys		
- Number of Surveys	150	
- Total Survey Responses	150 responses	CSV/Excel

Appendix 9: Self-Reflection Essay

Assumed the role of an inexperienced researcher as I ventured into this research journey to discover how Angola's cultural and economic environment can inform the development of a Demand Service App. The study design must therefore involve a review of the literature in Angola and consultations with experts in the area in order to gain a better understanding of the contextual factors and the best approach in capturing the realities, so as to stress on the need to be context sensitive. The use of data collection also came with some practical challenges mainly in the scheduling of interviews and focus group discussions involving multiple participants. Concerning cultural relevance of questionnaires, much attention was paid to it and the questionnaires were developed in several stages. There were problems related to scheduling but this made me learn how important it is to be patient and persistent while in the research process and how communication is crucial.

The level of detail needed when quantitatively analyzing the data collected made the work tiresome. At first, I began to experience difficulties to find some patterns in a great amount of information, however, I worked out a special method to select the most important data and analyze them in order to find common patterns, so it proved the importance of the methodical approach to the data analysis in order to reveal the important findings. The study also showed that there were factors that hinder the implementation of technology in Angola they are cultural factors, economic factors and technological factors. The presented results offer useful insights into tailoring more culturally appropriate solutions, which is why the conclusions made in the study concerning the application design and economic motivations should be considered.

This particular research experience has been very influential and made me more passionate towards studying technology and development. It is without doubt that skills and knowledge

developed in a process of overcoming various research intricacies will be immensely beneficial for future academic and career activities. Solving problems that were encountered during this process enhanced my development as a researcher and confirmed the need for constant learning. Looking back at what I have learned, I'd like to express my genuine appreciation for such a meaningful topic and the chance to dive into it. The following is perhaps the most compelling self-reflection of this transformative research experience in relation to my dreams.