

Louvain School of Management

Will SuperApps soon conquer the European market?

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- Any modifications or corrections were made based on our expertise and domain knowledge.

2. Transparency :

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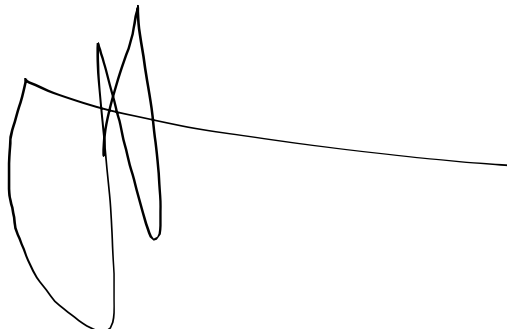
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07/08/2024

Sentences

A handwritten signature in black ink, consisting of a large, stylized 'M' or 'W' shape with a long horizontal line extending to the right.

Executive summary

This thesis examines the potential for SuperApps to enter and succeed in the European market. SuperApps, which integrate multiple services into a single platform, have become extremely popular in the Global South, especially in Asia. WeChat, in China, represents a major example by integrating messaging, food delivery, and medical care among many other services.

To address our research question, "Will SuperApps soon conquer the European market?", we conducted a survey with 125 European participants. The findings revealed a considerable interest in SuperApps due to their convenience, with preferences for the integration of services like transportation, accommodation, meal delivery, entertainment, and shopping.

However, despite the interest, several challenges identified through the study need to be addressed in order for SuperApps to succeed within the European market. The main issue is data protection, as most of the respondents (81%) are concerned about the security of their personal information. Also, the reluctance to change and the existing preference for the apps that participants are familiar with might hinder the adoption.

By addressing these findings, the research aims at providing actionable insights for companies looking to introduce SuperApps in Europe, as well as at picturing what a potential successful SuperApp would look like in Europe.

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1. INTRODUCTION

1.1 Context and research question

The typical phone has around 80 applications loaded, more than 40 of which are never used. Another 24 are used only once a month, while only five apps - WhatsApp, TikTok, Facebook, Instagram, and YouTube - are used by people all over the world every day. However, having many applications may become obsolete in the near future. Companies across the world are increasingly going outside their core services and introducing new offers in order to build all-in-one digital places that are appealing to customers. These sorts of places are known as SuperApps (Ivanova, 2022).

This concept of SuperApp has known great success in the Global South, especially in Asia where it emerged. In China, for instance, WeChat accumulates more than a billion monthly users, becoming an integral part of their daily life. Indeed, the platform offers services ranging from messages, food delivery or even medical care.

The objective of these SuperApps is to create fully integrated digital ecosystems that increase user convenience and engagement by eliminating the need to switch between multiple separate applications. This trend is becoming more and more visible as companies expand outside their core services to create all-in-one digital platforms.

Nonetheless, despite the clear success in the Global South, Western society, or more specifically Europe, is nowhere to be seen, potentially missing out on many benefits that SuperApps could have to offer. However, even though the concept of SuperApps is not integrated into the life of European citizens, multiple companies have expressed their desire to change that pattern. Indeed, the Estonian company Bolt, for instance, claims to be the first European SuperApp, and Elon Musk, Twitter's owner, has renamed Twitter as X, seeking to convert it into a SuperApp for the West, following the success of WeChat (Li, 2023). Moreover, Gartner, the consulting firm, conveyed that by 2027, more than half of the world's population will have adopted different SuperApps into their daily life. This is why, in this thesis, we are going to address the research question:

“Will SuperApps soon conquer the European market?”

The rationale behind this research question lies in the lack of scientific literature on these platforms and their emergent character. In fact, the scarcity of scientific articles on the matter can be attributed to the novelty of SuperApps. Furthermore, Europe is a large market with a high adoption rate of smartphones and digital services. Thus, it appears critical to examine European potential users' attitude on adopting SuperApps in order to foresee market trends and identify opportunities.

The aim of our research is to determine whether SuperApps could be successful in European countries. To do so, we are going to study the potential success of such platforms by building on existing academic work, and looking at it through the combination of the three lenses of innovation: desirability, feasibility, and viability.

1.2 Main results

The results of our analysis indicate that, despite low willingness to pay for a SuperApp and certain concerns related to the data protection from the respondents, SuperApps will conquer the European market. Indeed, they are aligned with the three lenses of innovation, respectively desirability, feasibility, and viability. We also went further by picturing what a potential European SuperApp would look like, focusing on convenience and featuring services like shopping and transportation.

1.3 Overall structure

The thesis first includes a literature review where we compile what has been examined previously in various scientific articles. This section attempts to build a foundation for understanding the present status of research. We thus start by defining the concept of SuperApps, and continue by looking at the situation in the Global South, the situation in Europe, and the potential success those platforms could have. To study the latter, we proceeded by exploring it through the three lenses of innovation, as said previously. First, desirability, where we delved into the interest from potential users, what they would value in a SuperApp and the importance of the provider. Secondly, viability,

where we looked at the willingness to pay from potential users. Thirdly, feasibility, where we analyzed the legal framework. We then touch on the concerns linked to SuperApps which include the regulatory environment, privacy concerns, consumer habits and status quo bias and market strategy. Following, the methodology presents the steps we went through to establish our hypothesis, our questionnaire, and further stages like the outreach and the data processing. The analysis addresses the results we obtained through the questionnaire, relating to the hypothesis developed. Lastly, we finish with a conclusion where we address directly our research question, and discuss the managerial implications related to our findings, the limitations faced by our work and potential future research that emerged following our project.

2. LITERATURE REVIEW

In 1997, the Swedish telecommunication company Nokia made history by adding the famous app “Snake” to its Nokia 6110. The game that made mobile users glued to their phones marked the beginning of app development (Angelos, 2021). In fact, a decade later, the first Iphone was launched and with it, came the “App Store”. The marketplace that initially opened with 500 apps, currently features more than 1.8 million of them.

However, the story does not end there. In 2010, the word App was voted “Word of the year” by the American Dialect Society (Zimmer, 2011), and the year 2014 saw a shift in app usage with an increase of 76% (Khalaf, 2015), proving that apps were not going anywhere soon.

As of now, the emerging markets are facing a new phenomenon: the growth of a concept that allows users to access messaging, e-commerce, ride-sharing and multiple other services within the same app. These are SuperApps. From Rappi in Latin America to WeChat and its one billion monthly users in China, SuperApps seem to have become the standard in many countries.

Nevertheless, despite this success in some markets, Western society is falling behind in the SuperApp race. This is why this thesis covers the current situation of SuperApps in Europe and addresses the following question: “Will SuperApps conquer the European market?”

2.1 Definition

A SuperApp is a multifunctional mobile application that provides a variety of seemingly unrelated services through a single interface. These services may include financial services, e-commerce, communication, and transportation, among other things. Delivering a smooth and integrated user experience is the main objective of a SuperApp, which enables users to access numerous services without having to download and manage many distinct applications. Typically, they start with a fundamental feature and progressively add more services to build a whole ecosystem. (Hasselwander, 2024).

The term "SuperApp" was first used in 2010 by Mike Lazaridis, the founder of BlackBerry. He defined them as a closed ecosystem of many apps that people would use every day because they offer such a seamless, integrated, contextualized and efficient experience (Erinfolami, 2021).

Therefore, what makes an app “super”? Deloitte has identified in their report published in 2022, four principles that an app should possess in order to be considered as a “super app”.

Firstly, a SuperApp should be “multi-service”. They tend to be the only apps that users need for their daily use, combining functions for which a community of multiple apps would normally be required.

This brings to our second point: a SuperApp is just one app. Multiple companies, like Google and Microsoft, provide a "suite" of apps, often consisting of multiple apps with various features that are bundled together. While this approach has benefits of its own, SuperApps offer a "one-stop-shop" experience that this strategy does not.

In addition, SuperApps should offer a consistent transacting experience. They depend on an internal payment system or an integrated bank partnership to facilitate cross-service transactions.

Lastly, to provide a more seamless user experience, SuperApps share data between services (and frequently with outside service developers). A financial service within the app has the authority to grant a loan based on purchase data from the digital marketplace. In the same way, a hotel booking service may initiate a promotion if a travel reservation was made elsewhere within the SuperApp. This integration also has the network effect of drawing more third parties to the platform, increasing the number and quality of data that is available.

Furthermore, by digging deeper into the analysis of their characteristics, Van Der Vlist et al. (2024) classified SuperApps into four categories. To begin, the “Swiss-Army Knife” SuperApp integrates first-party services across multiple industry sectors into a single app. Then, “Family”-style SuperApps include multiple apps held by a single family of apps/company, maintaining a unified brand identity. Next, “Host” SuperApps allows third-party mini-apps to be developed and distributed within the host app itself. In fact, “these mini-app ecosystems are collections of lightweight apps that can be used without prior download and installation (Van Der Vlist et al.,

2024, p.10). Lastly, “Hub” SuperApps allow connections to various third-party apps created outside of the main app.

From a business model point of view, SuperApps can be seen as a distinct category of digital platforms. Indeed, “SuperApps capitalize on smartphones to facilitate connections between various user groups (e.g., seller and buyer, driver and passenger, etc.) for multiple physical/digital products as well as online/offline services in the same app, thus creating a set of integrated platforms” (Hasselwander, 2024, p.2). Overall, digital platforms connecting different kinds of users have become increasingly popular, with the most successful and popular ones experiencing unprecedented growth. Network effects are crucial in facilitating this kind of expansion. The more users a platform has on both sides of the multi-sided market, the more every user gains from one another. This increases the appeal of the platform, and, as a consequence, attract more people to sign up. The "chicken-and-egg dilemma" that developing digital platforms face is revealed by the fact that platforms must reach a specific size (the critical inflection point) in order to initially benefit from network effects.

Typically, digital platforms start with a market penetration from the outset by creating low-end markets or leveraging excess capacity to capture market share. Then, they have the capability to internationalize rapidly, which is the market development. The next phase would be product development where they add products/services to attract unserved segments in the market. Finally, digital platforms can diversify with unrelated products/services. The platforms able to achieve growth through those four phases will eventually pursue a SuperApp strategy. This demonstrates that digital platforms are not born “Super”, and that it is an incremental process (Hasselwander, 2024).

2.2 Global South Situation

Smartphone use is relatively new in developing nations with cost-conscious consumers and low but rising purchasing power. On that note, “in many countries, the advent of cheap smartphones has led populations to leapfrog desktop technology and adopt mobile apps first” (The Economist Group, 2021, p.6). This trend helped the success and proliferation of SuperApps across the emerging markets, where most users have phones with limited storage capacity. Consequently,

users can't afford to have multiple single-purpose apps downloaded, making the phenomenon prominent in India, East Asia, Africa and Latin America, as we can see in Figure 1.

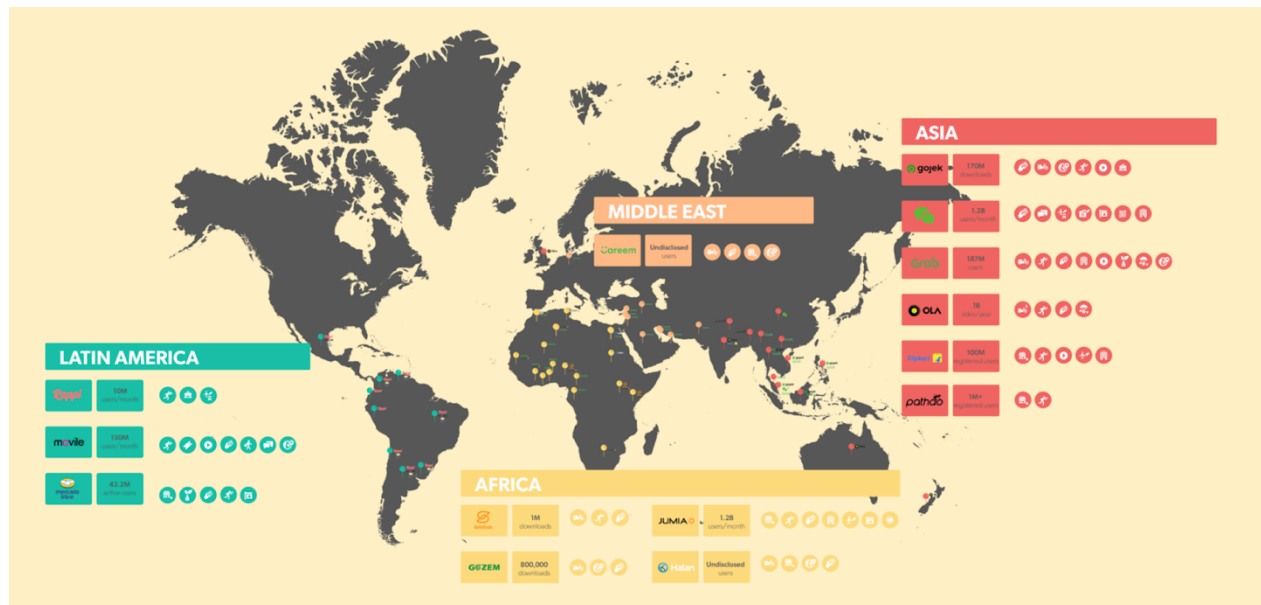


Figure 1 - Presence of SuperApps around the world

Source: Giuliani, 2021

The concept of SuperApps started with the Chinese market in the early 2010s. One of the earliest examples would be WeChat, a Chinese multi-purpose app developed by the company named Tencent and launched in 2011. It started as a messaging app, but branched out to other services like taxi bookings, food delivery, movie tickets, or even medical care, as seen in Figure 2. Today, this SuperApp has over 1.3 billion users and operates on a system that allows third-party businesses to create their own mini-programs within the SuperApp (Diaz Baquero, 2021). Thus, it is nowadays ordinary for Chinese companies to offer their services through WeChat. China Southern Airlines, for example, uses a chatbot to handle client check-in procedures. According to Boyd (2017), 60% of the users open the app more than 10 times per day, making 17% of the users spend 4 hours or more per day on WeChat, proving that WeChat is now deeply woven into the fabrics of its daily users.

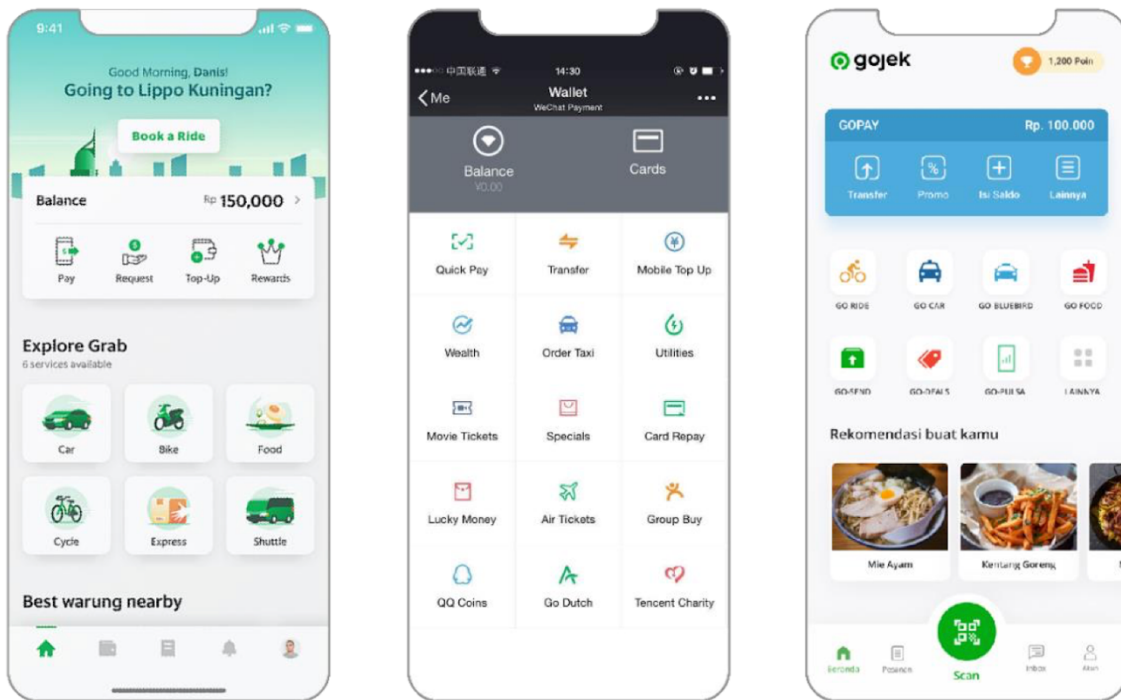


Figure 2 – SuperApps’ interface

Source: Gelici, 2022, p.15

In Asia, the phenomenon quickly spread. Indeed, the success of WeChat inspired other tech firms on the continent to follow suit, and many of them emerged: AliPay and Meituan in China, Gojek in Indonesia, Line in Japan, KakaoTalk in South Korea, Paytm in India, etc. One of the other most popular SuperApp in Asia, with WeChat, is Grab. The app that emerged in Southeast Asia started out from ride-hailing and diversified its operations. It even merged with Uber in 2018 and is now valued at more than \$40 billion (Dias, 2023). But the success of SuperApps has not stopped there. Indeed, on the other side of the globe, in Latin America, can be found the first Colombian unicorn, Rappi. The app started as a food delivery service, which is very successful in Latin America due to poor public transportation and dense traffic (Diaz Baquero, 2021) and has a particularity: Rappi does not offer companies the possibility to develop mini-apps but rather, provide retailers an e-commerce platform by partnering with them. On the African continent, Jumia is one of the most

promising SuperApp. It combined in 2018 its lifestyle app with its mobile money wallet, JumiaPay, to create an all-in-one app (Ajene, 2021).

Service	WeChat	AliPay	Meituan	Gojek	Grab	Line	KakaoTalk	Paytm	Zalo	Opay	Gozem	Rappi
Messaging	✓					✓	✓	✓	✓	✓		
E-wallet	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Invoice payments	✓	✓		✓	✓	✓	✓	✓	✓	✓		
Public transportation	✓	✓		✓			✓	✓	✓	✓		
E-commerce	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓
Travel reservations	✓	✓	✓		✓	✓		✓	✓	✓		✓
E-government services	✓	✓										
Health services	✓	✓		✓	✓	✓						
Insurance services	✓	✓		✓	✓	✓		✓				✓
Gaming	✓	✓	✓	✓	✓	✓	✓	✓				✓
News	✓					✓						
Stickers	✓					✓	✓	✓	✓			
Music	✓					✓	✓					
Food delivery*	✓	✓	✓	✓	✓			✓		✓		✓
Courier services*	✓	✓	✓	✓	✓					✓	✓	✓
Ride sharing*	✓	✓	✓	✓	✓		✓	✓		✓	✓	
Bicycle sharing*	✓	✓	✓		✓							

Gig economy*

Figure 3 - Services offered by the most popular SuperApps

Source: Gelici, 2022, p.72

Figure 3 shows the different services that the most popular SuperApps around the world offer. This confirms that, as we've explained in the definition, a SuperApp cannot be defined as a specific set of features.

2.3 Situation in Europe

Despite the fact that Asian super apps like Grab and Gojek are very popular, there is no true equivalent in North America or Europe. So, are people not getting what they want, or are consumers in Europe not interested in a super app? (O'Brien, 2022)

However, some have definitely shown their intention to become SuperApps. So far, four European companies — Klarna, Revolut, Bolt, and Lydia — have made it obvious that they intend to develop SuperApps. Lydia, Revolut, and Klarna, are fintech companies whereas Bolt began in transportation before introducing meal delivery. They all made their debut in the 2010s claiming they will be superior to legacy providers in terms of speed, cost and quality. Today, they are all pursuing a multi-service strategy which ought to be more resilient to shifts in consumer preferences and market challenges, such as the impact of cryptocurrency crashes on trading volumes or Covid lockdowns on mobility (O'Brien 2022).

Firstly, Klarna's business core is to enable its users to buy now and pay later. Their offering to both consumers and retailers includes payments, social shopping, and personal finances (Klarna, 2021). Although the company has never clearly stated its intention to be a SuperApp, all of its product launches and acquisitions suggest as much. In November 2021, Klarna openly challenged Amazon, Google, and Facebook by acquiring the comparison website PriceRunner. The app only provides banking services, such as savings accounts and current accounts, in Sweden and Germany, its two most developed markets, but they hope to expand those offerings worldwide. Even though they have a sizable customer base, they face significant obstacles in convincing their "buy now, pay later" clients to move from their neo-banks or legacy banking providers to a current account with Klarna (O'Brien, 2022).

Furthermore, Lydia was at first only a peer-to-peer payment app, and progressively became the dominant payment app in France. Indeed, a third of French people from 18 to 35 have a Lydia account. The app has developed a lot over the past few years and became a financial SuperApp with a lot of diverse features. According to the CEO, we are experiencing the reinvention of the banking industry, he truly believes that people are not going to manage their money in the same way in the future. And with Lydia, he wants to simplify retail banking by making it more accessible (Dillet, 2021).

The third fintech app is Revolut, the app is considered by investors to be the closest thing Europe has to a super app. The company has pursued a multi-product strategy from outset and has now launched 54 products, including debit cards, business banking, crypto trading and even holiday insurance (O'Brien, 2022). In 2022, the company launched Revolut Shops in Ireland, whose idea is to allow users to browse and buy products from a thousand Irish online retailers directly from the Revolut app. The added value for users is that they get 3% instant cashback on their purchase and the ability to split their payments (Smith, 2022).

Lastly, the Estonian company Bolt describes itself as Europe's leading mobility platform and first SuperApp (O'Brien, 2022). Their goal is to build cities for people, not cars. And they do it by providing a better alternative to every function that a private vehicle fulfills, such as food and grocery delivery, ride-hailing, and shared automobiles and scooters. Founded by Markus Villig in 2013, Bolt is now present in 500 cities in Europe and Africa with over 100 million users (Zamandosi, 2024).

2.4 Potential success

On a further note, we are going to analyze the potential success that these SuperApps could have in Europe. Gelici (2022) inspects commercial potential through the three lenses of innovation, and argues that commercial potential is a result of the combination of a desirable, viable, and feasible technology/service. Initially, innovation comes in mind when it comes to revolutionary products. However, the newness aspect associated with innovation refers to "to degree to which something is perceived as different from what existed before" (Gailly, 2018, p.16). Therefore, context plays an important role in the perception of that newness, and a product might be seen as an innovation just because it is new to a certain market. It is the case with SuperApps in Europe where it would be considered as an imitation from the Global South, but an innovation in the West. Thus, analyzing SuperApps through the three lenses of innovation is a great way to estimate their potential success in Europe.

In further details, desirability relates to the human aspect, that is, people's needs and desires. Viability focuses on the business aspect, on what is economically acceptable. Finally, feasibility considers the technical and practical elements. It examines if the solution can be executed using the current technology, resources, and expertise (Vial et al., 2023).

2.4.1 Desirability

Interest from the potential users

Desirability ensures that the solutions developed are desired by society (Brenner et al., 2021). It comes when there is a need to understand whether there is a demand and interest for a SuperApp. Hasselwander & Weiss (2024) found out through a study that the explicit interest in super apps on the demand side remains relatively low, and that, “while there is a tendency towards positive views regarding super apps, a large portion of smartphone users would likely not adopt super apps or are still undecided” (Hasselwander & Weiss, 2024, p.4). However, multiple sources indicate the opposite. Indeed, as Van Der Vlist et al. (2024) stated, some tech sector consultants predict that over half of the global population will use SuperApps daily soon. For instance, the American technological research and consulting firm Gartner believes that, by 2027, more than half of the world's population will have adopted different SuperApps into their daily life.

Furthermore, the research conducted in the Netherlands by Gelici (2022) shows that there is a willingness to use a SuperApp in the said country provided that it proves to be safe, easy to use, bug-free and useful. In fact, another study conducted in Australia, Germany, the United Kingdom, and the United States by PayPal and PYMNTS in 2021 indicates that about seven in ten respondents show interest in SuperApps, and one quarter are “very” or “extremely” interested. Therefore, the following hypothesis is developed: *“Europeans show a significant interest in SuperApps” (H1)*.

On a further note, the Unified Theory of Acceptance and Use of technology (UTAUT) puts forward that the actual use of a certain technology is determined by behavioral intention.

In fact, Venkatesh et al. (2003), elaborated the UTAUT by synthesizing previous theories of technology acceptance and it became “one of the most influential information technology research frameworks to predict the behavioral intention to use and technology use in various study fields” (Sutticherchart & Rakhtin, 2023, p.272), with a higher explanatory power than the said previous theories. The theory is constructed around four core concepts which are themselves moderated by gender, age, experience and voluntariness of use (Appendix 1).

The first core construct is performance expectancy. It refers to the degree to which an individual believes that using the system will help him or her to attain gains in performance" (Venkatesh et

al., 2003, p.447). Secondly, effort expectancy can be defined as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003, p.450). People are more likely to adopt a technology if it seems easy to use. Thirdly, social influence denotes the degree to which people believe that important others such as family and friends think they should adopt a certain technology, and can be associated with peer pressure. Fourthly, facilitating conditions include the technical support and infrastructure in favor of users while using the technology (Sutticherchart & Rakhtin, 2023).

Then, as the UTAUT framework was initially developed to predict the acceptance of a technology in an organizational context, Venkatesh et al. introduced UTAUT2 in a voluntary consumer context with three additional constructs, namely hedonic motive (enjoyment procured by the use of a technology), price value, and habit (Venkatesh et al., 2012).

In a SuperApp context, performance expectancy can be associated with the productivity and convenience expected by the potential users. The perceived ease of use or effort expectancy relates directly to the integrated nature of Superapps, which simplifies the user experience by reducing the need to switch between various applications. Moreover, SuperApps provide hedonic motivation by including elements such as entertainment integration, customization, gamification, social networking, and a smooth user experience, making the use of the app enjoyable.

On the other hand, from a company point of view, the benefits can be found in the fact that these apps have access to a significant amount of data and can concentrate on leveraging insights to enhance users' experiences, providing highly relevant product options and personalized services.

What potential users value

Five customer categories emerged from the research conducted by PayPal and PYMNTS in 2021 (Figure 4): the Convenience Seekers, representing 15% of all respondents, who likely want all aspects of their life incorporated in an app, the Commerce Seekers (15% of all respondents) who are likely to integrate areas that let them access their shopping, entertainment or travel preferences, the Financial Wellness Seekers (29% of all respondents), who would want to merge areas related to banking and money management, the Wait-And-See (13% of all respondents) who would

probably just incorporate a few activities from a small portion of their lives, and finally the Not Interested representing 26% of all respondents.

	Interest		Generation					Income			Education	
	"Very" or "extremely" interested	"Slightly" or "somewhat" interested	 Generation Z	 Millennials	 Bridge millennials	 Generation X	 Baby boomers and seniors	High	Middle	Low	College	No college
Convenience-seekers	40%	12%	15%	27%	25%	16%	6%	21%	15%	10%	21%	13%
Commerce-seekers	18%	24%	17%	17%	17%	19%	13%	18%	16%	14%	17%	15%
Financial wellness-seekers	35%	41%	48%	33%	30%	25%	19%	28%	29%	26%	29%	27%
Wait-and-see	6%	23%	8%	10%	11%	16%	13%	12%	12%	13%	11%	13%
Not interested	0%	0%	12%	13%	17%	23%	50%	20%	27%	37%	22%	31%

Figure 4 – Share of consumers making up personas

Source: PYMNTS & PayPal, 2022, p.11

Some interesting insights arise from these numbers. Indeed, Financial-wellness seekers dominate Generation Z with 48% and, without surprise, Baby boomers and seniors dominate the Not Interested group with half of its population. Also, millennials, a demographic that typically have high incomes and set trends, represent half of convenience-seekers. Overall, we can see that the majority of the individuals having shown interest in SuperApps, are Financial-wellness seekers.

Going deeper into the desirability aspect, it is essential to be informed about what the potential customer values.

For companies in the banking industry, the incorporation of financial services into SuperApps offers a significant strategic opportunity within the European environment. Traditional banks have learned that in order to be competitive in the market, they must reconsider their business models and look into new avenues of collaboration in response to the introduction of open banking and the enforcement of rules like the Payment Services Directive (PSD2) (Valverde & Fernández, 2020).

Moreover, European customers are more likely to look for tailored and integrated financial solutions that provide a smooth and all-encompassing user experience. Businesses may meet this increasing need and provide cutting-edge financial services tailored to customer needs by

incorporating elements like digital wealth management, insurance services, and mobile payments within SuperApps (Fasnacht, 2021).

Consequently, by providing unique and attractive solutions, the European SuperApp industry's concentration on financial services can both improve the consumer experience in financial management and reinforce firms' market positions. Businesses can take advantage of this and become big participants in the European financial scene by emphasizing important financial features within SuperApps, giving users a comprehensive platform to manage their daily finances (Fasnacht, 2021).

Moreover, research reveal that European users are more accepting of financial services being integrated into SuperApps than users in other regions (Fasnacht, 2021). Many factors contribute to this receptivity, such as the growing acceptance of new technology and advanced financial products (BankingHub, 2024) and the prevalence of mobile devices and the growing desire for easy-to-access financial solutions (Winasis et al., 2020).

By addressing these concerns and properly integrating financial services into SuperApps, firms can position themselves as European market leaders in innovative and accessible financial solutions. This strategic approach can improve not just customer experience and satisfaction, but also business growth and profitability, setting the path for a future in which SuperApps become the foundation of European customers' financial lives. Therefore, it is reasonable to hypothesize that: *“According to Europeans, the financial aspects would be the most valuable to include into a SuperApp” (H2).*

On a further note, the potential success of SuperApps in Europe could be rooted in the significant convenience they offer.

Firstly, according to the Technology Acceptance Model developed by Davis in 1989, the main drivers of consumer's intentions to use a technology are their perceived ease of use and perceived usefulness of those services (Revels and al., 2010). Then, other studies showed that there is a strong correlation between perceived usefulness and perceived ease of use (Ma and Liu, 2005) and that perceived usefulness of the internet is positively and significantly correlated to attitude toward using the internet, behavioral intention to use the internet and actual usage of it (Amoroso, 2011).

Furthermore, mobile applications offer advantages such as convenience, ease of use, and access to a wide range of products and services (Khrais & Alghamdi, 2021). According to the study, perceived ease of use is a key element in mobile application approval. Users are more likely to accept and continue using apps that are simple and intuitive. The study also found that perceived utility has a substantial influence on user adoption of mobile applications. Apps that offer numerous valued functions in one place are perceived as more useful. SuperApps, by providing a variety of features under a single app, increase their perceived utility, making them more appealing to users (Khrais & Alghamdi, 2021).

Moreover, a study conducted by PayPal and PYMNTS in 2021 further reinforces the previous observations by revealing that 66% of consumers highly value the convenience benefits offered by SuperApps.

Given these findings, it is reasonable to hypothesize that: *“Convenience represents the biggest motive in the usage of SuperApps for Europeans” (H3).*

Importance of the provider

Platform highly contributes to a user’s decision to adopt a SuperApp. Particularly, “the influence of the original platform in the form of trust, habit and inertia plays a significant role in attracting users to adopt its new services” (Zhu et al., 2023, p.8). Across the literature, potential SuperApp providers range from BigTech (Google, Apple, etc.) and FinTech (Payal, Klarna, etc.) industries to banks and e-commerce platforms, or even governments. Indeed, Hasselwander & Weiss (2024) state that SuperApps could capitalize on highly demanded services and then cite various potential SuperApp providers for the German market like Amazon or Zalando, popular social media platforms like Facebook or Instagram, banks that could benefit from a wide customer base like the Deutsche Bank, or FinTech companies that could be very agile and innovative like Trade Republic. Nonetheless, according to BCG Platinion (2023), because they have already cleared the regulatory obstacles, established banks are in a good position to take a further step to provide a SuperApp that adds value to their market. Through the selection and integration of strategic partners, banks could rapidly enhance their offering. Fasnacht (2021) emphasizes that point by saying that open banking and partnerships between big tech and big banks could lead to the bundling of services. This argument of the banks being best-placed in the “SuperApps race” is reinforced by the study

conducted by PayPal and PYMNTS (2021) which found that banks are the most trusted institutions by consumers, with 53% of the respondents who would trust banks to provide a SuperApp. Based on these pieces of information, this hypothesis is put forward: *“Europeans demonstrate a higher propensity to use a SuperApp provided by a bank compared to those provided by other industries”* (H4).

2.4.2 Viability

Now, let's dive into the viability aspect of the potential success of SuperApps, which stands for the search of economic success (Brenner et al., 2021).

SuperApps can leverage multiple ways to make profits. If we take WeChat as an example, the platform uses three different streams to generate revenue. First, value-added services like online game sales or virtual stickers (equivalent of an emoji) represent 90% of its revenue. Another value-added service offered is an annual subscription fee used for public accounts. Then, Wechat also makes money through advertising. Lastly, the platform charges users a small fee to withdraw money from their account. This business model where the app is free to download but charges for additional services is called the Freemium Model.

In this case, except for the revenue made from advertising, the user is the one who directly pays, making WeChat profitable. Nonetheless, Bamberger et al. (2019) tell us that, often, users are willing to pay a monetary sum for an ad-free experience. Also, according to a study exploring the consumers' willingness to pay for fee-based online services conducted by Ye et al. (2004), consumers' willingness to pay for online services is likely to be influenced by their perceived value of convenience provided by these services. Since one of the SuperApps' main benefits is the increased convenience, consumer's willingness to pay for the service would thus be increased as well.

This led us to develop this hypothesis: *“Europeans exhibit a willingness to pay for SuperApps”* (H5).

2.4.3 Feasibility

In this section, we delve into the "feasibility" dimension by examining the legal framework governing SuperApps in Europe. We could have also examined the technical feasibility, but the difference between Europe and Asia, or the global south in general, is limited. Indeed, the environmental factors influencing the availability of technology or software are minimal to none.

SuperApps, defined by their capacity to integrate a diverse set of services into a single, unified platform, are emerging as a revolutionary force in the digital environment, particularly in Europe. However, this transformational potential comes with a complicated regulatory framework that firms must carefully deal with.

The European Union (EU) has implemented a comprehensive set of regulations intended for promoting a competitive digital economy, including:

The Payment Services Directive 2 (PSD2): This regulation governs electronic payments in the EU, encourages open banking, and allows third-party providers to access client account information with their permission. This creates chances for SuperApps to effortlessly incorporate financial services (Signicat, 2023).

The General Data Protection Regulation (GDPR) This rule imposes rigorous data privacy standards on enterprises operating in the EU, requiring them to get explicit consent for data gathering, maintain secure data storage, and disclose clear data handling methods. SuperApps that handle sensitive financial and personal data must closely follow to these guidelines (Lynskey, 2023).

The Digital Services Act (DSA) is an upcoming regulation that intends to reduce illegal and harmful content on the internet, ensure online intermediaries are held responsible, and promote user safety. SuperApps, being platforms that gather content and services from multiple providers, will have to comply with to the DSA's requirements (SPF Economie, 2023).

The Digital Markets Act (DMA) is a new European policy that went into effect on March 7, 2024, to encourage competition and innovation in the digital economy. In order to reduce entry barriers for new competitors, it addresses the excessive power of "gatekeepers" by enforcing requirements such data interoperability and portability. By guaranteeing that large platforms cannot unfairly

restrict the expansion and innovation of smaller and emerging firms, the DMA hopes to establish a more dynamic and balanced digital market (Vezzoso, 2024).

In addition to EU-wide laws, SuperApp firms must examine the individual legal frameworks of each nation where they operate. Financial services, internet content moderation, consumer protection, and data privacy are a few topics that may be covered by national rules. SuperApps must modify their compliance procedures to satisfy both national and EU regulations in this complex regulatory environment (Lynskey, 2023).

2.5 Concerns and challenges

2.5.1 Regulatory environment

Although certain applications like those mentioned above are developing with the idea of becoming SuperApps, there are certain reasons inherent to Western countries that could slow them down in their progress.

Firstly, even if one app were to attract enough users for a multi-services offering, it would still face difficulties due to the fragmented regulatory environment as explained in the previous section. Indeed, there are stricter privacy laws in Europe that limit the use of third-party data that many of the Asian SuperApps rely on (O'Brien, 2022). While western countries have strict regulations about data governance (e.g. EU's GDPR) and trust formation (US's Federal Trade Commission), most of the markets where SuperApps are present have less oversight (Deloitte, s.d.). China presents a particularly special case because they prohibited American apps that could rival SuperApps' services. WeChat and AliPay thrived because there were no outside competition and there were fewer restrictions on the types of services that could be combined. Whether in the United States or Europe, a SuperApp is likely to face legal barriers much earlier in its outset (Deloitte, s.d.).

WeChat's user base has grown to 78% of China's population in just 5 years, despite the country's data privacy laws starting to tighten. Legal obstacles are likely to arise for a US SuperApp much earlier in its development (Deloitte, s.d.).

2.5.2 Privacy Concerns

In today's digital landscape, protecting mobile users' personal information is a top priority. The EU's privacy laws are designed to protect consumers' private online information. We are aware, nevertheless, that mobile customers continue to worry about the security of their data in spite of these.

In fact, a study published in 2022 (S. Hudson & Y. Liu) investigates the influence of privacy assurance statements on mobile consumers' privacy concerns in the EU and China. The study finds that people's responses to promises of privacy vary significantly between various regions. It's interesting to note that Chinese mobile consumers seem less concerned about privacy than their EU counterparts when it comes to regulations. The difference emphasizes how crucial it is to take legal and cultural frameworks into account when addressing privacy concerns in mobile apps.

Then, a 2020 survey conducted by the European Union Agency for Fundamental Rights (FRA) finds that Europeans are becoming increasingly concerned about the security of their personal data online. Indeed, the study showed that among internet users in the EU, 55% are concerned that criminals or fraudsters may access their personal information without their consent; 31% are concerned about unauthorized access to information by advertisers and companies; 30% are concerned about unauthorized access to information by foreign governments; 26% are concerned about unauthorized access to information by intelligence services in their country.

The disparity in privacy concerns between EU and Chinese mobile users underscores the necessity of tailoring privacy measures to specific cultural and regulatory environments. Given Europeans' growing apprehensions about data protection online, it's plausible to hypothesize that: *“Data protection represents the biggest concern in the usage of SuperApps for Europeans” (H6)*

2.5.3 Consumer habits and status quo bias

Then, western consumers are used to different things and they would need motivation to switch to the SuperApp model since they are accustomed to their clustered native app strategy. Western consumption habits evolved from in-person interactions to websites and, more recently, smartphones. Asian consumers started doing many services directly through mobile devices. Because of this, even though Westerners own smartphones at higher rates than Asians do, they do

not use mobile services as frequently, especially when it comes to sensitive financial, health, or personal data (Deloitte, s.d.).

Moreover, Zhu et al. (2023) argue that the status quo bias theory could be a concern as well. Indeed, “as user resistance has been identified as a major hindrance to new technology success” (Sutticherschart & Rakhtin, 2023), the theory states that “users have bias or preference to a routine, rather than making changes” (Zhu et al., 2023). Users develop this bias as they grow acquainted and familiar with the current system, making the perception of the costs of switching to a new system higher than the potential benefits. Samuelson and Zeckhauser (1988) explain this phenomenon by classifying it in three categories. First, rational decision making appears when the costs of transition such as time, money and effort are balanced by the user. If the user’s current state is perceived as better than the alternative, or if there is uncertainty associated with the said alternative, users prefer to maintain the status quo. Second, users can decide to do nothing because of the cognitive misperception of loss aversion. It happens when people are more concerned about losing what they currently have than gaining something new. Third, physiological commitments include sunk costs referring to previous commitments or investments, regret avoidance that evokes past unpleasant experiences related to their decision to change the status quo, and desire to control which denotes the fear of switching to something less familiar.

2.5.4 Market strategy and Service Integration

SuperApps often expanded in parallel with the services they provided, as companies collaborated with these apps to quickly reach a large user base instead of attempting to create their own distribution channels. Western SuperApps will need to develop differently because the majority of the services included in today's SuperApps are already available in Western markets as standalone apps. This could be accomplished by cautious mergers or partnerships with significant players in the market (Deloitte, s.d.).

3. METHODOLOGY

In this part of our project, we are going to explain the approach we decided to take to conduct our research. As it can be observed in figure 5, our methodology can be broken down into 3 main parts which are the initial setup, the outreach, and the data processing, all explained in further details below.

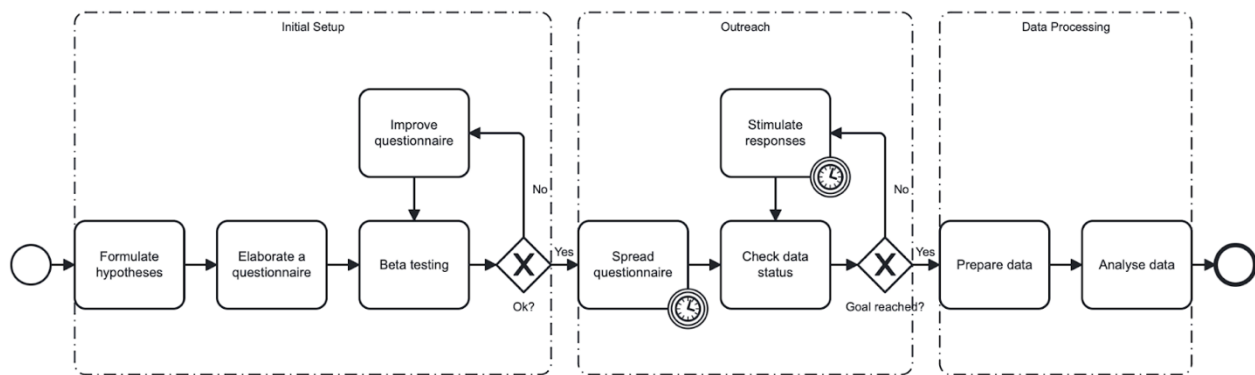


Figure 5 - Business Process Model and Notation of the methodology

3.1 Initial Setup

As seen in the previous segment, the literature helped us develop multiple hypothesis. Moreover, to allow a more effective understanding, we decided to reorganize certain hypotheses into a more logical order. Therefore, the initial H4 has become H5, the initial H5 turned into H6 and the initial H6 ended up as H4. The final order of the hypothesis we developed is thus as follows:

H1: *Europeans show a significant interest in SuperApps*

H2: *According to Europeans, the financial aspects would be the most valuable to include into a SuperApp*

H3: *Convenience represents the biggest motive in the usage of SuperApps for Europeans*

H4: Data protection represents the biggest concern in the usage of SuperApps for Europeans

H5: Europeans demonstrate a higher propensity to use a SuperApp provided by a bank compared to those provided by other industries

H6: Europeans exhibit a willingness to pay for SuperApps

We can establish some relationships between those hypotheses. First, we can naturally expect H1 to be validated if H6 is validated. The opposite, however, is not always true. Indeed, being willing to pay implies a certain level of interest, but that interest does not necessarily mean being willing to pay. Moreover, there is hierarchy between H1 on the one hand and H2, H3, H4 on the other. Indeed, H2, H3 and H4 can be considered as qualifiers for the overall interest in SuperApps, meaning H1. The combination of those 3 hypotheses would thus explain the results of H1.

To test these hypotheses, we decided to carry out a quantitative survey for multiple reasons. First, to estimate the potential growth of the SuperApps market within Europe. Then to identify patterns and trends among the respondents. Finally, to gauge consumers' preferences and operate comparative analyses. We thus developed a questionnaire (Appendix 2).

We first started by asking the respondents' country, age and gender, to have an idea of the socio-demographic influences. These pieces of information would also be useful to study further the interest and try to explain their relationships. We immediately followed up with questions regarding the time spent daily on their phone/tablet and the amount of apps used on a regular basis to gain insights about their digital habits. Those answers would also be insightful to study the impact of those factors on the interest in SuperApps. We then dove into the matter and asked if they were familiar with the concept of SuperApps. People would then be able to add what they knew about it if they answered positively, and be redirected to a short explanation about the concept otherwise to be certain about their knowledge. The redirection takes place directly if the individual answered negatively. After getting informed about SuperApps, questions about their perceived utility and their interest were asked (**H1**). Moreover, respondents have been able to qualify their opinion to what concerns the categories (**H2**), advantages (**H3**) and concerns (**H4**) that could potentially be included in a SuperApp. This set of questions would help us discover which advantages, concerns

and categories are the most prominent for the Europeans. We also listed multiple possible providers for a SuperApp among which people could choose the most trustworthy to them (**H5**), and we asked if the country of origin of such a platform would have an impact on their decision to use it. The rest of the questionnaire is composed of a question concerning the willingness to pay for a SuperApp (**H6**), and the benefits outweighing the concerns. Finally, respondents have had the possibility to leave their email address for us to be able to contact them for some inquiries about their responses.

Then comes the final part of the initial setup which is the beta testing. To do so, we asked multiple people to review the questionnaire and share their concerns and constructive critics. For example, it has been notified that it would be clearer if we changed the initial range from 1 to 5 to the actual meaning from completely disagree to completely agree.

3.2 Outreach

To increase the study's participant pool's size and diversity, a multi-platform outreach strategy was deployed. We first started by leveraging the user base of Facebook and Instagram. Indeed, while Instagram served us as a means to reach younger and more international demographics, Facebook tends to provide access to a broader spectrum of age groups and more local crowds. We then also sent the questionnaire to specific group chats to obtain more responses and reach our goal.

3.3 Data processing

The following phase after the outreach, data processing, involves collecting raw data and transforming them into a suitable format for modeling and analysis. By preparing the data in a consistent way, we enhance the predictive power of the data at hand, which will set the foundation to extract meaningful insights and drive valuable outcomes.

After gathering and placing the data collected through various ways into one single document, a common first step in processing is cleaning data; this involves addressing any missing values or non-pertinent data that were previously identified in the dataset, ensuring that the data is complete

and free of any irrelevant entries. Notably, no missing values are present since answering the questionnaire in its entirety was mandatory in order to send it. Additionally, it has been decided to remove 1 row with records coming from outside of Europe. Indeed, since our research focuses on European data, the respondent from the United States was omitted. Moreover, due to its small amount, no comparative analysis could be further developed.

Machine learning algorithms generally require numerical features to perform effectively. Therefore, categorical data in the dataset had to be transformed into numerical features. One way to achieve this is through label encoding, where each category is assigned a unique number. However, label encoding inadvertently introduces a ranking or weight among the categories, which can only be valid when assigned importance for the categorical variables is already present. In our data set, label encoding has been used for the level of interest, the age, the amount of apps used and the amount of time spent on the phone (Kumar, 2024).

Thus, another alternative is one-hot encoding, which transforms categorical variables into a set of binary variables, for those that don't have a natural order. This technique creates new variables corresponding to the unique categories in a column, with a binary representation of 1 indicating the presence of a category and 0 representing its absence. One-hot encoding helps avoid implicit rankings. In our data set, one-hot encoding has been used for the gender (Fawcett, 2023).

4. ANALYSIS

In this part of our project, we will analyze the results of our survey (Appendix 3) in order to verify our hypotheses and attempt to answer our initial research question.

Our sample is made up of 125 European individuals, mainly from Belgium, but also 4 French nationals. 14.3% of our respondents are aged between 18 and 24, 11.1% between 25 and 34, 17.5% between 35 and 44, 33.3% between 45 and 54 and 23.8% over 55. We also note that the largest number of respondents are women. On another note, most (57.1%) use between 5 and 10 applications on a regular basis, and spend between 1 and 3 hours on their phone/tablet every day (55.6%).

While, as said previously, the majority of our respondents are from Belgium, there are factors that support the application of our findings to a broader European setting. Indeed, Belgium is often seen as a microcosm of Europe due to its linguistic and cultural diversity, making it an appropriate proxy for understanding bigger European trends (Blainey, 2014). Also, Belgium's digital activity reflects larger European trends, especially in terms of mobile app adoption and internet penetration. Indeed, statistics provided by the European Commission reveal that Belgium's digital adoption rates are consistent with the European average (European Commission, 2024).

Moreover, our results reveal that just 7.9% of respondents were familiar with the term "SuperApp". Among the latter, here are some examples of what came to their mind when asked about the term: "Asian applications", "application that takes functions from several others", "various activities in a single platform", or even "time-saving".

H1: Europeans show a significant interest in SuperApps

As we can see from Figure 6, 42% of people have shown at least some interest with 36% somewhat interested and 6% very interested. On the other hand, 21% of respondents said they were not very interested and 6% not interested at all. Finally, 31% were neutral about SuperApps.

If we take respondents who have shown at least some interest, we can estimate the potential market for SuperApps. In fact, 42% of adults in Europe constitute 275 million people. On the same note, if we only take respondents who are very interested in SuperApps to be interpreted as the “day one” users, that amounts to 39 million individuals of 18 and above.

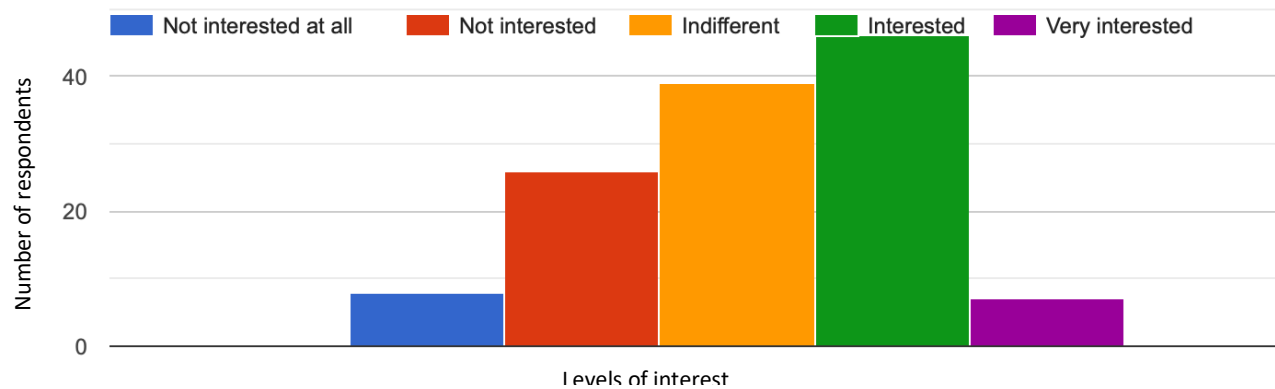


Figure 6 - Different levels of interest for SuperApps

However, when asked about the perceived utility of SuperApps, results tend to score higher on the chart. Indeed, half of the participants found SuperApps at least somewhat useful, while only 16% disagreed with that statement. That difference in numbers can be interpreted in a way that the actual needs are already met by other solutions, traditional applications, thus reducing the motivation to try a SuperApp. It can also refer to the concerns circulating around SuperApps.

Then, to push the analysis further, we attempted to operate a linear regression. The regression has the level of interest as the dependent variable, and the age, gender, number of apps used on a regular basis, and amount of time spent on the phone/tablet daily as the explicative variables. This, to study the effect and relation of these 4 variables on the level of interest expressed. Here are the results:

Source	SS	df	MS	Number of obs	=	126
				F(4, 121)	=	0.69
Model	2.89599939	4	.723999847	Prob > F	=	0.5986
Residual	126.532572	121	1.04572374	R-squared	=	0.0224
				Adj R-squared	=	-0.0099
Total	129.428571	125	1.03542857	Root MSE	=	1.0226

INTEREST	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
AGE	.0105235	.0835472	0.13	0.900	-.1548803	.1759273
GENDER	-.1891542	.2158331	-0.88	0.383	-.6164528	.2381445
APPS	.1286304	.10678	1.20	0.231	-.0827687	.3400295
TIME	-.0996938	.1427544	-0.70	0.486	-.3823139	.1829262
_cons	3.182995	.6592607	4.83	0.000	1.877814	4.488175

Figure 7 - Linear regression

As we can see on Figure 7, none of the coefficients is statistically significant at a 95% confidence level as none of the four p-values is under 0.05. Moreover, the R-squared value is really low (0.0224) meaning a poor fit of model for the data. The same result can be proved with the confidence interval including 0 for all coefficients. The conclusion of the linear regression is that the overall model does not significantly explain the variance of the dependent variable.

These results can be due to the small sample size, the low variability of the dependent variable or multicollinearity. To dismiss the potential issue of multicollinearity, a correlation matrix has been calculated, showing only small and insignificant correlations between the variables (Appendix 4).

LASSO regression	Number of observations	=	126
	R-squared	=	-0.0000
	alpha	=	1.0000
	lambda	=	0.1011
	Cross-validation MSE	=	1.0462
	Number of folds	=	10
	Number of lambda tested	=	100

INTEREST	Coefficient
AGE	0
GENDER	0
APPS	0
TIME	0
_cons	3.142857

Figure 8 - Lasso regression

To pursue our analysis, we decided to confront the first set of results we obtained with an alternative regression technique. We thus decided to operate a lasso regression which helps streamlining the model by eliminating non-essential variables. The outcome, as shown in Figure 8, confirms the previous results. Indeed, all of the coefficients having been shrunk to 0 suggests that none of the variables have a significant relationship with the dependent variable. Since our dependent variable is on a Likert scale, a third technique has been employed, which is the ordinal logistic regression, specifically used to analyze data with an ordinal nature. However, the results are still the same as the two previous analyses operated (Appendix 5).

To conclude, we can observe that there is indeed interest in SuperApps among Europeans. Nonetheless, no relationship has been found between the said interest and the age, gender, number of apps used on a regular basis, and time spent on a phone/tablet daily by the respondents.

H2: According to Europeans, the financial aspects would be the most valuable to include into a Superapp

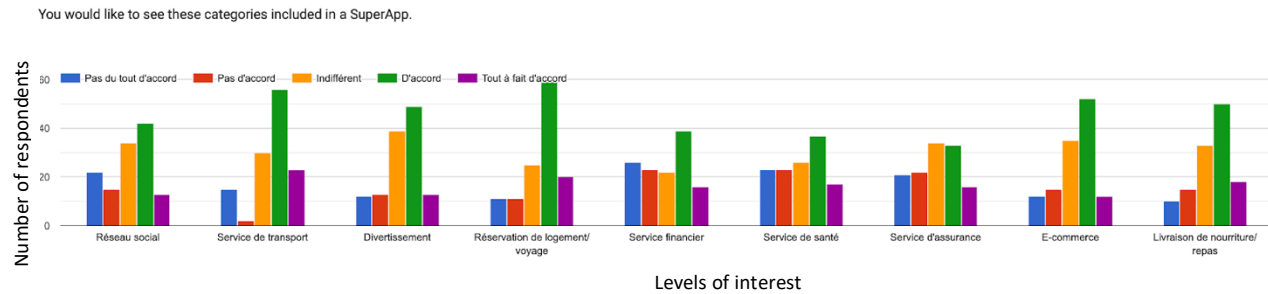


Figure 9 - Different levels of interest for SuperApps services categories

In the literature review, we discussed European apps that come closest to what is called a SuperApp. Among these, Revolut, Klarna, and Lydia stand out for their focus on financial services. They quickly captured consumers' attention by offering innovative solutions in the areas of payments, financial transactions, and money management. We also looked at the vast development potential of digital financial services for users and businesses. By carefully examining these aspects, it is clear that Europeans value SuperApps' financial aspect, highlighting the growing significance of financial services in the continent's digital economy.

However, reviewing the answers of our survey question about user preferences for categories to include in a SuperApp revealed unexpected trends as it can be observed in Figure 9.

Firstly, transportation services and accommodation/travel booking were the most popular categories, receiving more than 60% favorable responses. This significant preference highlights the need for a useful and integrated experience by reflecting the value that users place on travel planning.

Next, with 54% of respondents favoring them, meal services and food delivery were highly popular. With meal delivery apps becoming more and more popular, this trend represents the growing desire for options for at-home dining solutions.

The categories of entertainment and e-commerce also had reasonable results, with 50% of respondents expressing favorability. This preference for virtual shopping and leisure opportunities

highlights the growing significance of digital platforms in users' daily lives as well as the ease of having centralized access to a variety of e-commerce platforms.

However, some categories drew less attention. Health services, finance, and social networking all had positive response rates of about 43%. Despite the fact that these topics are still important to a large number of users, it doesn't seem like a SuperApp gives them priority. This may be explained by the specialized focus of these services and consumers' inclination toward niche apps that provide a more targeted experience.

Also, it emerged that respondents showed the least interest in the field of insurance services. This pattern might be the result of people's perceptions of the complexity of insurance services and lack of understanding of the advantages of integrating them into SuperApps.

Lastly, we can take a further step and examine the correlation between the various answers in the matrix (Appendix 6) to highlight the potential successful basket of applications as well the differences among the preferences. The first thing noticed in the results is that we cannot show divergent opinions since there is no negative correlation in the matrix. Moreover, we see that financial, health and insurance services are highly correlated. This piece of information, combined with the graph above showing lower customer interest in those three categories, indicate that this bundle of apps would be less appreciated in a SuperApp. The results also reveal some other higher correlations between categories which could mean high potential success of bundling those categories into a SuperApp: e-commerce and food delivery, transport services and travel booking, entertainment and e-commerce, or food delivery with social media and entertainment.

Overall, the collected data revealed that respondents did not exclude any specific categories. Quite the contrary, they made it possible for us to determine which services were attracting the greatest attention and to see fluctuations in the degrees of preference assigned to each of them. By showing the categories that users like, these insights can help direct the creation of a SuperApp.

In conclusion, despite the financial services potential we anticipated for the SuperApps, the survey results highlight a crucial nuance when compared to the initial hypothesis. Contrary to predictions, the financial aspect does not emerge as the most important factor in European customers' decision or use of SuperApps. It seems that other services, such food delivery or transportation services, are

more important. This emphasizes how complex user preferences might be and how crucial it is to take a broad variety of elements into account while designing and developing SuperApps in Europe.

H3: Convenience represents the biggest motive in the usage of SuperApps for Europeans

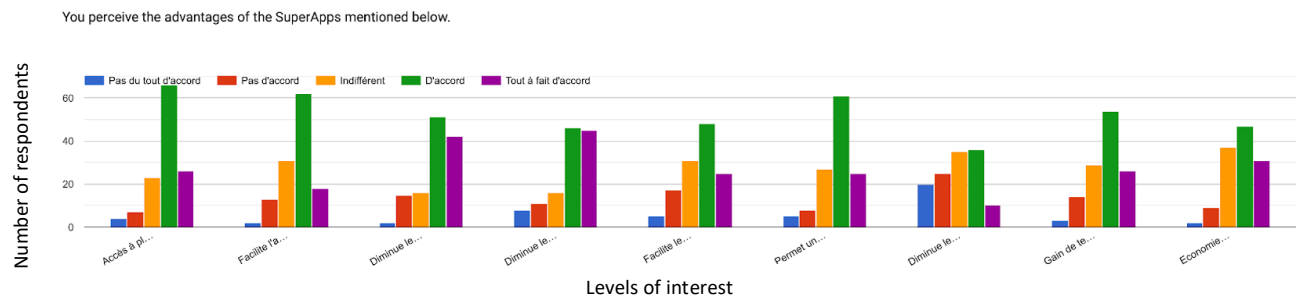


Figure 10 - Different levels of interest in the benefits of SuperApps

The hypothesis we assessed was based on users' preference for convenience when evaluating SuperApps. With the increasing popularity of these all-in-one apps, it's critical to understand the factors affecting users' preferences and choices. The purpose of this section is to investigate how much users value convenience when comparing to other factors, including data security or the diversity of services available.

The study results, in Figure 10, show numerous notable trends in respondents' perceptions of the benefits of SuperApps. First of all, it's evident that consumers value accessibility and convenience, as indicated by the large percentages of respondents who value being able to access multiple services within a single application (73%) and facilitating access to the desired service (64%). This shows that users value service centralization and simplified digital interactions.

Another critical aspect is security and data protection, as evidenced by the high percentage of respondents who feel SuperApps reduce the need to repeat personal information (74%), as well as memorize different passwords (72%). SuperApps must put strong data protection mechanisms in place and guarantee user trust in light of the growing concerns about data security and privacy. It also emphasizes the need of not only guaranteeing data security, but also streamlining user interactions and maximizing their experience by eliminating repetitive procedures. This dual view emphasizes how useful SuperApps are, as they save users the effort of having to enter their data repeatedly.

However, despite the ease and security provided by SuperApps, it is worth noting that some benefits, such as facilitating the payment process (58%) and reducing trust concerns (37%), are considered less important by respondents. This implies that even while SuperApps provide a wide range of services, there is always room for improvement in order to completely satisfy consumers' requirements and expectations.

Lastly, the findings also show that customers generally value efficiency-related advantages like time savings (64%) and storage space savings (62%). This emphasizes how crucial it is for SuperApps to offer customers quick and effective solutions that simplify their everyday tasks and make the best use of the storage on their mobile devices.

In conclusion, the findings substantially support the hypothesis that consumers prioritize convenience while evaluating SuperApps. The significance of this element for users is highlighted by the large percentages of benefits linked to reducing repetitive tasks and simplifying interactions. This is consistent with two of the UTAUT's pillars: perceived ease of use and performance expectancy, both of which have a beneficial impact on a technology's adoption. But it's also critical to remember that other considerations, such data security and the variety of services available, continue to play a significant role in the selection and utilization of SuperApps. As a result, in order to satisfy consumers' diverse expectations in a market that is always changing, developers and businesses must keep concentrating on producing useful and safe user experiences.

H4: Data protection represents the biggest concern in the usage of SuperApps for Europeans

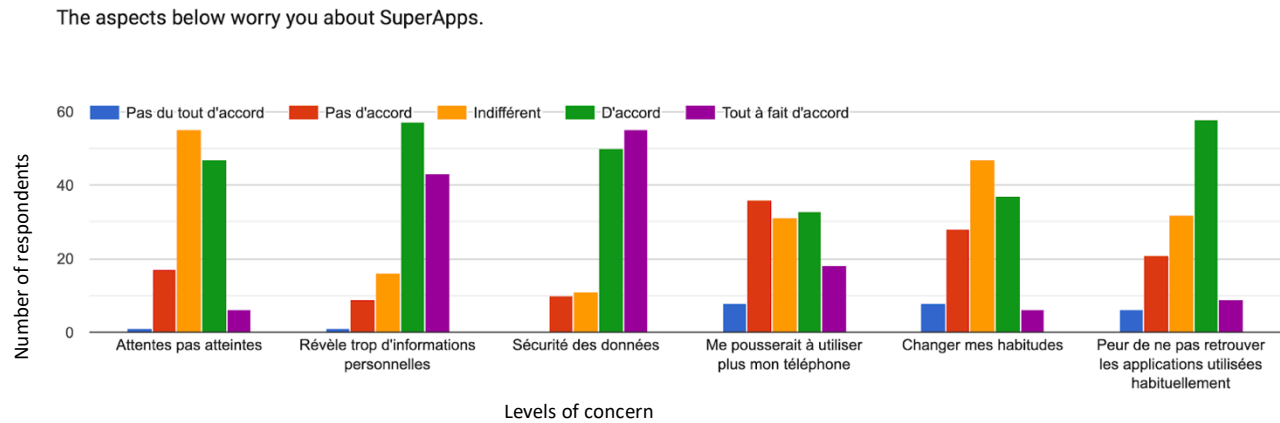


Figure 11 - Levels of concern about certain aspects of SuperApps

After reviewing the scientific literature on consumer concerns about the security of their data, we came up with the hypothesis that Europeans would express concerns about the protection of their personal data.

In a context where data privacy and security are more and more important, it seemed logical to expect customers to prioritize these factors while evaluating SuperApps. The hypothesis is a result of the increasing prevalence of digital technologies in our daily lives and the growing consciousness of the possible dangers connected to the improper use or exposure of personal information.

A review of the survey data in Figure 11 indicates that participants were worried about what they saw as SuperApps' drawbacks. First, as we predicted, a significant portion of respondents, 81 %, voiced concerns about excessive disclosure of personal information and data security, which is the most common concern.

This emphasizes how crucial it is for SuperApp developers to have strong data protection mechanisms in place in order to maintain user confidence and secure users' privacy and that of their data.

The impact on user behavior is another major concern, as 41% of respondents fear that using SuperApps will make them use their phones more frequently. This perspective emphasizes how consumers are becoming more conscious of their reliance on technology and how it may affect their mental and physical health.

Furthermore, a large number of respondents (34%) express concern about changing their habits, as well as a worry of not being able to find the commonly used apps (53%). These findings highlight users' aversion to change and need for familiarity, which might make it difficult for SuperApps to add new features or alter user behavior. In fact, habits are one of UTAUT2's additional cores that have a negative effect on technology adoption. Furthermore, the findings support the status quo bias theory, as users do have a preference for routine, which impedes the development of possible new technologies.

Finally, while less concerned than others, just 42% of participants believe SuperApps will fail to satisfy user expectations. This implies that the majority of respondents think using a SuperApp would largely meet their expectations.

In summary, these results highlight a series of major concerns related to the perceived drawbacks of SuperApps, with a particular focus on data privacy but also on the impact on user behavior and resistance to change. To succeed in a competitive market, SuperApp developers must take these concerns into account and actively work to address them while offering attractive and functional user experiences.

Advantages outweigh disadvantages

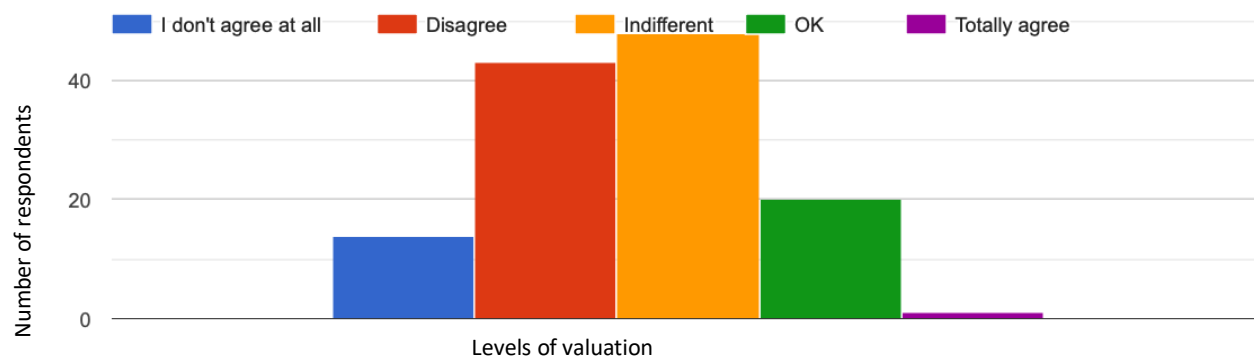


Figure 12 - Levels of valuation of the benefits of SuperApps compared to the drawbacks.

After analyzing respondents' impressions regarding the positive and negative aspects of SuperApps, we questioned whether the advantages could outweigh the disadvantages. Despite the relatively nuanced results, as it can be observed in Figure 12, with big highs and big downs on both benefits and concerns, it appeared that only 17% of participants consider the benefits to outweigh the risks.

To summarize, the majority of respondents (+/- 70%) saw considerable benefits in terms of ease and efficiency. In fact, these advantages, like ease of use and service centralization, directly meet consumer demands and expectations in a digital environment that is becoming more and more complex. These advantages offer a practical and efficient solution for managing a variety of tasks and services from a single platform, simplifying interactions and enhancing the overall user experience.

Next, regarding potential disadvantages, it emerged that 80% of participants have concerns about the privacy and security of their data. This disadvantage consequently appears to be decisive among our respondents, as 45% believe that the risks outweigh the advantages.

All things considered, even if there are a lot of noteworthy benefits, the drawbacks appear to outweigh the benefits and are a big worry for potential consumers. This emphasizes how crucial it is for companies to focus on creating features and services that have a substantial added value, as

this will enable them to meet user needs and actively address their concerns while also offering an appealing and workable solution.

H5: Europeans demonstrate a higher propensity to use a SuperApp provided by a bank compared to those provided by other industries

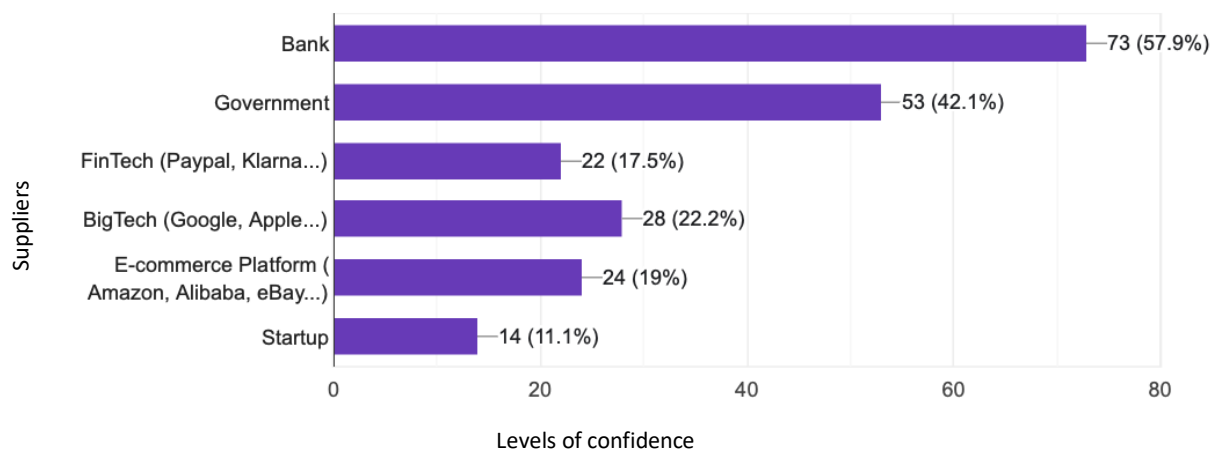


Figure 13 - Levels of confidence in potential suppliers of SuperApps

Exploring potential providers of SuperApps in our survey revealed similar results compared to our initial hypothesis. Indeed, we assumed that users would favor SuperApps offered by the traditional banking sector and the results indicate the same trend as our hypothesis.

Indeed, as seen in Figure 13, traditional banks dominate among potential SuperApp providers, accounting for 57.9%. As mentioned before, users' knowledge and confidence with these well-known financial services firms are the reasons behind this significant preference.

Next, with 42.1% of respondents saying they would be confident if the government offered a SuperApp, the government comes in second place. There are multiple explanations for this outcome, which seems to be consistent. Notably Belgium's increase in the use of online government services. As e-government has expanded, a wide range of governmental services, including tax declarations and official document requests, are now available online. Users' confidence in the

digitalization of governments is strengthened by the improved simplicity of use and accessibility of online government services, which offer platforms for accessing a variety of essential services.

Furthermore, people's preference for the government is significantly influenced by data security and privacy. These SuperApps, being government entities, would be bound by stringent data protection regulations, guaranteeing consumers that their private data is safe and handled with discretion.

The "bigtech" category, which includes corporations like Google and Apple, received a percentage of 22.2%, while e-commerce sites like Amazon and Alibaba had a comparable score of 19%. Although only one-fifth of our respondents decided to trust these companies, they are ubiquitous in the digital domain and would have the capacity to provide a wide range of services to users. Users may be attracted to the solid reputation and visibility of these big tech companies, as well as the diversity of products and services they offer.

However, this less dominant result can be explained by many users' concerns about the privacy of their data and the security of transactions.

Moving on, fintech companies obtained a relatively low percentage of 17.5%. It could be explained by users having less trust in fintech companies due to their relative novelty in the financial domain. Additionally, users tend to turn to more traditional solutions for managing their money, which could lead them to prefer solutions offered by banks that are increasingly expanding their range of financial services in their apps. For this reason, potential users may not discern the added value or real differentiation between fintech apps and those of banks.

Finally, the low result obtained by startups suggests that these actors are less perceived as potential providers of SuperApps by users. This can be explained by a lack of trust or familiarity with startups in the digital services domain, as well as a less developed offering of financial services or other services that may interest users.

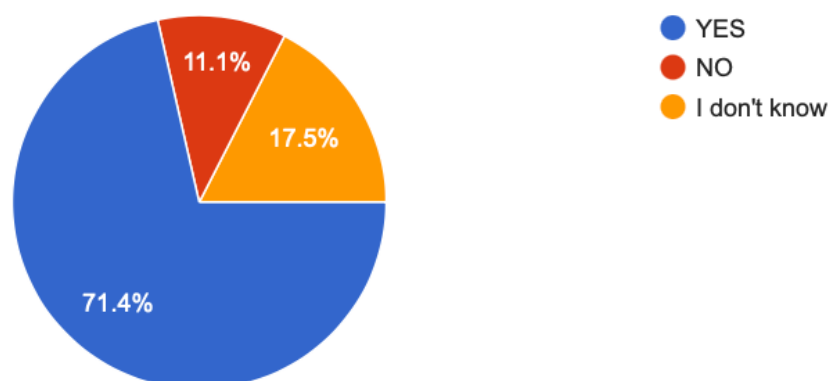


Figure 14 - Levels of influence of a SuperApp's country of origin

To go deeper into our analysis, we looked at the influence of a SuperApp's country of origin on the decision to use it or not. Our survey yielded a definitive result, with more than 70% of respondents admitting that a SuperApp's country of origin influences their decision to use it.

This finding, visible in Figure 14, emphasizes data protection and privacy, two major issues facing modern consumers. This pattern indicates a growing fear of apps and online services that come from places where data protection laws are either minimal or nonexistent.

Particularly, due to worries about data security and privacy compliance, apps coming from specific nations—China, for example—may face greater suspicion. There may be worries over the use and security of users' personal information in China since data protection laws are frequently seen as being less strict than in other countries.

The distrust of Chinese SuperApps is exacerbated by previous incidents of security breaches and privacy violations in several well-known apps, such as TikTok. (Baker-White, 2023). However, as this app is the second most downloaded in the world just behind its American competitor Instagram, this shows a certain paradox and suggests that users are theoretically concerned about their data privacy but do not particularly take it into account in practice (Milmo, 2024).

We know that customers are aware of the possible risks associated with using apps from countries with less strong data privacy legislation, but what are the actual implications on their consumption habits?

On the other hand, apps that come from countries with rigorous data protection laws, like the US or the EU, might have more user confidence when it comes to the security and privacy of their personal data. Users may be more inclined to use these apps due to their confidence in the solid regulatory framework governing the collection, processing, and storage of personal data.

The diversity of results obtained in our survey on potential providers of SuperApps challenges our initial hypothesis. We expected that customers would favor SuperApps provided by finance companies, but the data show a different pattern. Conventional banks top the list, while government SuperApps stand out as a possible alternative. Significant percentages have been reached by e-commerce platforms and large tech companies. Also, the impact of a SuperApp's nation of origin on the choice to utilize it underlines consumers' increasing apprehensions regarding privacy and data security.

H6: Europeans exhibit a willingness to pay for SuperApps

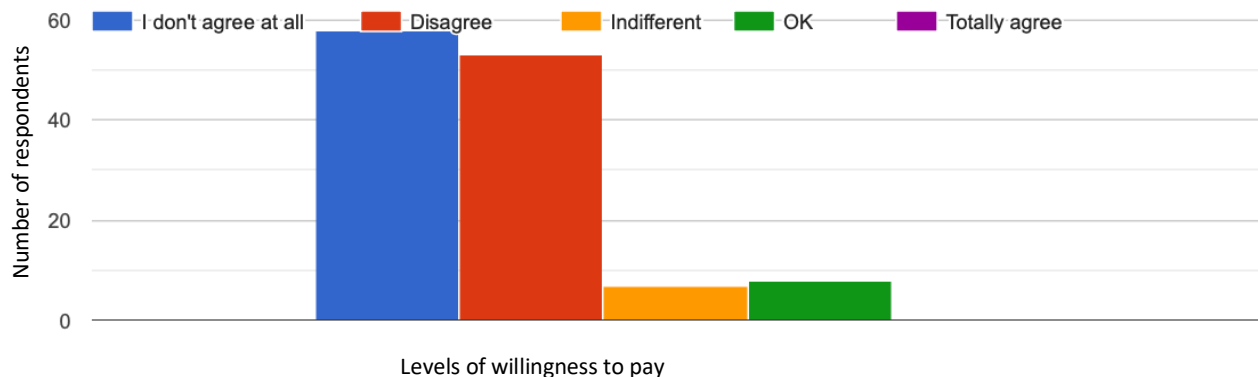


Figure 15 - Levels of willingness to pay for a SuperApp.

The analysis of our survey's final question, "Would you be willing to pay to use a SuperApp?" reveals an unexpected trend: nearly 90% of respondents were hesitant to pay to access this type of platform. This finding contradicts our initial hypothesis, which anticipated that customers were prepared to invest in bundled services provided by a SuperApp. This reluctance raises interesting questions about the perception of value and consumer expectations regarding digital services.

Our hypothesis was motivated by trends showing the willingness to pay among users for convenience and ad-free experiences. However, the "Global Household Media Analysis" study done by the consulting firm Oliver Wyman in 2023 revealed conclusions that differed from our own. According to the report, 49% of households in Europe have at least one subscription to an online service; music, cloud services, and video-on-demand (VOD) services like Netflix and Amazon Prime.

The results we obtained, in Figure 15, diverge from general trends and may seem particularly low when one knows the actual proportion of users who pay for subscriptions to various digital services.

One possible explanation for low results lies in how users perceive the value of different types of services. Whether for online streaming or music, it is assumed that consumers have a high value on the service because they are willing to pay to utilize it. Services such as Amazon Prime and Netflix provide access to a large portfolio of exclusive content, such as TV shows and film series, as well as practical advantages such as fast or free delivery. These services provide users with actual and immediate value, justifying the subscription cost for them.

However, consumers' unwillingness to pay for a SuperApp could be attributed to the concept's novelty. While established services like Netflix and Spotify have had time to establish themselves and demonstrate their worth to consumers, SuperApps are still in their early stages and may not yet be widely recognized by the general public. In this case, consumers may be hesitant to invest financially in a service until they are completely convinced of its utility and potential additional value. Thus, more awareness and education about the capacity and benefits of SuperApps should help overcome consumers' initial reluctance to pay for these platforms.

Furthermore, customers' perceptions of the free nature of digital services can have an impact. With the growth of free services sponsored by advertising or other ways, users may have grown

accustomed to not having to pay for online services, which may impact their unwillingness to pay for a SuperApp.

Overall, while consumers are prepared to pay for specific digital services, their reluctance to pay to use a SuperApp can be attributed to their view of the value of the services included in the subscription, as well as expectations of the free nature of online services. It is up to SuperApp developers to find a balance between the perceived value by users and the economic model of their platform to foster user adoption and loyalty.

To deepen our analysis, we wanted to look at the results directly linked to the potential market, i.e. the people expressing interest in the use of a SuperApp. This approach was part of the search for differences between the responses of the latter and the general responses, in order to fine-tune the aspects of a SuperApp to the expectations of the potential market. However, the trends remain the same, leaving the conclusions unchanged.

5. DISCUSSION

The results of our study on the development of SuperApps in Europe have enabled us to explore in depth the perceptions, expectations and concerns of potential users with regard to these multifunctional platforms. By analyzing the data collected through a quantitative survey and comparing it with the hypotheses formulated on the basis of the scientific literature, we were able to assess the extent to which the results confirm, refute or complement existing research.

In our literature review, we decided to divide the potential success of SuperApps into three lenses: desirability, viability and feasibility, and then we looked at concerns and challenges.

To begin with, in the desirability dimension, we developed our first four hypotheses, which relate respectively to the interest of potential users (H1), the categories they value (H2), the most important benefits (H3) and the trust towards the supplier (H5).

Firstly, our results fully confirm the hypothesis that Europeans have a significant interest in SuperApps. The responses from our survey participants clearly demonstrate an openness and curiosity about these platforms offering a multitude of services within a single application.

Next, the analysis of the data showed that financial aspects were not perceived as the most important to include in SuperApps, with other features such as meal delivery or transport emerging as more in demand.

Then, convenience turned out to be the main reason for using SuperApps for Europeans, confirming our hypothesis. Participants stressed the importance of ease of use, accessibility of services and centralization of functionalities as key elements influencing their decision to adopt a SuperApp.

Finally, with regard to the hypothesis on the propensity of Europeans to use SuperApps offered by banks, our results showed that the majority of participants would more likely trust banks as SuperApp providers.

Let's now continue with the viability dimension in which we developed a hypothesis stating that Europeans have a willingness to pay for SuperApps (H6). The results of our study disproved our hypothesis, revealing that the vast majority of consumers are reluctant to pay for a SuperApp.

However, as we saw in the literary review, many free applications still manage to generate revenue, whether through advertising or the freemium model.

Lastly, in the concerns and challenges section, we developed the hypothesis that data protection represents the biggest concern in the usage of SuperApps for Europeans, and this was largely confirmed in our survey (H4).

The various results we have gathered give us a positive answer to our research question: "Will SuperApps soon conquer the European market?". Indeed, the three innovation lenses on which we based our theoretical analysis have been verified. Firstly, the desirability has been confirmed, as consumers have shown an interest in the development of SuperApps in Europe. We have also been able to identify the presence of a need and benefits that are worthwhile for users. Secondly, the viability aspect has been verified, because although consumers are not yet willing to pay to use SuperApps, this does not prevent them from being viable, which would be possible via other solutions. Thirdly, feasibility is also confirmed, as there is little technical difference between Europe and those parts of the world where SuperApps are already well established. Also, although the legal framework is more extensive in Europe than in the global south, this should not act as a definitive brake on the development of SuperApps in Europe.

6. CONCLUSION

6.1 Results

The results of our study on the development of SuperApps in Europe have enabled us to explore in depth the perceptions, expectations and concerns of potential users. By analyzing the data from a quantitative survey and comparing it with our hypotheses based on the scientific literature, we were able to assess the extent to which the results confirm or complement existing research. We divided the potential success of SuperApps into three dimensions: desirability, viability and feasibility, while also addressing concerns and challenges.

For desirability, our results confirm that Europeans show significant interest in SuperApps. However, financial aspects are not perceived as the most important. Convenience is the main reason for using SuperApps, and the majority of participants would trust banks as SuperApp providers.

In terms of viability, our study refutes the hypothesis that Europeans would be prepared to pay for SuperApps, although alternative revenue models such as advertising or freemium are viable.

As for concerns, data protection is the main concern of European users, which confirms our hypothesis.

6.2 Managerial implications

We can therefore safely say that the arrival of SuperApps on the European market is entirely conceivable, if they meet the needs and expectations of users. Through an in-depth analysis of the results of our survey, several significant conclusions can be drawn to anticipate the success of SuperApps in the European context.

The results of the survey revealed a high level of interest among consumers in SuperApps in general, and they also expressed preferences for certain categories of services that they would like

to be able to find on them. These services are transport, accommodation/travel bookings, meal delivery, entertainment and online shopping. If we compare this with the most popular and well-established SuperApps in Asia (see Figure 3), it will appear that the features preferred by Europeans could constitute a SuperApp as they are among the most represented categories in those already in existence. Although the European consumer has been somewhat cautious about integrating financial services into a SuperApp, they are a major aspect and are indispensable and are present in almost all existing SuperApps on the market.

Continuing on the subject of financial services, despite the fact that they have no desire to find this service within an app, the majority of consumers expressed greater confidence in an app provided by a bank. These two pieces of information may seem contradictory, but they can also be seen as an opportunity. Given that consumers trust banks the most, it is these institutions that would be best placed to develop a SuperApp, as they do not need to gain the trust of users because they already have it. This confirms the observation we made at the beginning of this paper that the SuperApps in the pipeline (Revolut, Klarna, Lydia, Bolt) are mostly financial service apps. These apps could therefore develop by extending their services to meet all user needs. Moreover, if we take the four categories of SuperApps mentioned at the beginning of this work, we can say that the one most likely to develop on the European market would be the "Swiss-Army Knife" SuperApp. This type of SuperApp, by bringing together a multitude of services within a single application, is particularly well-suited to development in Europe because it centralizes all the essential functionalities under the management of a single company. This approach strengthens users' confidence in terms of data protection, because all their interactions and information are managed centrally by a single entity, rather than being scattered across several platforms.

Another very important aspect is the lack of willingness to pay on the part of consumers. It's true that these days, the majority of applications and other online services are free, whether or not they are financed by advertising. This free digital experience has become normal for users, which explains this result. This observation underlines the importance for SuperApps developers of betting on an app that is free, at least in its basic version, like the freemium model mentioned above which is used by Revolut to name but one.

And last but not least, the issue of data protection and security is paramount, a subject that is much talked about these days but which is also highly regulated, as we saw in the literature review

(GDPR). The European SuperApp should therefore be beyond reproach in this area to be able to guarantee the confidentiality and security of users' data.

The results of our survey indicate that SuperApps have considerable potential to conquer the European market if they respond precisely to users' needs and expectations. SuperApp developers, as socially responsible organizations, must adopt a critical perspective on their managerial practices, considering both the ethical and social implications of such apps. They need to focus on integrating high-demand services such as transport, accommodation and travel bookings, food delivery, entertainment, and e-commerce. Consumer confidence in banks suggests that they are well placed to develop SuperApps. It is crucial to offer a free app in its basic version to encourage adoption and to guarantee rigorous data protection, in compliance with regulations such as the GDPR. By positioning themselves as "Swiss-Army Knife" SuperApps, offering a full range of features, developers can maximize their chances of success on the European market. To comply with legislation like the GDPR and to earn genuine trust from users, it is imperative that these applications rigorously adhere to data protection and security requirements. When incorporating financial services into digital applications, financial institutions in particular need to be very transparent and accountable to prevent any misuse of customer information.

6.3 Limitations

The study we conducted as part of this paper has a number of limitations that are worth mentioning.

Firstly, the relatively small size of our sample could limit the generalization of the results to the entire European population. A more representative sample of respondents could have offered a more comprehensive perspective on users' attitudes to SuperApps.

Secondly, we were faced with a lack of geographical diversity, with more than 95% of respondents coming from Belgium, which may therefore restrict the scope of the conclusions. Greater geographical diversity would have enabled us to better grasp the cultural nuances and variations in user attitudes across different European countries.

After all, given that the concept of SuperApps is relatively new and constantly evolving, it is important to recognize that our study captures a specific snapshot in time. The digital technology sector and user trends and expectations can evolve rapidly, requiring continuous monitoring and adaptation to market changes.

In addition, as many users are not yet familiar with the concept of SuperApps, it is possible that the majority of responses reflect preliminary opinions or limited perceptions. This may introduce a bias in the interpretation of the results.

Finally, our work may present limitations linked to the survey methodology, such as ambiguous questions, wording bias or gaps in data collection, which could have an impact on the reliability and validity of the results obtained.

6.4 Further research

Taking these limitations into account for future research, it would be advisable to adopt a multidimensional approach to better understand European users' attitudes towards SuperApps. Firstly, it would be beneficial to increase the sample size and diversity by including participants from different regions of Europe in order to capture cultural variations and country-specific preferences. Secondly, it is essential to conduct longitudinal studies to track changes in user perceptions over time and to identify emerging trends in the sector. Thirdly, it would be important to discuss in depth the impact of data protection on consumers decisions. And lastly, it would be advisable to engage with the company/developer side to get more valuable insights with a different perspective. By incorporating these recommendations, future research will be able to offer deeper and more enlightening insights into the acceptance and use of SuperApps in Europe.

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