MOBILE APPLICATIONS: FROM BUSINESS TO SOCIAL IMPLICATION

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Abstract. *Mobile applications (apps) seem to be the new Holy Grail of business, especially for marketing, but not only. With the technology development, new features become available almost on daily basis, and it is common to discuss, at least in the professional environment, about how firms can make use of the mobile apps to conduct market research, to redefine more sophisticated segmentation criteria, to promote new services, to increase the loyalty level of customers or to involve at social level. Almost all companies wanting to be perceived as modern and fresh or preoccupied with the value delivered to the consumers, propose their own apps or are listed on existing apps, platforms with new business opportunities. In this empirical exploratory paper, based on literature insights, interviews with managers, and case studies, we summarize the major challenges for companies when launching their own apps, their limits, and the surprising mix between business and social innovation.*

Keywords: *mobile applications; digital business models; digitalization; digital marketing; social innovation.*

Introduction

Paradoxically, mobile computing is not a new research topic, being discussed technically since the 1990s (Forman & Zahorjan, 1994), but it became a mainstream topic with the commercial development of smartphones and tablets. The mobile applications' market is at present dominated by the social and entertainment apps, developed both by major IT corporations such as Google, Apple, Facebook or by independent developers, as new businesses or new services proposed by existing companies. Some of the applications proved such a success that they have been bought by apparent non-direct competitors, to strengthen these ones' market positions. It is the case of WhatsApp, purchased by Facebook and which became the 3rd social media application used worldwide in 2015 (Statista, 2015a).

Technically speaking, there are three types of mobile applications: native apps, mobile web apps, and hybrid apps. Native apps are created especially for mobile devices, being independent of the Internet browsers and installed only on application stores, such as Google Play, Apple App Store or Microsoft Store. The native apps allow users to take advantage of full characteristics of the mobile devices, such as geolocation, lists of contacts, camera, gestures and so one. The web apps are mobile websites looking like native apps, being programmed in HTML5 language, but not installed directly on mobile devices and allowing access directly from the Internet browsers. The hybrid apps are part native, part web based apps, being installed on app stores, but has also an Internet extension programmed in HTML5. Companies used to develop hybrid apps both for facilitating mobile Internet traffic of customers and for converting part of the traffic towards app stores to increase the number of apps downloads. Nevertheless, with the current dominant proportion of individuals who spend their online time mostly on mobile devices – 71% for USA and China or 91% for Indonesia in 2017 (Chaffey, 2017) and the decrease of costs for native apps, these ones tend to become dominant.

Apps' development, favored by the rise of the mobile Internet

Approx. 3 billion Internet users were reported globally for May 2015, and the global Internet penetration is expected to reach 71% by 2019, while 192 countries report 3G and/or 4G networks, covering almost 50% of the worldwide population (Internet Society Global Internet Report, 2015). These data show the amazing mobile Internet adoption ratio. However, its history is very recent, considering that the first smartphone, iPhone, has been launched only in 2007. Since 2007, smartphones and other new smart devices (tablets, smart watches etc.) connected to the Internet, allowed users instant connectivity and full mobility as never.

More than a technical revolution, the rise of the smart devices (also called generically as 'the third screen', following the TV and the PC) is a behavioral one, changing profoundly the consumers' behavior: the untethered consumers (Martin, 2011) are the individuals always connected, consuming content especially from smartphones, relying on their peers for recommendations, and not on classic advertising.

The individuals' changing behavior could be understood a direct result of the smart devices' adoption and has been facilitated by very specific technical functionalities unavailable on previous computers (desktops and laptops), e.g. sensors to measure environment and motion. Even if mobile browsers are getting increasingly performant in accessing some specific smart devices functionalities (as camera or GPS), the full technical possibilities of smart devices can be developed, at least for now, mostly through native apps (Internet Society Global Internet Report, 2015). This could be one of the facts that influenced the launch of more than 1 million apps reported for 2015 (*idem*). At the same time, the increasing adoption of mobile Internet changes the consumers' expectances on instant services, available on the go, and with short and clear information. Even more, it empowers individuals 'to voice their beliefs and preferences continuously and instantaneously' (Lin et al., 2014), which puts supplementary pressure on customer relationship management processes of firms.

People with tablets and smartphones tend to use the Internet less and less from specific web browsers (Edwards, 2014). Smartphones are used worldwide to access e-mail (72%), social media platforms (67%) and online banking (36%), to watch movies and videos (36%), to download files (31%), to access instant messaging and video calling (41%), for online gaming (31%) etc. (Statista, 2016).

Mobile Internet is now almost synonym to apps: as of March 2017, there were some 2.8 million apps in Google Play alone. The Apple Store, on the other hand, had gone from 800 apps the month of its launch in July 2008 to 2.2 million in January 2017. However, 2016 data show that many downloaded apps are not used more than once in the first six months. The most popular Apple App Store category is gaming with about 25 percent of available apps belonging to this category (Statista, 2017).

The continuous development of apps launched worldwide is pushed therefore by the usage of the mobile Internet, as well as by the specific IT development costs' decrease. Even if statistics show that consumers tend to download, to keep and to use only a limited number of apps companies launch continuously their own apps for smartphones and tablets.

Mobile apps for business: insights from empirical research

The amazing development of the mobile applications' market is favored now, as we've seen above, by technology, decreased costs and major changes in consumers' behavior. Applications generate revenue in several different ways, such as charging users a small amount of money for the use, charging for access to premium features of an otherwise free app, simply selling ad space or charging fees to services providers listed on the app (Statista, 2017).

Apps are real business opportunities when considered as marketing instruments or platforms that cover specific parts of markets. As marketing instruments, apps are developed and owned by the company itself. As platforms favoring coopetition, apps are usually developed by one company, and it becomes profitable only when both services and products' providers and consumers use it more and more as. It is the case of Airbnb, Uber and other similar peer-to-peer platforms, apps-based, that challenge traditional business models and markets (Mackin, 2015; Lunden, 2016).

In Romania, there were estimations of only 6% of companies using in 2015 mobile applications for business (Yoda.ro, 2015), with a very limited number of firms using them for increasing their efficiency by real-time monitoring of assets, employees, and processes. As technology becomes even more accessible, important changes in this aspect can be expected, by surpassing the sole marketing purposes of using apps and by integrating Internet of Things for reading data and signaling activities' delays, especially for companies with numerous subsidiaries or geographically dispersed teams and projects.

Aiming to understand if apps are at present a valuable opportunity for businesses, beyond the successful case studies present already in the business media and the academic literature, we've conducted an empirical research in 2017, interview-based with entrepreneurs from Romania. Even if limited by the panel of respondents (two multinational corporations' managers and five entrepreneurs, owners of SMEs, Bucharest-based), some important insights should be considered as follows.

For managers of multinational corporations, with corporate objectives and budgets, a mobile app is mainly a marketing instrument. Therefore, apps are a way to create relations with customers, preferably emotional: "*In my opinion, the main role of an app is to construct brand engagement. When someone downloads, and install an app, and then use it, an unconscious dependence is created, which could become even emotional afterwards*" (marketing manager, male, 35 y.o., multinational energy corporation). Used for marketing purposes, mobile applications are a leverage for the brand communication, and an effective way to collect instantaneous data on consumers and to be in contact with them: *„ In our case, we use apps mainly for collecting consumers' data, to send them commercial notices with lower advertising costs and to create a continuous relation with the brand"* (communications middle-level manager, female, 36 y.o., FMCG corporation).

Being under a constant financial pressure, SME's entrepreneurs tend to see mobile applications as cash cows. Therefore, they consider that apps shouldn't be very expensive: *"I wanted to develop my own app for food home delivery, but I found out that it could cost me up to 50.000 euro, plus annual maintenance. I gave up and decided to list my restaurant on two existing integrative apps of food delivery, along with other restaurants and to pay a percentage for any order (to the app owners). It is more efficient this way: I don't make a lot of money, but I gain both visibility and new customers."* (restaurant owner, male, 44 y.o). The financial issue is a real problem for some SMEs entrepreneurs, especially when their customers are still offline buyers: *"I would invest in my own app in the future, but my current clients still buy our products mainly in the shop and just occasionally online: the development costs of our online shop on the website are still not covered, one year after its launch."* (concept store owner, female, 42 y.o.). When the business itself is app-based, other issues appear, mainly at the logistics and human resources' levels: *"Our company's objective is to be a sort of Romanian Uber for home care. To create the app itself and to promote it was not as difficult as to recruit serious plumbers, painters, and carpenters for providing the services listed on the app."* (corporate entrepreneur of a corporate start-up in energy and home care services, male, 28 y.o.). Existing apps remain, afterwards, a solution for SME's to gain visibility and new customers when listed on their platforms: *" There are already, in Bucharest, firms with more than 5 cars acting for Uber: this is just another form of entrepreneurship. Moreover, these firms don't need marketing, as they relate only to Ubers ranking system – and it works."* (training company entrepreneur providing mainly consultancy services on mobile marketing, male, 27 y.o.).

These insights, even limited, confirm that there is a trend in developing applications, as statistics show, both for marketing and market penetration objectives (or to delay their development because of financial issues), but still not for business efficiency development. However, mobile applications are not only about costs and profits – sometimes, social innovation is created through apps and we will present furthermore two relevant case studies.

Social innovations though apps. Case studies: Uber and WowApp

Uber is one of the best well-known apps of the sharing economy. Uber has become famous world-wide due to its new business model, providing convenient and safe taxi services in many countries. This new business model, its reputation, the quality of services proposed to the customers, its competitive advantage due to less regulation, as well as the diversification of services offered have made Uber one of the most popular companies and apps. Nevertheless, in 2016 the company registered a financial loss. Moreover, scandals have been lately associated with the company and critical investigation emerged from various perspectives: legal, economic, social etc. (see, for instance, Fowler, 2017; Rogers, 2015; Wong, 2017). Nevertheless, Uber remains a relevant example for the new digital business models, and the problems associated with this approach of business should be more carefully considered (Geradin, 2017; Wong, 2017).

Part of the reputation of the company is associated with its social activities. Although getting involved and giving back to the society (corporate social responsibility) is not part of the company's backbone, Uber regularly and quite systematically develops social initiatives, presented mainly in charitable campaigns. We mention only some of the most popular such campaigns: Uber – No Kid Hungry or Uber – Ride for a Cause in the States, Uber & Volkswagen – Charity drive with stars in Malaysia, or Uber Kittens in US and Romania. These are only some examples, which show in many cases the "adoption" of causes from the States to some other countries. Investigating the charitable campaigns of Uber, we observe the following strategy: in most cases, Uber considers a celebrity endorsement scheme. Either the partner is a strong organization, such as Red Cross the Australia, SMURD in Romania, various known NGOs in the US, or various personalities are involved, as in the case of No Kid Hungry or Charity with stars' campaigns. Therefore, it seems that an economic goal drives Uber. This hypothesis is strengthened by the absence of an official CSR strategy, as well as by the inclusion of all the charitable activities in the 'promotions' section of the company's website and app.

Nevertheless, Uber has a long-term charitable involvement, called Uber giving – active in 65 cities and 31 countries around the world. The promise behind this campaign developed around Christmas is that the company gives back to the community. When charitable campaigns are developed in Muslim countries, the period chosen is Ramadan.

In addition, Uber promotes as a social contribution to its communities the positive impact it has. Uber presents how the company is "helping cities thrive", by impacting positively the cities where it operates: more business opportunities, less drunk drivers, the larger area covered by transportation, stronger economies, and sustainable cities. Sharing is also supported by Uber using UberPOOL, contributing to more sustainable transportation. Uber would be also part of some planning and better public management actions, to improve the transportation in the cities (CityMetric, 2015). The impact of Uber is both positively (Feeney, 2015; Geradin, 2017), as well as negatively evaluated (Moon, 2015; Rogers, 2015).

A relevant social initiative of Uber could be the Button for Good (a charity option in the app, for every ride), announced at the TechCrunch's Hackathon at Disrupt New York in the beginning of 2017 (Roof, 2017). Up to now, this button has not been integrated into the app. If and when it will happen, might mark a significant increase in the charitable contribution facilitated by Uber, since the button-technology already included in the app for other purposes ensures an increased interaction within the app and it has been successful in increasing the traffic and the usage of the app (Uber Developers, 2017). A successful social initiative as such could become an example of good practice to be implemented on other apps.

If Uber integrates charity buttons directly linking its commercial activity to charity would not be the first company doing this, but it would be very visible at international level, due to its worldwide coverage. For instance, Ebates has such option, as well as various charity apps – some of them developed by businesses, such as Donate a Photo by Johnson and Johnson. A unique app is WowApp, an instantaneous communication peer-to-peer application, which shares money with the users, via an interesting mechanism that we will briefly present further. WowApp users accumulate money from all their activity associated with the app – discussions with friends, playing the games offered by the app, shopping though the app etc. A percentage of the gains are automatically redirected by the app towards an NGO chosen by the user. The rest of the money could be totally or partially withdrawn by the user or donated to NGOs. The sums accumulated are generally small, and since withdrawal might generate additional costs, people might be interested to better donate all the money.

Both business and social involvement are therefore developed via WowApp: more than 2000 charities around the world are associated with the app. The sums accumulated to each activity are not significant for each user and therefore, the impact of the system is highly dependent on the number of users and on how intensely they use the app. Up to the moment of our research, WowApp has been downloaded by more than 1 million people in the world, but probably not all of them use it regularly. This influences the funds donated to charities. For instance, in Romania, in less than a year, the donations reached 50k USD. This relatively low impact could be related to the resistance to change, the non-interest of users in charity and the skepticism which determine people not to use the app.

Conclusions and discussions

Even if statistics show that consumers tend to download, to keep and to use only a limited number of apps, from which a large part are social or entertainment apps, companies continue to invest in developing apps, mainly for marketing reasons, such as a closer connection with customers, deeper understanding of consumers, increased loyalty and, sometimes, more efficient promotion for new services or products. Social involvement through apps is still scarce, with some notable exceptions as the charity campaigns of Uber or trials of differentiation on the apps' market, as WowApp. For apps' owners, these platforms are profitable if they support the achievement of specific marketing objectives or, in the case of open apps, if there is an important number of simultaneous users of the apps' services, and therefore, advertising could be sold on the app or listing fees of services' providers could be taken into consideration. The current predominant use of mobile Internet and its consequences on the consumers' behavior put pressure on brands and companies to use apps, but to closely monitor their performances. Adding the relationship between the quality of a customer's experience on the app and his/her opinion of the brand (Salz, 2014), a potential problem for SME's struggling with an initial investment in potential apps' development and in afterwards maintenance and updates can be observed.

The insights from the interviews and the two case studies presented above prove that apps could be connected to both new and old business models, contributing to the achievement of both business and social goals, with a specific difference of approach between large companies and SMEs (marketing orientation vs. business – financial orientation). However, although they are largely used and are a familiar instrument, used daily, the use of apps in business strategies might be over-evaluated in terms of benefits. Therefore, even if some apps have redefined markets by their impact, companies investing in apps must integrate them in current business strategies and carefully evaluate the associated costs and risks.

On the Romanian market, individual apps are mainly used for brand engagement and for gathering information about consumers and for direct communication with them, but business efficiency increasing apps can be expected to be adopted in the future by more firms. Compared to owned apps by individual brands, collaborative platforms apps-based are more suitable to generate direct sales. Therefore, businesses look for opportunities to develop profitable apps, but the ROI indicator is considered in some cases not satisfactory.

As for the social involvement of apps users, despite some singular mechanism as the one of WowApp or some campaigns as the ones of Uber, results of such initiatives are modest, being partially explained by the people's lack of education and the use of inappropriate positioning strategies and tactics. A direct product of the social economy, mobile apps can allow more exposure for small firms without important financial investments, can favor entrepreneurial activities, but the social impact remains limited, as well as the social innovation largely diffused.

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