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THE EVOLUTION FROM TWO TO MULTI-SIDED MARKETS

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Abstract

Two-sided platforms are becoming increasingly important with the effect of the digitalization and growing impact of the internet worldwide. Two of the most well-known companies: Airbnb and Uber, are the disruptive examples from different sectors which have the two-sided platforms that connect two (or more) groups of users. The aim of this thesis is to deep dive into the innovation strategies previously defined in literature and try to find new strategies to find out the evolution of the companies accepted as two-sided platforms from basic to more complex and try to guide the platforms to help them to find new opportunities into their growth path. It is also aimed to consider the role of big data, the effects of it into the strategies emerged in the literature and to consider them according to the innovation perspective. Hence, 100 cases are analyzed. In the end, the basic structure of each case which is based on previous model in the literature including the marketplace participants, platform type, transaction content, transaction type, key activities, the foundation date and year are examined and four strategies which were previously defined in the literature (Enhance advertising, Data Driven Value Added Services, Data Trading and Supply Side Expansion) and two more strategies (Advertising Type 1 and Advertising Type 2) emerged during the analysis are analyzed. The importance and the distribution of the strategies among the companies and characteristics of these companies are presented by considering the conceptual framework which were previously defined in the literature. Contributions both from a theoretical and managerial perspective are discussed, together with the limitations and opportunities for further researches.

Table of Content

List of Figures

1.INTRODUCTION

Accenture Digital Transformation report (2017) indicates that in today's world business success based on a customer focused digital transformation. Being a "customer-relevant digitally powered business" is the must rather than being just an option.

Digital transformation includes the convenient customer experience which re-defines how people live, work and connect with the world and then creating the coherent organization, processes and technology to strengthen it. This transformation could be clearly related with the development of the technology and internet, since they allow the companies to become digital. Day by day, cheaper and better technology constitutes more connected world: "8 billion devices are now connected to the internet; by 2030, that number is forecast to grow to 1 trillion." (Accenture Digital Transformation report, 2017). It means that internet rapidly enhances the transaction between the people. But how it has been doing it? One of the most used ones is intermediary platforms, in other words, two-sided or multi-sided platforms.

In today's economy, "businesses are increasingly characterized by competition among platform-mediated networks in which network users—individuals or firms—desire compatibility and interaction" (Eisenmann, Parker, and Van Alstyne, 2011).These platforms consist of social networking platforms such as Facebook connecting networks of users with the providers of various services and applications, e-commerce websites such as Amazon or eBay, bringing together buyers and sellers; and search engine platforms such as Google, connecting advertisers and Web users (Bakos & Katsamakas, 2008).

Two-sided platforms have started to play a crucial role in the economy (Cusumano, 2010). Their role has become more significant with the emergence of the Internet as it is connecting people in a very fast way. In 2007, 60 of the 100 most valuable companies earned over 50% of their revenue from two-sided platforms (Eisenmann, Parker & Van Alstyne, 2011).

Two sided markets or two-sided networks are simply defined as platforms which include two or more groups interacting each other with the help of intermediary or platform itself and try to make them integrate by charging them appropriately. Although the definition summarizes the general concept and the integrative feature of these platforms mentioned in the definition is beneficial characteristic, it needs to be done some extra restrictions to define

the two-sided platforms, because with this definition many of the companies would be accepted as two-sided markets. Hence, Rochet and Tirole (2006) describe "a two-sided market as one in which the volume of transactions between end-users depends on the structure and not only on the overall level of the fees charged by the platform. A platform's usage or variable charges impact the two sides' willingness to trade once on the platform and, thereby, their net surpluses from potential interactions; the platforms' membership or fixed charges in turn condition the end-user's presence on the platform".

Platforms are defined as one of three ways for companies to deliver value by Stabell and Fjeldstad (1998). Similarly, Rochet and Tirole (2003) indicate that "two-sided platforms are characterized by a business model that creates value by facilitating interaction between two different user groups". On the other hand, Eisenmann, Parker and Van Alstyne (2006) claims that transactions in two-sided platforms brings a triangular set of relationships and two groups of users which define as "sides" connect with each other thanks to one or more intermediaries called platform providers. A platform constitutes an architecture containing a design for products or services, and infrastructure using network users' interactions; also, a set of rules which is the protocols, rights, and pricing terms that govern transactions.

These platforms consist of two kind of network effects (network externalities) , which could be either positive or negative: first one is same-side(direct network) effect, which indicates the increase in the number of users on one side could make this side either more or less valuable to users; and second one is a cross-side(indirect network) effect, which means that increasing number of users on one side could make this side either more or less valuable to the users on the other side.

Furthermore, Evans (2003) underlines that two-sided market could be separated from different platforms only if they include following issues: First, two or more distinct sides including diverse groups of clients benefiting from each other by the interaction in the platform (Rochet & Tirole, 2003, p. 990). Second, indirect network externalities linked with those groups. The last one is an intermediary who provides an interaction should bring the appropriate value proposition to the both(multiple) side and should internalize the network externalities (Muzellec, Ronteau & Lambkin, 2015)

If the traditional value chain is considered, Eisenmann (2007) indicates that the value moves from left to right: to the left of the company represents the cost, to the right of the company represents the revenue. On the other hand, in two-sided networks, cost and revenue do not belong to specific side, both of them are to the left and to the right, since the platform has two(multi) sides including distinct groups of users; it could charge both sides since it is serving both sides and also can receive revenues from both, in spite of one side is usually subsidized.

Evans (2003) describes the platforms with three main categories: first one is Market-Makers which allows transactions between two sides, such as shopping malls or eBay, second one is Audience-Makers which is a unilateral communication between advertisers and consumers, such as newspapers or television and the third one is Demand-Coordinators in which the good or services constitute cross-side network effects between the two sides, such as operative systems and game consoles. These categories have been added in two wider categories which is defined by Filistrucchi and colleagues (2014) based on the type of connection between the two sides (group of clients) made by intermediary. Connection could be transactional which means the intermediary platform makes the transaction possible between two sides or non-transactional which means that intermediary platform presents its product/service to the one side and then sells access to that side to another side. (Trabucchi, Buganza, Pellizzoni, 2017)

All these definitions explain theoretically what the two-sided market is from different perspectives and which kind of features that it has. However, these are not enough to explain that how important these kinds of platforms are, or how much they are evolving from basic to more complex structure by considering all those digital transformation during the years with innovations. The best way is to examine the real-life examples in order to understand their evolution as a platform, the new trends they use, the strategies they need to survive in the market which is changing with digital world. With the examples, it is also emphasized how much the platforms could open new horizons and allow to make countless innovations with the help of digital world.

Two of the most inspiring examples – gathering two or more groups of users into one platform with the design of appropriate model providing satisfying experience and matching

mechanism – which have disruptive effects in terms of innovation not only the sectors they belong but also other sectors worldwide by giving them inspirational perspective and in terms of their complex platform structure and strategies.

These companies have been succeeded by creating their operating model on two-sided platforms. They are Uber in the transportation industry, and Airbnb in housing industry. LinkedIn (2017) published the top 50 Startups in which Uber and Airbnb take place first and second places respectively by considering the data coming from CB insights and also from LinkedIn Premium Insights. Also, Fortune's Unicorn List (Unicorns are the private companies valued at $1 billion or more) in 2016, Uber and Airbnb took the first and the third places in the list respectively. Moreover, it is defined that "Uber is the most valuable startup in the US and across the globe, outpacing its closest global rival, Xiaomi, by more than $20 billion and Airbnb is the second most-valuable startup in the US" (Business Insider, 2017)

Airbnb is the two-sided accommodation rental platform which disrupt the traditional way of people's booking for accommodations, it allows the guests from all over the world to make a booking by selecting the lists of verified hosts. It was launched in 2007 and has distinctive features differentiating itself from traditional market including hotels, since it has different business model in which the change is in the transaction process and the way of serving the product. It is still one of the most successful two-sided market companies in the world which is growing rapidly, since it is now over ten million nights of cumulative bookings worldwide, over 300 million guest check-ins in 10 years, over $41 billion earned by Airbnb hosts and it could be accessed across 81,000 cities in the world with over 4.5 million Airbnb properties (Forbes, 2018). To illustrate Airbnb has over 40,000 places to stay in New York and 68,000 places in Paris. Furthermore, Airbnb satisfies almost 9% of total demand in Amsterdam in 2015 with 736,000 overnight stays booking.

Uber is a high-tech ride-sharing platform company, was founded in 2009. It is presently one of the fastest growing start-ups internationally and has been creating the new frontier of the ICT-driven (information and communication technology driven) disruptive business model (Watanabe et al., 2016). It has expanded to 479 cities in more than 75 countries all over the world in June 2016. In US, the brand value has exceeded the value of taxi and limousine industry. Uber, also raised several billion dollars in 2016, including $3.5 billion from a Saudi Arabian investment fund and $2 billion in the form of a leveraged loan (Business Insider,

2017). In addition, in 2017 Uber has been placed in America's Largest Private Companies' list.

As it is seen from two disruptive examples, start-ups have been growing exponentially and reaching millions of people with their platforms. Even though these platforms, basically, have intended to connect two different groups of people at the beginning; eventually, they have expanded their businesses from basic to more complex by adding new sides into the platform in order to reach wider range of people and satisfy greater amount of needs with more service being convenient with the basic service (or structure) of the platform itself. That makes these platforms not two-sided platforms anymore, but something more, since these companies widen the framework of their platforms including multiple new components. To illustrate, Airbnb, nowadays, is not only accommodation platform that gathers hosts and travelers, but also it provides experience for the travelers who are searching for new activities (or special/traditional/sportive events) into the city they travel (the platform provides this service with the name of "Airbnb Experience") and also, Airbnb platform allows travelers to find restaurants that they would like to go and to make reservations by using the platform. It is showing that while the value of "Airbnb" brand is growing, the number of services of Airbnb are growing as well. This situation opens very intriguing subject to go deeper about the two-sided platforms and how do they grow and evolve eventually and change their basic structure and become more complex which constitutes the starting point of my thesis. It means that with this thesis, I will try to answer that how the two-sided platforms grow, what kind of strategies they are using while they are evolving and how these strategies work in different industries and different type of companies.

2.LITERATURE REVIEW

In this part, the overview of the two-sided platforms and their evolution to multi-sided platforms will be represented as a result of the literature review. First of all, the definition of two-sided platforms will be examined chronologically, and main features and characteristics will be defined. Moreover, the concept of network externalities (network effects) which is essential for the existence of two-sided platforms will be represented detailly, thanks to the wide range of analysis on it. Also, the competition structure which is differentiated from the traditional platforms will be stated. In addition to that, overview of the pricing structure in two sided markets and public policies need to be considered will be shown. Finally, the evolution

of two-sided markets into multi sided markets will be explained in terms of answering the "how" question. Also, the aim of my research will be presented which is based on real life examples in two sided markets that have different features.

2.1 Two-Sided Platforms Overview

In this section, review of two-sided platforms will be explained, focusing on how it differentiates from the traditional platforms, how they have evolved during the years, what are the must-have features accepted as two sided.

Since the early 2000s, a branch of the industrial organization economics literature has started to examine the theory on platforms, which have been also defined as "two-sided markets", "multi-sided markets", or "multi-sided platforms" (Rochet and Tirole, 2003, 2006; Evans, 2003; Rysman, 2009). From the perspective of economists, platforms are special kinds of markets acting as facilitators of interaction between different types of users that may not otherwise interact with each other (Gawer, 2010). Meanwhile, Mclntyre (2017) indicates the platforms from the IO perspective as "platforms can be conceptualized as interfaces—often embodied in products, services, or technologies—that can serve to mediate transactions between two or more sides", he also adds that technology management scholars expand this notion by underlining the supplementary functions of platforms as "building blocks that serve as the foundation on which other firms can build related products or services" (Gawer and Cusumano, 2002; Gawer and Henderson, 2007; Mclntyre, 2017).

Mclntyre (2017) also mentions the concept in two-sided platforms which is called complements and identified as additional goods and services existing on the platform in order to enhance the value of a core good (or service) to a network. It is also emphasized that the value of the core good (or service) to adopters is better together with the complement than without it (Brandenburger and Nalebuff, 1996; Gawer, 2009; Yoffie and Kwak, 2006; Zhu and Iansiti, 2012). Additionally, complementors in the platform are defined as "the independent providers of complementary products to mutual customers" (Boudreau and Jeppesen, 2015; Yoffie and Kwak, 2006; Mclntyre, 2017).

Finally, Mclntyre (2017) summarizes that platforms contain positive feedback loops thanks to network effects (Katz and Shapiro, 1986) and growing returns in supply (Arthur,

1989) which means that the greater amounts of user of a platform encourages the greater amount of incentives for third-party developers in order for them to launch more complementary products, and vice versa (Cusumano and Gawer, 2002; Gupta, Jain, and Sawnhey, 1999).

The definitions of the platform could be accepted as a hint for understanding the concept of two-sided markets, since platforms are defined as wider version of two-sided markets. Also, it could be observed that many authors and economists use the name of "platform" in order to explain the concept of "two-sided markets". Meanwhile, Trabucchi and Buganza (2018) indicate that many established companies inspired by the platform paradigm in order to expand their perspectives and find out new directions for the innovation which means that by using platform paradigm, they could find new horizons, new features and new business models which could fit with the two-sided markets.

2.1.1 Definitions of Two-Sided Platforms and Main Examples

In the literature, a lot of alternative definitions have been made and there is not a unique definition in order to introduce two sided markets (e.g. Rochet and Tirole, 2003; Hagiu and Wright, 2014; Evans and Schmalansee, 2016). In a general perspective, two sided (multisided) markets evolve from the presence of a platform, which enables the interaction between two (or more) distinct groups of users (Rochet and Tirole 2003, Armstrong 2006, Caillaud and Jullien 2003, Evans and Schmanlensee 2008, Hagiu and Wright 2015b). In the scientific literature, Tushman and Murmann (1998) defines the concept of "platform" as a combination of "core components" with low variety and "complementary components" with high variety which strengthen the functions of the platform. Then, the concept of platform is defined in the literature as two-sided market or two-sided network which enriches its meaning. However, there have been a lot of distinct definitions of two-sided markets during the history, which are somehow agreed on the fact that multisided platforms make easier the interaction between groups of users in two side (or multiple sides) but they have still some differences which will be demonstrated chronologically below.

Van Raalte and Webers, (1998) describe a two-sided market in which the one type of agents are in a need of the service which act as "middleman" or "matchmaker" in order to be

convenient with the other type. The middlemen deal with both types of agents in order to receive commission fees.

In 2003 Schiff indicates that two sided networks which are serving two distinct types of customers has a network effect in which increasing number of customers in one type may influence the other type in the platform. Also, Evans (2003) claims the presence of indirect network effects between different sides in the platform. With these definitions, it could be seen that the framework of the definition has expanded with a mention of network effect (network externality). Same year Rochet and Tirole approach the two-sided markets considering the outcomes, and thus, they state that in two-sided markets the volume of transactions not only depend on the fees charged by the platform but also the pricing structure which means that the decision of the allocation of prices between different sides. They emphasize the price structure since the existence of transaction costs between the sides which are in an interaction and also due to the limitations on the pricing of transactions between users in different sides.

In 2004, Rochet adds the definition of two-sided market as "markets in which one or several platforms facilitates interactions between end-users and try to get the two (or multiple) sides "on board" by appropriately charging each side. That is, platforms court each side while attempting to make, or at least not lose, money overall". Gawer and Cusumano (2014) indicates as a common used example for two-sided platforms: dating bars and web sites, which meet the definition of Rochet (2004) in the sense that they facilitate transactions between two distinct groups of customers. Furthermore, Rochet (2004) emphasizes the two-sided market's characteristic of "Getting the two sides on board", but he adds that, this is not restrictive enough in order to understand whether the market is two sided or not and "pretty much any market would be two-sided, since buyers and sellers need to be brought together for markets to exist and gains from trade to be realized." (Rochet,2004).

Eisanmann (2006) redefines the platforms as products and services that bring groups of users together in two-sided networks. He also considers the infrastructure and rules of the platform which enables the transaction of the two groups. Platforms may have physical products, like the credit cards of customers or services, like shopping malls or Web sites such as eBay. Even though two-sided markets could be applied in many industries, they are different in a fundamental way which is about transition of the value. In the traditional value

chain, value moves only one-way: from left to right (to the left is cost and to the right is revenue. On the other hand, in two-sided markets transition of the value is bi-directional which means that cost and revenue are both to the left and the right, since the platform has two sides including distinct group of users it could cost because of serving both sides and could have the revenue from each side (Eisanmann, 2006). There are two dominant theoretical perspectives for two-sided markets which were developed separately: one was generated considering the economic theory and other one was influenced by engineering design. These perspectives allows to shape the platforms as types of markets (two-sided markets, Rochet and Tirole, 2003) or as modular technological architectures (Baldwin and Woodard, 2009).

Rysman (2009) indicate the two-sided market's main features into two: first one is the intermediary which is the core feature of the platform enabling the interaction between two sides. The second one is about the network effect. Moreover, he claims about the network effect that "in a technical sense, the literature on two-sided markets could be seen as a subset of the literature on network effects." in order to emphasize how much the network effects are in the center of the literature of two-sided markets. In 2015, Hagiu and Wright define two key features of two-sided markets from their perspective: first one is similar with Rysman's definition (2009) which is that two sided (multi sided) platforms "enable direct interactions between two or more distinct sides"; the second one is that "each side is affiliated with the platform." In 2011, Hagiu and Wright claim that the previous definitions are too specific and "suffers from over inclusiveness" or "being too vague to be of use (under-inclusiveness), and thus, they prefer to describe two-sided platforms as an organization that build a value primarily by facilitating direct interactions between two (or multiple) distinct group of affiliated users.

Gawer and Cusumano (2014) summarize what is emphasized by authors in literature during the years. So that, they claim that two-sided market researches mostly focus on pricing as the fundamental element in order to increase the access to the platform. However they indicate that there are some authors who develop different approaches rather than emphasis on pricing, for example Evans (2009) focuses on start-up platform strategies, Hagiu (2007b), Eisenmann et al. (2009), and Boudreau and Hagiu (2009) emphasize "the importance of nonprice mechanisms for the governance of platform ecosystems". Also, Gawer and Cusumano (2002), support that "pricing alone cannot be the answer to the inevitable strategic questions of platform dynamics, such as how to share risks among members of an ecosystem."

Furthermore, in the literature many industries which are two-sided platforms are analyzed, Chen and Xie (2007) indicates that these platforms spread many distinct industries with different type of businesses. Credit card payment system is one of the first industries examined as two-sided market in the literature. Cardholders and merchants constitute the two distinct sides where the credit card allows the transaction between them (Rochet and Tirole 2003, Armstrong 2006). Visa, MasterCard, and American Express are main examples for credit card companies. Rysman (2014) states that "Visa and Mastercard have historically been organized as associations of banks that provide a clearinghouse for transactions using their cards." Also, the payment process is like: the consumer buys a product with a payment card, the consumer pays the consumer's bank, which made a transaction the money to the merchant's bank, which then pays the merchant and the merchant pays a fee to the merchant's bank. Then, the merchant's bank has to pay the consumer's bank an "interchange fee" (Rysman, 2014).

Additionally, media platforms could be mentioned as one of the typical examples for two-sided platforms where they have one side for readers (viewers), second side for publishers and advertisers, such as newspapers and television channels (Chen and Xie 2007). Rysman (2014) indicates that newspapers are a canonical two-sided market, in which the newspaper ensures a platform for transaction and connection from advertisers to consumers. The prices of customer related with the demand of advertiser, meanwhile the prices of advertising related with the demand of customer as well, but with relatively low prices for customers since they are more valuable.

After exponential growth of technological developments and digital transformation, the framework of two-sided platforms has been expanded, so thus, many other sectors appeared as two-sided (multi-sided) besides the credit card payment system and media channels. Video game industry, social networking platforms, online marketplace platforms of product and services could be accepted as newer two-sided market industries developing with the technology and digitalization. Many two-sided platform companies which are mentioned the most from different industries will be given in the following: in video game industry in which the intermediary is the console producer and connecting the game producers with gamers, Nintendo Wii, Sony Playstation, and Microsoft Xbox (Rysmann, 2009). Social networking platforms like Facebook, LinkedIN and Skype in which they connect users with

each other or users with businesses and so on (Bhargava 2014). Online marketplace platforms of products including Amazon, Alibaba and E-bay which connect the buyers and sellers with the platform, or online marketplace of services like Airbnb and Uber (Hagiu, A. and Wright, J., 2015). In the literature, these examples and cases sometimes are used for the justification of two-sided platforms due to the lack of clear definition (Ardolino et al, 2016).

During my research, the definition of Rysman (2009) guides me the most, since his definition contains the core features of two-sided platforms at the same time which are the intermediary role of the platform in which many authors also talked about it and the importance and relevance of network externalities which guide me to understand the structure of two sided platforms and it will be explained very detailly in the following part.

2.1.2 Network Effects (or Network Externalities)

First of all, "Networks" can be described as a system of entities or nodes that are interconnected (Borgatti *et al.*, 2009; Eisenmann, 2007); such nodes can be either individuals or "collective" participants (Kane *et al.*, 2014). Network effect (or network externality) is defined in economics and business as a positive effect which shows that increasing number of users of products (or services) in one side enhances the value of that product (or service) to the other side. Another definition in the history indicates that "demand economies of scale cause growth in an existing stock of consumer value as new consumers join the network" (Katz and Shapiro 1985, Farrell and Saloner 1986, Arthur 1989)

Since 1980s, the concept of network effect has been broadly studied and analyzed especially by David (1985), Katz and Shapiro (1985), Farrell and Saloner (1985), and others. Through the research, platform-mediated networks are accepted as "conduits" enabling the interaction between two (or multiple) sides (Evans, 2003; Rochet and Tirole, 2006; Rysman, 2009). Moreover, the group of users in the network is evaluated as "independent actors—individuals and/or firms" who join the network in order to interact (Eisenmann, 2007) In the literature, network effects are clustered into two: direct network effects and indirect network effects.

Direct network effects (same-side or intra-side) are described as the number of users in one side directly affect to the benefit of network participation of others users in the same side thanks to the interaction between the users through the platform (Arthur, 1989; Eisenmann, Parker, and Van Alstyne, 2006; Farrell and Saloner, 1985). Another definition by Katz and Shapiro (1985), similarly refers that with direct network effects, the utility of the user in one side enhances with an increasing number of other users in the same side. Social networking platforms could be given as an example, since increasing number of users enhance the value of the platform for other users like Facebook or LinkedIn.

On the other hand, indirect network effects (cross-side or inter-side) appear when the increase in the usage of the products (or services) raise the network benefits of users in both sides. Moreover, enhanced value to users may occur indirectly when they expect that platforms including more users offer a greater variety of complementary products (or services) (Evans, 2003; Rochet and Tirole, 2003). It is also commonly defined in the literature that when two (or more) sides in the platform can mutually benefit from the size and characteristics of the other side (Armstrong, 2006; Evans, 2003; Evans and Schmalensee, 2008; Parker and Van Alstyne, 2005; Rochet and Tirole, 2003). Recent studies show that the main focus is on the indirect network effects in two (or multi) sided markets, with a consideration of the interdependence in demand between the new and compatible technologies and the future implications to find out how the competition shapes with these conditions (Armstrong, 2006; Evans, 2003; Evans and Schmalensee, 2008; Rochet and Tirole, 2006). As an example, social networking platform could be given again, since both direct and indirect network externalities are observed. To illustrate, Facebook provides great amount of people to the advertisers, it means that the greater number of users in the platform, the more valuable the platform is for the advertisers. Both direct and indirect network effects can facilitate the continuity and can emphasize the importance of dominant platforms, while strengthening the strong competitive positions for their sponsoring firms (Bonardi and Durand, 2003; Eisenmann et al., 2011).

On the other hand, there is an issue as a result of network externalities in two-sided market which is called “chicken & egg” problem. It occurs when the business is trying to gain users to board the platform: one group will not join without the presence of the other (Caillaud & Jullien, 2003). Also, Triegouöet (2016) indicate that “in order to attract the users on one side of the market, the intermediary should have a large base of users on the other side, but these will be willing to join the platform only if they expect many users of the first side to join

the platform." He also mentions that in order to deal with this "chicken & egg" problem, platforms could be adopted the method of "divide-and-conquer" pricing strategies which means that while subsidizing one side of the platform to keep it on board and then to use the presence of the subsidized side to attract the other side.

As a further step, to find out the structure of network externalities, the term of "critical mass" is defined by Evans and Schmalensee (2010). Critical mass consists of the adequate number of users required for constituting positive network externalities by attracting as much user as possible, since these users will create an eventual growth for company until it reaches the stable position. It refers that if the network has less participant than the critical mass, the network effect (or externality) will influence the platform negatively and decrease the number of participant (even until zero). First social networking platform, Friendster, could be convenient example for unsuccessful network externality which did not reach the critical mass to exist. Since Friendster could not reach the number of critical mass, it failed and closed in 2015.

Evans and Schmalensee (2010) indicates some limitations of the critical mass due to the indirect network externalities' presence. Amazon company could be given as an example for clarifying these limitations. Since Amazon is an e-commerce platform including buyers and sellers, there has to be adequate number of users in both buyer and seller side. But in the fact that sellers in Amazon could compete for the same buyers which is called congestion effect, and thus, it is the indicator of the network limit of the two-sided platforms (Sun, 2007).

Moreover, Mclntyre (2017) mention that there are couple of limitations on overall network effects due to some dynamics which will be presented in the following: First limitation is the constant specific firms try to dominate and manipulate network effects by using positive feedback and winner-take-all attributes (McIntyre and Subramaniam, 2009). Evans and Schmalensee (2017) simply explain the situation of winner-take-all as the best performing firms gain great number of customers (even almost all the customers and be very strong and irreplaceable among the firms) in the platform benefitted from network effects. Also, Eisenmann et al. (2006), Katz and Shapiro (1994) and Shapiro and Varian, (1998) add that "winner-take-all (WTA) outcomes are possible in some platform-mediated networks as the platform with the largest number of users "tips the market" in its favor ". Also, Eisenmann and his colleagues indicate that under appropriate conditions, strong network effects may

encourage the competition between platforms resulting with "winner-take-all" outcome. Second, most prior studies on cross network externalities have seen the relationship between complementors and firms as a "black-box," and only focus on the effect of the number of available complements on market outcomes (Srinivasan and Venkatraman, 2010). Eisenmann (2006) indicates that "Most models take network effects as exogenous and fixed, and see them as the fundamental drivers of platform competition". On the other hand, Rysman (2004) mentions as network growth could be restricted by negative network externalities in which appears because of the competition among participants.

2.1.3 Types and Features of Two-sided market

In the literature, it is observed that authors have mentioned different kind of features and types of two-sided platforms during the years including different perspectives. While Stabell and Fjeldstand (1998) introduce these platforms considering its "value", Evans and Schmanlensee (2008) define them as their application possibility, and Filistrucchi (2014) cluster them considering their transactional relationship which will be explained detailly.

First, it is defined that there are three issues indicated in the literature in order to differentiate two-sided platforms from others. Stabell and Fjeldstad (1998) identify them as value network, value chain and value shop, which will be examined in the following: value network is the creation of the link between users of the platform. Value chain occurs in which the value creation obtains from the transformation process of inputs into products sequentially and value shop appears in which the value creation occurs from solving problems of users in a cyclical manner. Furthermore, there are some similar declarations about the "value" in two sided markets in literature done by others which will be presented following: First, Rochet & Tirole (2003) mention that the value for one side of participants is met by the other side. Second, the value proposition is defined distinctly for two sided since their needs are different (Muzellec et. al., 2015. Third, the value which is given from one side to other depends on the size of the side delivered (Sun and Tse, 2009).

In the literature, authors try to find some contributions in order to identify methods to categorize different types of multisided platforms (Ardolino et al, 2016). Schiff (2003) claims that there are two distinct business models for two-sided (multi-sided) platforms, First one is defined as companies enabling matching services, and the second one is companies providing

platform services. Ardolino and his collegues (2016) indicate that “Ballon and Van Heesvelde (2011) categorize platforms based on the control exerted over customers and assets”, while Eisenmann (2008) sorts them based on the number of platform providers who are the intermediaries between users in order for them to interact and also based on the number of platform sponsors who have rights to reshape the technology of the platform and define who may participate in the network as a provider or user (Ardolino et al, 2016).

In 2008, Evans and Schmanlensee (2008) identify their classification of two-sided markets considering the wide range of application possibility in two sided markets, and thus, they cluster them into four. First one is called “exchange” which intends to simplify the transaction between buyers and sellers. The second one is “transaction system” which connect merchants and customers within the platform. The third one is “advertiser-supported media” Which provides the interaction between advertisers and audiences. And the fourth and the last one is “hardware/software platform” which brings software developers and installed base users together (Ardolino et al, 2016).

Recently, Ardolino and his collegues (2016) introduce the different types of two-sided platforms taking into consideration to classification of Evans and Schmanlensee (2008). First one is a “matchmaking platform” which provides a matching of two distinct sides according to the request. The second one is “exchange platform” which simplify the transaction between two distinct sides; and the last one is “maker platform” which similarly simplify the transaction between the sides like in the Exchange platform and also it allows the tools “to make the contents of the platform (development side) and to use these contents (consumer side)” (Ardolino et al, 2016).

Also, it is observed that in the literature, there is another type of classification for two sided markets which includes transaction platforms and non-transaction platforms (Filistrucchi, 2014). A *transaction platform* (figure 1) can be accepted as an intermediary providing a direct transaction between two sides. It could be seen that there is a positive bilateral indirect network effects between the two sides in the transaction platform. On the other hand, *non-transaction platforms* (figure 2) ensure a different kind of interaction and do not required to have bilateral positive network effects. It is defined that intermediary platform

presents its product/service to the one side and then sells access to that side to another side. (Trabucchi, Buganza, Pellizzoni, 2017)

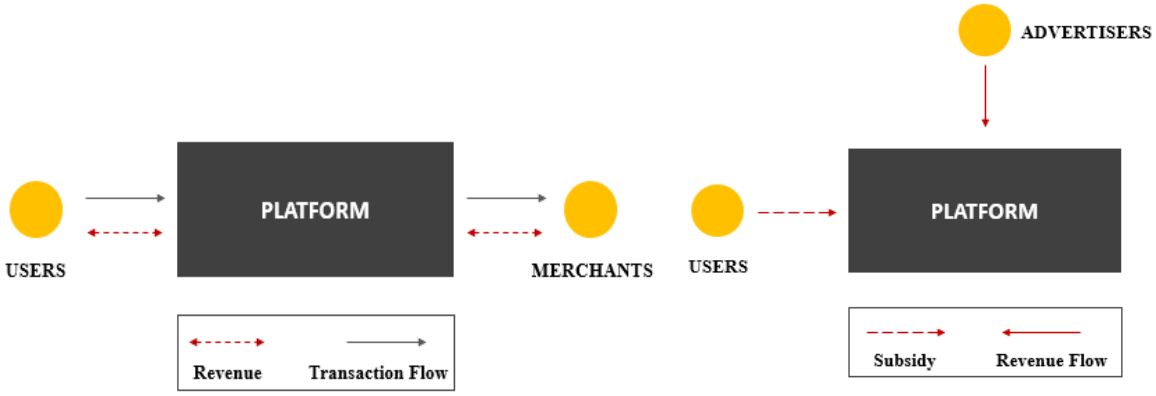

Figure 2 – Transaction Platform

Figure 1 – Non- Transaction Platform

2.1.3.1 Different Variables Relevant on Transaction Two-Sided Markets

In the literature, there are further findings done being relevant to the transaction platforms and these findings includes some variables that could be used to understand the transaction platforms better (or to find out the feature of the companies) and some approaches that could be used together with the transaction platforms as a further step.

The variables are considered as relevant for transaction platforms by Tauscher and Laudien (2017), since they try to understand the characteristic of the companies using this transaction structure in their platform. The variables allow them to focus on "the business model elements and their potential specifications" that seems to be relevant to the nature of the transaction platforms. The variables based on "the value proposition & delivery dimension (value proposition, product/service, target customers)", value creation (key resources and activities) and value capture dimension (revenue and pricing model). For understanding the value proposition of the two-sided platform, first the platform type is examined whether it is web based or mobile app platform, then the key activities done through the platform is checked. Key activities are clustered into three which are "data services, the analysis and visualization of transaction data for sellers, among others", "Content creation encompasses activities such as co-designing a seller's profile, taking or improving pictures of listings, or active selection of listings." And "Community building, field of practices directed toward the creation or enhancement of community among individuals within a platform."

For discovering the value creation of the platform companies, three main variables examine: “marketplace participants” in order to understand the participants of the platform (ex. Business to Customer, Customer to Customer), “transaction content” to see how platform make the transaction through the platform by delivering a service or delivering a product and “transaction type” the activity of the platform which could be product or service is delivering digitally or physically (or offline). “Digital” could be explained with an example, to illustrate, music streaming platforms are delivering the music service digitally without having any physical touch, on the other hand in the “Physical (or offline)” transaction type, for example, e-commerce platforms provide product transaction from stores to customers through the platform and customers receives the product at the end of the process physically.

Meanwhile, Trabucchi and Buganza (2018) indicate two different approaches emerged in the two-sided platforms and could be relevant for the transactional two-sided platforms: Client as a Target and Client as a Source (figure 3) which appeared through the technological developments. They define the role of the technology is broader in two sided platforms, because the technology allows the companies to gather great number of data which brings them several new opportunities for further development (Sriram et al., 2014; Trabucchi et al.,2018). These two approaches are used for generating revenue from “data”. For both approaches together, Twitter could be given as an example, since it has used the data gathered through the platform coming from its tweet stream in a more structured form and is selling access to the third parties. In this case, promoted tweets and targeted advertising create the “Client as a Target” approach and selling the data to the third parties creates the “Client as a Source” approach (Trabucchi et al., 2017).

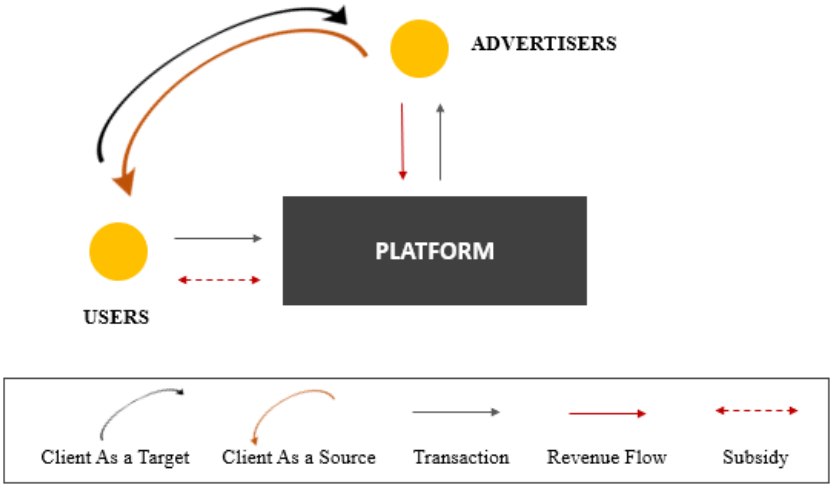

Figure 3 - Platform with Client as a Target and Client as a Source relationship

2.2 Competition in Two-sided Platforms

In the literature, there are couple of studies examining the competition in two sided markets and it is observed that there are three main types which are platform to platform, platform to partner and participant to participant within the platform (Parker & Van Alstyne, 2014). Platform to platform competition could be observed between the platforms which are delivering same or similar services. Uber and Lyft could be given as an example since these are the platforms which are the connection between the drivers and passengers (Watanabe, 2016). Platform to partner type of competition could occur when the platform itself creates a new product (or service) which is competing with the product (or service) of the partners of the platform. Eisenmann and his colleagues (2011) explain this competition type with a following example: when Microsoft announced its new product Windows Media Player, it has already been a partner with a company, RealNetworks which is doing video players for Windows and thus, Microsoft started to compete with its partner RealNetworks. The third competition type, participant to participant competition emerges when the distinct participants of the platform competes for the same customers. As in the example of Amazon, the sellers may compete for the same buyers, since they serve similar products (or services). (Sun, 2007)

In the competition of two-sided markets, one more concept should be considered while evaluating the competition nature. The concept consists of two elements: single-homing and multi-homing. Armstrong (2006) describes single-homing as the participant prefers to use only one platform, in contrast, multi-homing occurs when the participant prefers to be in more than one platform. Similarly, Landsman and Stremersch (2011), define them respectively as "Multihoming refers to the choice of an agent in a user network to use more than one platform. Single-homing refers to the choice of an agent in a user network to use only one platform." As a further step, three possible structures of single- or multi- home which could be observed in the platform are indicated by Armstrong in 2006.

First, both side of the platform has single-home which is mostly seen in the markets where have one platform dominating the others and when the presence of single-homing increases, the surviving possibility for smaller networks in the market decreases (Sun & Tse, 2007b). Facebook could be given as an example which dominates the social networking companies. Second, one side of the platform is single-home and the other side is multi-home. For that type of structure, Armstrong (2006) indicates that there is a constraint in competition

by saying that “Here, if it wishes to interact with an agent on the single-homing side, the multi-homing side has no choice but to deal with that agent’s chosen platform” (Armstrong, 2006, p. 669). Third, all sides in the platform have multi-home. Armstrong (2006) states that this structure could be observed rarely because in the case that all the participants could join all the platforms, it is not necessary that other side delivers more than one platform option. Sun and Tse (2007b) mention that this structure could be seen in the cases like Uber, because the drivers of Uber could register more than one platform in order to increase their chance of to be selected, meanwhile the users are also multi-home to increase their option for getting faster service and also for leveraging the first-trial discounts and advantages Sun and Tse (2007b). Multi-homing in the consumer side seem much more common since consumers try to benefit from differentiated features of different platforms and there is no constraint for changing the platform that they are using (Evans and Schmalensee, 2010). Furtherly, Landsman and Stremersch (2011) classify the multi-homing concept into two: first, seller-level multihoming on a given platform which means that “the applications of a particular seller on the platform are also available for buyers of competing platforms”. Second, platform-level multihoming which means that “applications on a particular platform are also available for buyers of a competing platform”. Also, they state that “platform-level multihoming represents the aggregation of seller-level multihoming over all sellers providing applications for a particular platform.”

It is indicated that multihoming decisions take significant place for the companies in many different industries. To illustrate, the video game console market is the market where multihoming decisions could influence the profits of the company significantly. As a specific example, Rockstar Games from Take-Two has published that they have received an approximately $50 million from Microsoft to create two episodes of *Grand Theft Auto IV: The Lost and Damned* and single-home them for Microsoft Xbox 360. But meanwhile, they declared that by single homing, they lose some revenues which could have gained from Sony PlayStation3 users (Landsman and Stremersch, 2011).

2.3 Pricing Decisions in Two-sided Platform

Considerable amount of recent studies has focused on finding out how to appeal both (multiple) sides in the platforms, since the basis of economic models based on the competition among the two-sided platforms (Gawer, 2014). Hence, as a method for attracting customers in different sides, most economic models have examined the pricing decisions of the platforms

(Clements and Ohashi, 2005; Evans, Hagiu, and Schmalensee, 2006; Parker and Van Alstyne, 2005; Rochet and Tirole, 2003, 2006; Rysman 2009, Mclntyre, 2017). Rysman (2014) indicates that the main outcome about pricing in two sided platforms is that pricing to one side depends on customer demand, cost, the participation effect of the other side and the profit gained from this participation. Eisenmann (2007) indicates that there is a "subsidy side" in two-sided platforms, where the high level attracted customers enhance the perceived value in "money-side". The subsidy side is significant for constituting strong network effects, that is why the platform provider defines lower prices from the level that it should be in the case that subsidy side is seen as an independent market. On the other and the money side pays more than it should be (again if it is seen as an independent market like subsidy side). Similar with Eisenmann (2007), Mclntyre (2017) states that "platform firms may subsidize one side of the platform by using deep discounts in order to attract the other side to join."

As an example, the analysis of Kaiser and Wright (2006) about price structure in the magazine industry could be examined. They found out that "consistent with advertisers valuing readers more than readers valuing advertisements, prices for readers are subsidized and that magazines make all their money from advertisers". Also, as a result of the empirical investigation about Spanish newspaper market which is done by Esteban-Bravo and Vidal-Sanz (2013), it is seen that prices of readers' payment is less than the unit production cost. (Sriram, 2014) comments that this result represents that the newspaper companies traditionally subsidize readers. Similarly, in the media production industry, Parker and Van Alstyne (2005) mention the RealNetworks company could be given as an example, since RealNetworks which is media production company in 1990s, offer the free version of the media player to its end users, while charging content providers for server software.

Moreover, Rysman (2014) differentiates the pricing in one sided platforms and two sided platforms as following: in a one-sided market, price-cost mark-up could be defined in terms of elasticity of demand and the marginal cost. In contrast, in a two-sided market, pricing decisions will contain "the elasticity of the response on the other side" and "the mark-up charged to the other side" as well. Also, prices on both sides based on the collaborative set of demand elasticities on each side (Rochet and Tirole, 2003, 2006; Weyl, 2009). Rysman (2014) claims that in the case of without competition, the consumer price based on consumer demand, cost, and the mark-up to sellers, however with a competition decreasing the consumer price

draws attention of consumers from the other platform in the competition, this situation decrease the value of competing platform and enables to enhance the interest of the consumer in the original platform (Rysman, 2014).

Furthermore, Rysman (2014) points out another crucial issue in two sided markets which is price discrimination. Discrimination increments the value obtained from one side, and accordingly enables to decrease prices on the other side which has become more valuable, since different prices allow platforms to catch more of the surplus on the side (Weyl, 2009). Rysman (2014) also indicates that two-sided markets may have a new form of price discrimination based on "heterogeneity in the attractiveness of an agent to the other side". The situation between supermarkets and credit card companies are considered as an example: supermarkets are less likely to accept payment cards for a while, however they are so preferable for the payment card companies since their great amount of transaction and regular customer base. That's why, payment card companies offer lower interchange fees to the supermarkets which allow them to lower bank fees and easy adoption for the usage of the card.

Furthermore, it is observed that recent theoretical studies address to the relationship between price discrimination and competition in two sided markets. To illustrate, Rochet and Stole (2002) and Rysman (2004) analyze the structure of non-linear pricing in the case of competition and conclude that level of prices decrease proportionally more at the top of the product range under diverse conditions. Also Seim and Viard (2004) introduce a model to examine the relationship between price discrimination and competition. Meanwhile, papers of Chen et. al (2001) and Dogan et al.(2005) claim that second degree and third degree price discrimination may be more profitable with high level of competition environment.

For the second-degree price discrimination, Parker and Van Alstyne (2005) find out that it is not similar with the traditional second-degree price discrimination. It differs mainly in two points: first, in two sided markets, the penetration pricing is considered which means that one side is subsidized initially in order to leverage on the future benefits. Second, differently from one sided market, complementary products are consumed in two-sided market which should be considered in price discrimination. Parker and Van Alstyne (2005) summarizes this difference as "In both cases, a single consumer internalizes his own value

calculation such that price changes affecting one matched item are reflected in willingness to pay for the other. This property fails for two-sided network markets."

Additionally, in third degree price discrimination, two sided markets, again, are different than the traditional ones. In two sided platforms, intermediaries gain profit by making a transaction from seller to consumer. Growth on one side in two-sided platform enables the growth on the other side by creating exploitable surplus (Parker and Van Alstyne, 2005). Furthermore, in the literature it is observed that two-sided markets may use the method of dynamic pricing. To illustrate, in the early product life cycle, the intermediary platform could decrease the price, and eventually increase it during the life cycle which is called penetration pricing (Rysman, 2014). Similarly, several two-sided platforms launch their products (or services) with basic version as free and additional features or premium features with payment such as Adobe company which offers the basic version, Adobe Reader as free and premium version, Adobe Acrobat, with payment (Rysman, 2014).

2.4 Public Policy

It is observed that in the literature, there are some examination of public policy in two sided markets, since they have different structure than traditional markets. Rysman (2014) mention that the economics of two-sided markets are crucial since they include high variety of public policy issues. He also indicates that there are two important issue while considering the public policy: regulations and antitrust.

2.4.1 Regulation

Parker and Van Alstyne (2014) indicate that "the need for regulation arises from the fact that platforms facilitate exchange." They emphasize that for capturing the benefits of ecosystem growth, the platform should apply certain regulations on the users on both sides. The need of regulations has been defined by Teece (1986) in order to gain profits from technological innovations. Also, regulations are crucial for the two-sided platforms, since they have possibility to face with some market failures as a result of information asymmetry, uninsured risks, congestion and network effects.

Geofrey Parker & Marshall Van Alstyne (2014) state these failures as following: “Positive externalities”, as in the case that software developers subsidize one side who is generating beneficial spillovers, while charging the other side more than it is expected (Parker and Van Alstyne, 2000b; Rochet and Tirole, 2003). On the other hand, “Negative externalities”, could occur in the case of ride sharing displacement, which means that more users make product (or service) less valuable (Evans, 2012). “Information asymmetry”, could be seen in case of auction platforms or insider trading on stock platforms, which refers to transactions where one group has more or better information than the other one.

Regulations are constituted in order to prevent these failures by combining contractual, technical, informational, and economic instruments (West, 2003; Boudreau and Hagiu, 2009; Evans, 2012). Also, Rysman (2014) claims that pricing issues are one of the main stimulus of a great deal of economic regulation. In traditional one-sided markets price regulation which contains large regulatory commissions with research staff, try to estimate the marginal cost and the demand in order to calculate the optimal prices. On the other hand, in two sided markets the research staff should also consider the demand and cross-price elasticities on both side besides cost (Rysman, 2014).

Furthermore, Eisenberg (1976) states that “regulation by the platform can potentially improve over regulation by state or federal governments.” The mechanism for such contracts is expressed in the literature of law and economics as “private ordering", which is executed via private contract that provides to achieve welfare gains higher than the gains ensured by the system of public laws (Eisenberg, 1976).

2.4.2 Antitrust

In the literature, it is also observed that there are some studies about antitrust authorities in two sided markets. Rysman (2014) indicates that the economics of two-sided platforms ensure many insights about pricing which is significant for the antitrust authorities. They mainly consider the size of cross-price elasticities to define which products or services should be contained in a relevant market. Also, the main point is to take into account the endogenous variation in the prices of the other side as a result of the change in one side.

Antitrust authorities also important for determining the collusion and prevent it. For example, in the case of interchange fees between consumer's bank and merchant's bank, the interchange fees set collectively by member banks. The interchange fee indicates how much revenue the consumer's bank gain from merchant's bank with a transaction. The decision of member banks brings to mind an issue of collusion between the banks. That is why the role of antitrust authorities is really crucial: tracking the joint venture treatments and examine that the two-sided platform companies in the competition act legally or not. Rysman (2014) states that the antitrust authorities could have alternative perspective about this situation as "In the court's view, the alternative to the collective setting of the interchange fee was to have independent bilateral negotiation between banks serving merchants and consumers, in which case, consumers and merchants must know whether their banks had an agreement before attempting a payment. The court deemed that system un workable, and hence the collectively set interchange fee was legal."

2.5 Evolving From Two to Multi-sided Platforms

There is no specific difference between two sided and multi sided markets in terms of definitions in literature (Trabucchi et al., 2018). But during the years there are many changes which may affect the structure of two-sided platforms and could make them evolve. For example, in the literature it could be observed that there is an effect of digitalization and technological development which encourages the company to do more innovation, to change or improve their business model through the new technologies (Trabucchi et al., 2018).

Ardolino et al (2016) indicates that the development in ICT and digital technologies is having a disruptive impact in both daily life and many business areas, enhancing the efficiency and effectiveness of many processes. Also, Anderson et al. (2014) claim that with technology development, "platforms are becoming even more prevalent than traditional businesses". This makes the start-up companies scale up easier and become global faster than ever thanks to the power of the platforms and their network effects (Trabucchi, et al, 2018), also many established companies have motivated and encouraged from the platform paradigm for creating new innovations (Trabucchi, et al, 2018).

In addition to that, Ardolino et al (2016) adds that digitization is converting the way of delivering the services, is enabling the new business models. Meanwhile, Mueller and Lemstra (2011) point out that internet-based services are growing and reaching more people all over the world day by day. To illustrate, expansion of the smart phone applications allows companies to create unique experiences for customers and delivering the different kind of services digitally which have never done before (Fano & Gershman, 2002). Moreover, in the yearly report of Accenture in 2016, they indicate the crucial role of the digital technologies and effects to the platforms as following: "The next wave of disruptive innovation will arise from the technology-enabled, platform- driven ecosystems now taking shape across industries. Having strategically harnessed technology to produce digital businesses, leaders are now creating the adaptable, scalable, and interconnected platform economy that underpins success in an ecosystem-based digital economy." (Accenture, 2016).

In order to examine these innovations and further development opportunities, Trabucchi and Buganza (2018) have offered a new conceptual framework by clustering them properly with their characteristics. This framework enables the exploration of the two-sided platforms' strategies which show the evolution of the platforms from two to multi-sided platforms. Also, with this framework, they try to answer of "how the two-sided platforms

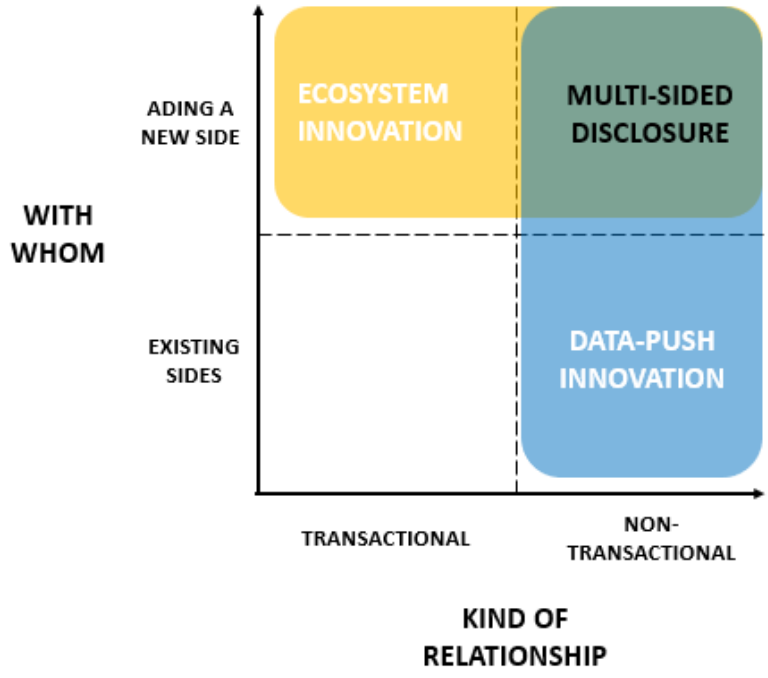

Figure 4 - Concetual Framework from Trabucchi and Buganza 2018

could go beyond the basic match-making mechanism in terms of number of sides and kinds of relationship with the sides" (Trabucchi et al., 2018).

For creating this framework, Trabucchi et al (2018) consider the relevance and importance of the big data gathered through the platform, possibilities to use this data both in transactional and non-transactional perspective and also, the possibility to create a new ecosystem by adding new sides in the platform. If the companies extend their activities, no matter with transactional or non-transactional relationship, the innovation is accepted as Ecosystem innovation. If the platform creates non-transactional relationship beside its transactional relationship by using the data gathered through platform and then, either adding new service inside of its system or keeping its existing side, the innovation type is defined as Data-Push innovation. Also, if the companies apply both innovation strategies in to their platforms it is defined as Multi-sided Disclosure by Trabucchi and colleagues (2018). Figure 4 shows the conceptual framework offered by Trabucchi et al. in detail.

Two main dimensions were defined with this framework: "how platform providers may leverage on data and where those data may be used." (Trabucchi and Buganza, 2018). These dimensions representing "how" and "where", are introduced previously by intending to find out the potential strategies used by two sided platforms in order to grow their businesses (Sawhney et al., 2004). Through their analysis, Trabucchi and Buganza (2018) indicates four different strategies according to their conceptual framework which are Supply Side Extension, Enhanced Advertising, Data Driven Value-added service and Data Trading. The strategies like Enhanced Advertising and Data Driven Value-Added Service support the concept of "reinforcing the existing relationship with existing players with non-transactional relationship created through the data gathered through the platform" (Data-Push Innovation). On the other hand, Supply Side Extension strategy keep the transactional relationship of the platform, but adding new side (or sides) into the platform (Ecosystem Innovation). In the Data Trading Strategy the platform use the non-transactional relationship with the sides, also adding new sides into the platform which means that using both Ecosystem innovation and Data-push innovation and then become Multi sided Disclosure.

2.6 Research Gap and Aim of the Research

The aim of this research is to deep dive into the strategies already existed in the literature and also, try to find new nuances in order to understand the changes and evolution in the companies accepted as two-sided platforms from basic to more complex and try to guide the platforms to find new opportunities into their growth path. It is also intended to keep in mind the role of data gathered through the platforms, the effects of it into the strategies emerged in the literature and to consider them according to the innovation perspective. The motives behind my thesis are: disruptive two-sided platform companies, which start to defeat the established companies with their innovative business models (evolutionary approach of these companies), fast changing technological trends, digitalization that make the platforms need to adapt themselves, since these trends generate new demands to satisfy.

And this thesis tries to find answers of the following questions: What is the contribution of the strategies to the evolution of the platforms and distribution among the companies? What kind of companies are using these strategies and which type of companies could be guided after my research?

3. RESEARCH METHODS

3.1 Empirical Setting and Sampling

In order to answer to these questions, 100 two-sided platforms have been studied, the empirical setting and sampling are based on the research of Trabbuchi and Buganza (2018), since my research could be accepted as the further step of their research. They refer that for the empirical setting in the research, the smartphone application industry is considered and used. The reason is its economic significance and growing interest and usage on that.

According to the Statista statistics in March 2017, there are 2.8 million available apps at Google Play Store and 2.1 million apps available in Apple's App Store which are two leading application stores worldwide. Also, it is forecasted that mobile apps will generate approximately 189 billion U.S. dollars in revenues by 2020 (Statista, 2017) which was 69.7 billion U.S dollars in 2015 (Statista, 2017), meanwhile approximately 2.87 billion smartphone users are estimated by 2020 (Statista, 2016). Furthermore, Tauscher and Laudien, (2017) state

that mobile applications are viewed as the common channel which have a power to match two distinct sides or group of users. To illustrate, Facebook which is the leading platform in social networking apps, has over 1.1 billion (Statista, 2017) monthly active mobile-only users and it has highest audience reach in United States, "as the social networking app was accessed by nearly 80 percent of the mobile audience in the country. Facebook Messenger has the second highest reach in the country, while YouTube ranked third." (Statista, 2017)

By considering the growing importance of the app industry and exploratory aim of the research, many case studies from mobile application industry is used (Trabucchi and Buganza, 2018). The main objective of analyzing many case studies is to extend existing theories in the field of two-sided market.

Trabucchi and Buganza (2018) indicate that there are previous researches during the early stages of the research about this subject (e.g. Amit and Zott, 2001; Galunic and Eisenhardt, 2001) and all the cases are seen as experiments in order to test theoretical insights obtained from the review of previous cases, and to modify them according to the explorations (e.g. Eisenhardt, 1989; Hitt et al., 1998). The sample used for this research comes from a previous research (Trabucchi and Buganza, 2018). It is coimposed of 100 mobile apps, selected through an iterative approach based on four main steps: "i) definition of the goal of the search; ii) initial sampling searching for heterogeneity in terms of industries; iii) enlargement of the initial sampling through a snow-balling technique and iv) the final sample has been defined."

First of all, with respect to the objective of the research, the companies which are selected as sample should be two sided platforms with a transaction, since they should be convenient with one of the previous definitions — the existence of two distinct groups of users influenced by indirect network externalities which are connected with a platform provider that facilitate a direct transaction between the two sides — transactional perspective in two sided markets will be examined with these companies.

Secondly, the base of the sample is taken from Google Play Store examining the top 200 free applications have been screened by filtering two-sided platforms. The screening took place in October 2017 and brought 78 mobile apps. The final sample is composed of 100 apps,

expanded from the previous one through a snowballing technique searching for similar apps through a dedicated search engine (http://www.appcrawlr.com).

In the final sample there are the 10 most popular apps of the 10 app categories with the highest number of two-sided platforms according to the previous steps. The categories are: Books & References, Business, Entertainment, Food & Drink, House & Home Appliances, Lifestyle, Maps and Navigation, Music & Audio, Shopping, Travel & Local.

3.2 Data Gathering and Data Analysis

The data gathered for this research are based on secondary sources in accordance with the previous research that is done with similar goals (e.g. Amit and Zott, 2001; Tauscher and Laudien, 2017). Data has been collected from the websites of companies, the articles about companies, online articles of journals and newspapers. Meanwhile, privacy policies of the companies were considered in the data gathering process, since it could be useful to understand the data usage rights of the customers in the platform.

First, data collected about the basic information of each company which includes the foundation year, country of foundation and company type from their websites. Also, in order to understand the basic structure of the company, the business model created by Tauscher and Laudien (2017) was used. The attributes of this business model include: the platform type, key activities, transaction content, transaction type, marketplace participants (only convenient variables for my analysis were taken from the model). Tauscher and Laudien (2017) point out that this model variables are based on the review of the literature on "business model platforms and marketplaces and has been refined in several iterations". These attributes represent the value creation and value delivery dimension.

After the data gathering about the basic structure of each company, four strategies offered by Trabucchi and Buganza (2018) were examined. First, Supply side extension strategy of each company were examined by looking at their official websites and secondly by examining the articles written about some cases.

For the second strategy, Enhanced Advertising ("advertised" content published by the platform itself), the information has collected mainly from their official websites and their privacy policies. First, privacy policies have been analyzed based on a coding procedure (Corbin and Strauss, 2008) which includes three main codes highlighted in a previous research to evaluate the role of data as a way to capture value (Trabucchi et al., 2017). Then, other secondary sources like official websites and articles, have been considered. During the examination, it is seen that there are more than one type of advertising which were identified by Trabucchi and Buganza in 2018. So, the data is collected from the secondary sources also for the other types of advertising strategies. These types are: Advertising Type 1 ("advertised" content coming from the other companies which are not the part of the platform) and Advertising Type 2 (The platform is selling its data to the external advertisers). Especially for Advertising Type 2, the privacy policies of the companies were investigated.

Similarly, for third and fourth strategies which are Data Driven Value Added services and Data Trading, data is collected in order to analyze the data usage mechanism of the platforms. Which means that whether the companies gather their data for providing the one of the sides in the platform (Data Driven Value Added Services) or sharing its data too the third parties (Data Trading).

These data gathering and analysis process shows that different expansion strategies of each company and their evolution. Also, data analysis allows that examining the companies which are leading the market and even disrupt the market with their innovative actions. To sum up, data have been analyzed based on the qualitative content analysis leveraging on the each company's official website which means 100 websites are analyzed detailly, their 100 privacy policies are examined as well, also annual reports published by some companies are checked and secondary resources like online articles and journals are examined. Totally 323 online primary (including official websites) and secondary sources are examined in order to understand structure and strategies of the companies. For supply side extension strategy, directly websites of the companies are used, since the companies are opening new sub-pages related with new services they add into the platforms. For the enhanced advertising and Advertising type 2 strategies, privacy policies of each company are useful, since these strategies are related with the usage of the data of users in which collected through the platform, each company should mention about which kind of data they are collecting in which

conditions. For Advertising type 2, also official websites are useful, since it is clearly seen from the platform that if any third-party company publish its advertising in the platform. For the Data trading and Data-driven value-added strategies, the official websites sometimes are not enough to understand their trading operations, that is why secondary sources like online journals or reports in order to get the latest news about these companies and their activities are examined. This news, sometimes based on the Forbes, Fortune, Business Insider which are the global media companies, sometimes the social networking platforms like LinkedIn and sometimes blog posts published by the companies. At the end of this process, the gathered data has been codified with relevant variables in order to cluster them and find out some quantitative results like finding outcomes about two sided markets and how are they evolving with the numbers.

In the results section, all the approaches, framework and outcomes will be explained detailly.

4. RESULTS

In this section, the results will be examined both quantitative and qualitative by considering different kind of variables in order to understand the origins and the basic structure of the two-sided platform companies from the sample of 100 (the variables were taken from the model which were gathered by Tauscher and Laudien in 2017) and by analyzing the evolution (or changes) in the platforms by looking at and testing the different strategies of the companies. All the different strategies of two-sided platforms, their structural characteristics and features will be presented as a result of the analysis in order to show evolving structure of the two-sided platforms from basic to remarkably complex.

The results of the analysis will be given starting with the basic outcomes, then will continue with the explanation and examination of the results of each strategy (ex. What are the usage percentage of each strategy, What kind of features do the companies have, if they are using the strategies, from which categories they belong etc). At the end, the explanation of the 30 companies as representative of 100 cases which were analyzed will be explained with visual schemas. (Since there are 10 categories and there are 10 companies in each category, 3 cases were selected from each category according to their interesting activities and distinct features)

4.1 Descriptive Analysis of the Sample

First, as a result of the analysis it is seen that USA has a dominant position which has the highest number of cases were founded in USA which 60 percent of the total. Then India comes second with 16 percent of 100 cases were founded in India. (figure 5).

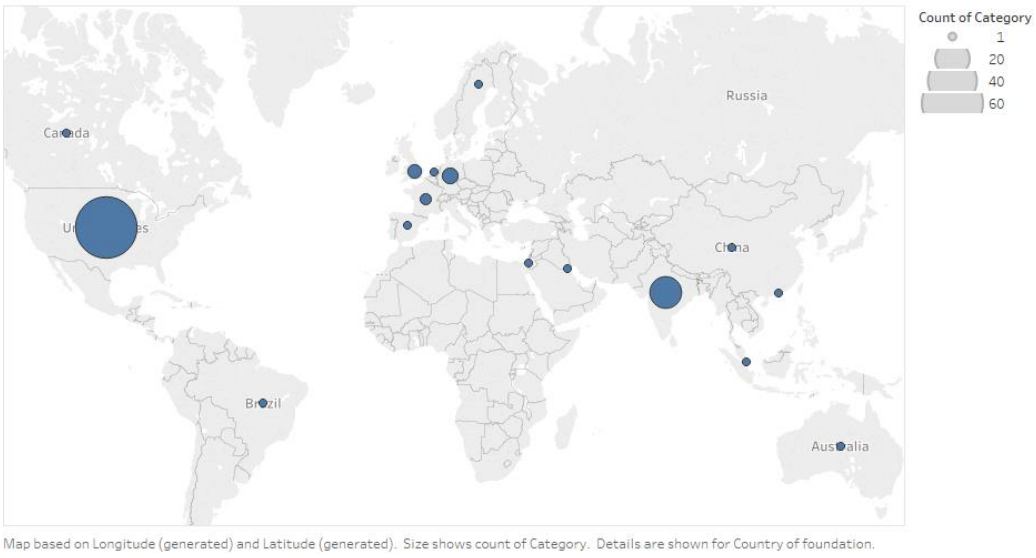

Figure 5 - Distribution of Cases Through Countries

Also, by looking at the graph (figure 6), it is seen that in USA, mobile application companies in our sample including 100 cases have been started to be founded earlier than other countries. Even in 80s there are some two-sided platform companies launched in USA in which the concept of two-sided platforms was newly discovered. After 1995, it is viewed that the number of the companies launched have started to increase in India besides USA. Then, after 2005, also Europe and other continents are seen in the two-sided market.

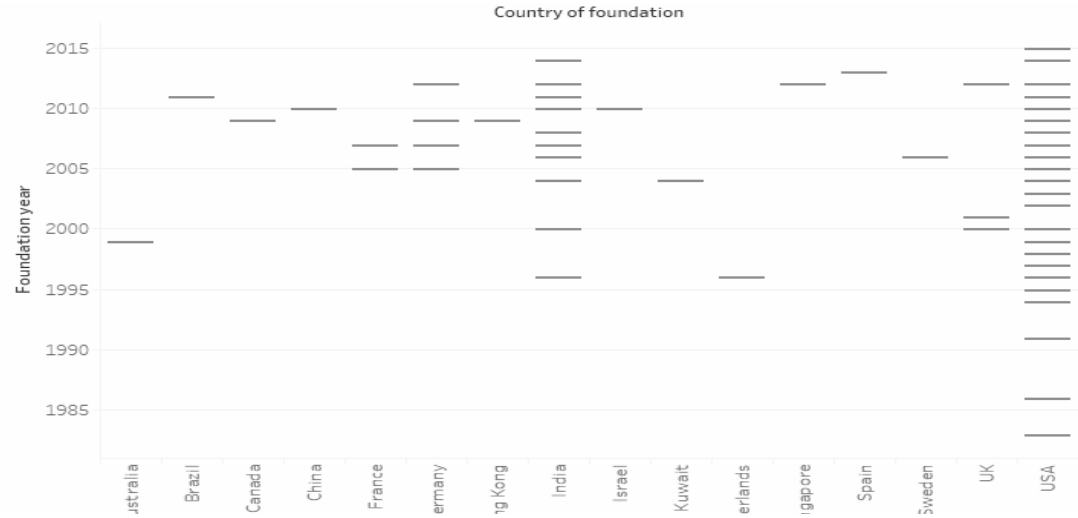

Figure 6 - Cases' Years of Foundation

Moreover, in order to understand the characteristics of the companies analyzed in the thesis, the results of some variables taken from the model of Tauscher and Laudien (2017) are given in the following. (Variables are Marketplace participation (figure 7), Key Activities (figure 8), Transaction content (figure 9), Transaction type (figure 10) which were explained detailly in literature review)

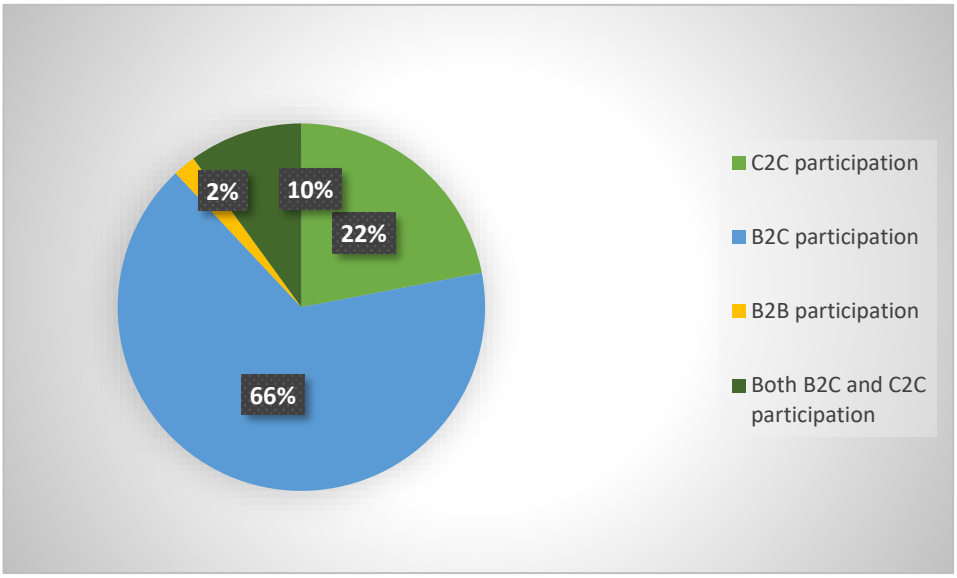

Figure 7 - Marketplace Participation of Cases

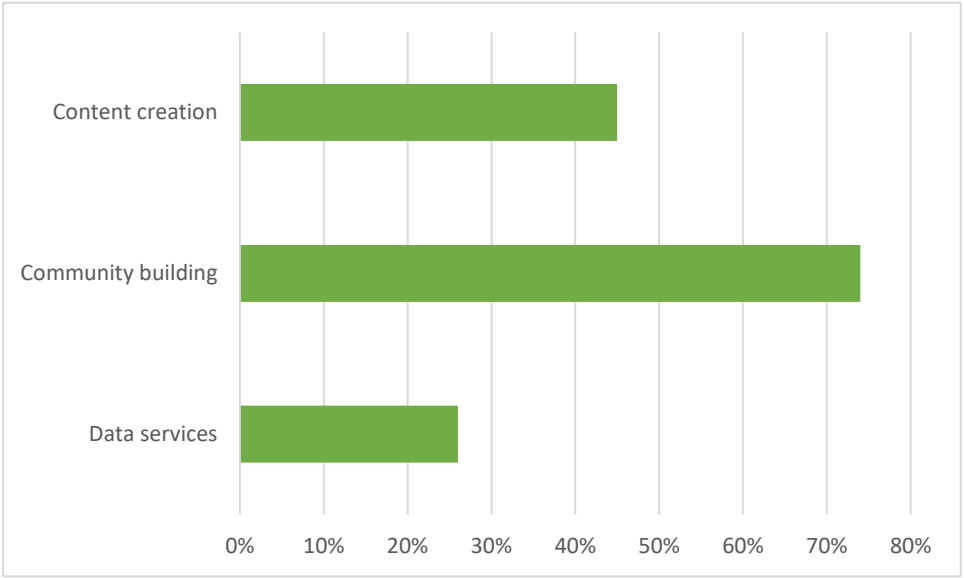

Figure 8 - Key Activities of the Cases

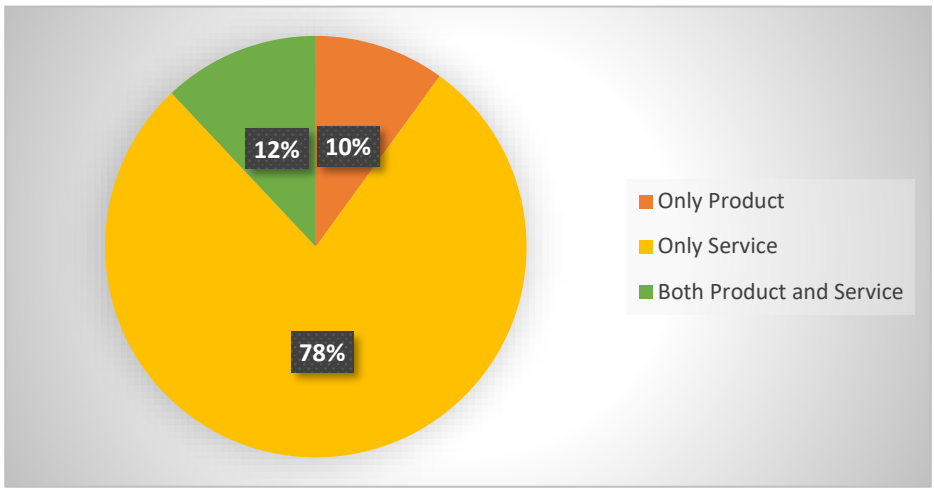

Figure 9 - Transaction Content of the cases

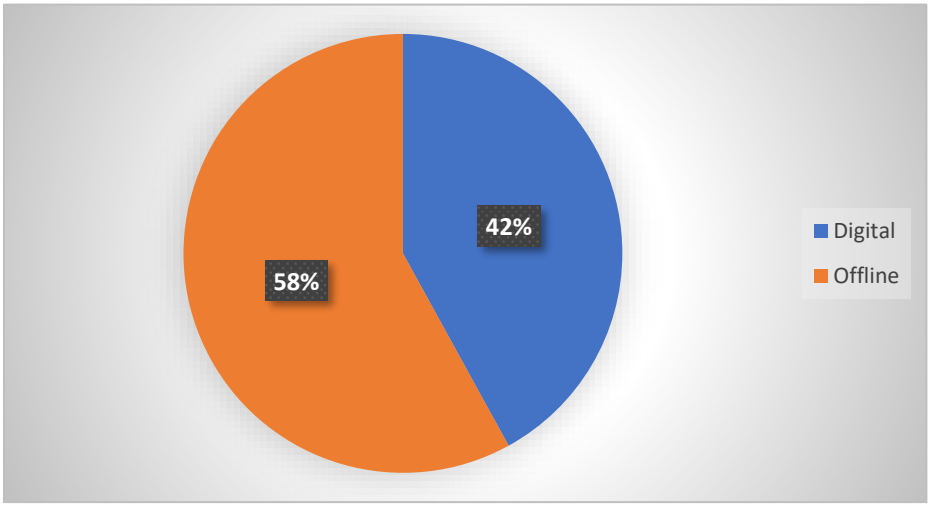

Figure 10 - Tranasction Type of the Cases

After looking at the general characteristics of the companies in the sample, the strategies that are used the companies will be examined in the following. Six strategies were emerged during the analysis in which four of them were introduced by Trabucchi and Buganza (2018): Supply Side Extension, Enhanced Advertising, Advertising Type 1, Advertising Type 2, Data-Driven Value-Added Services, Data Trading which will be explained one by one detailly.

4.2 Supply (Side) Extensions

First strategy that is used by the two-sided platform companies (platform providers) is expanding their transaction sides and delivering additional services. It is really important in

order to find out the evolution of the two-sided markets into multi sided markets by looking at their extension level, how they are doing and how many more transactional sides they are adding the system. These extended platforms still use the main mechanism of the two-sided markets only increasing the number of sides which deliver wider business. Trabucchi and Buganza (2018) indicate the expansion as following: “Platform providers have been able to identify new meaningful transactional sides that may be linked to the first transactional side, enlarging de facto the supply side and defining different levels of transaction.” (The structure of the platform could be seen in the figure 11.

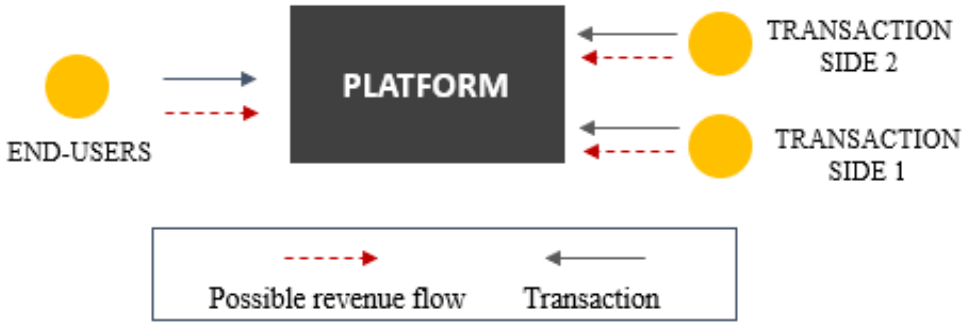

Figure 11 - Supply Side Extension

It needs to be emphasized that the platform keeps the basic transactional relationship between two seminal sides and adds third side in order to create second level of transaction which connects the first seminal side (Trabucchi and Buganza 2018). Also, it is important that the supply (side) extension does not directly depend on the data usage collected by the platform, it depends on the re-usage of the critical mass which was obtained on the first side for creating the new sides.

From the analysis of 100 cases, it is seen that 40% of the companies which are using this strategy and doing at least one extension. Detailly, figure 12 represents the number of companies which are expanding its sides from 2 to 3,4,5,6,7 or 8. It is clear that the number of companies decrease when the extension side increase.

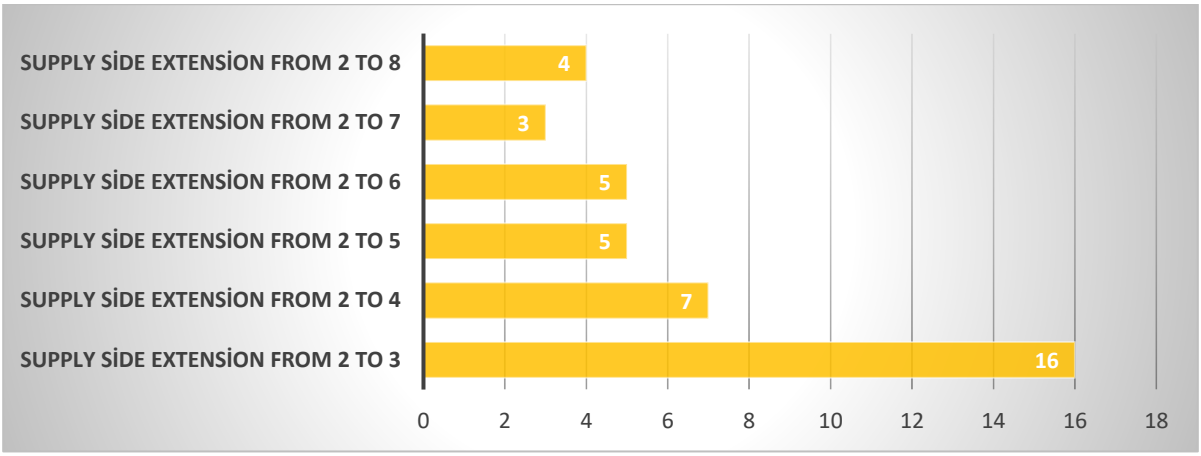

Figure 12 - Supply Side Extension Rate of The Cases

When it is considered the marketplace participants of the companies, it is also observed that mostly B2C companies prefer to apply Supply Side Extension strategies with the rate of 58%, C2C companies come second with 22% and then, companies having both type of participants which are B2C and C2C come third with 20%. Also, the transaction content of the companies which are applying Supply Side Extension strategies mostly based on service activities rather than product which is 78% and their transaction type based on offline with the rate of 80% among only the companies which are using Supply Side Extension strategies by doing at least one extension. (figure 13 and figure 14)

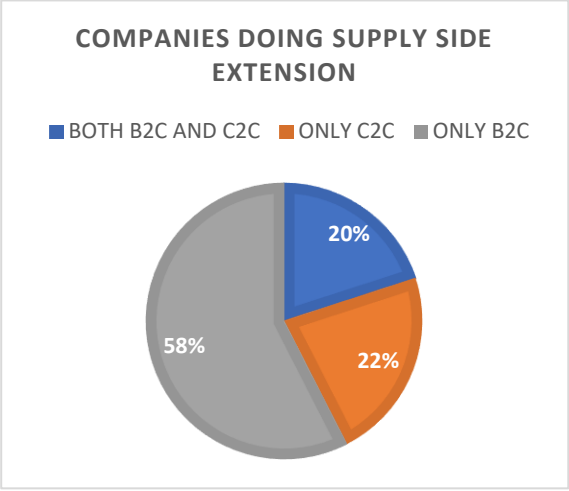

Figure 14 - Participants of the Companies doing Supply Side Extension

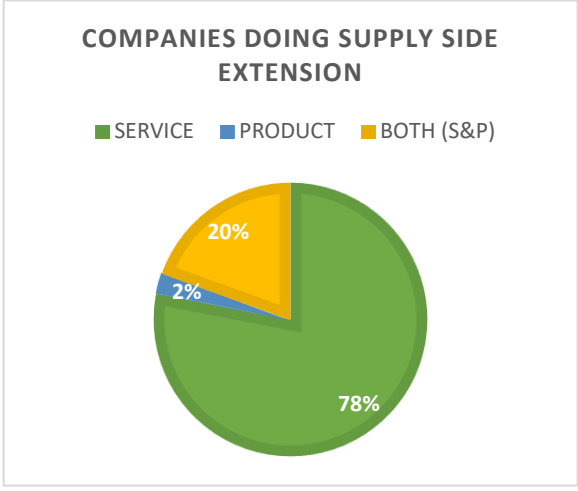

Figure 13 - Transaction Content of the Companies doing Supply Side Extension

Also, it is observed that Travel & Local (20%), Home & House (18 %) and Maps & Navigation (18%) categories have the highest rates of using the supply side extension strategy respectively.(each category has 100 companies) (figure 15)

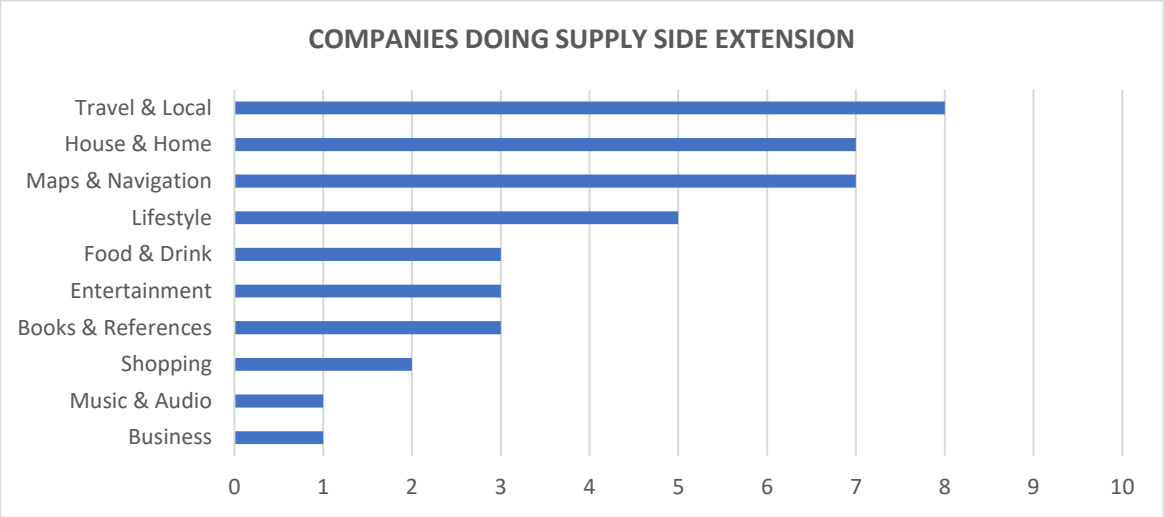

Figure 15 - Distribution of the Companies using Supply Side Extension Strategy among the Categories

Second, third and fourth strategies that was emerged in the analysis are all about advertising strategies of the companies, in which one of the strategies represents the advertising with enhanced features with respect to the data usage method and innovative features (which is called Enhanced Advertising strategy by Trabucchi and Buganza, 2018), and the other two strategies could be accepted as classical advertising applied in different ways (Which are called Advertising type 1 and type 2). All these three strategies will be explained detailly below, but in a few words:

Enhanced Advertising: Allowing the second side to use the data gathered by the platform to provide the customized and relevant messages, to create customer-based promotion strategies and advertisements to the first side,

Advertising Type 1: Allowing third parties to publish advertising in the platform to reach the customers in the platform,

Advertising Type 2: Providing the data to the third-party advertising companies for them to use the customers in the platform “Client as a Source”.

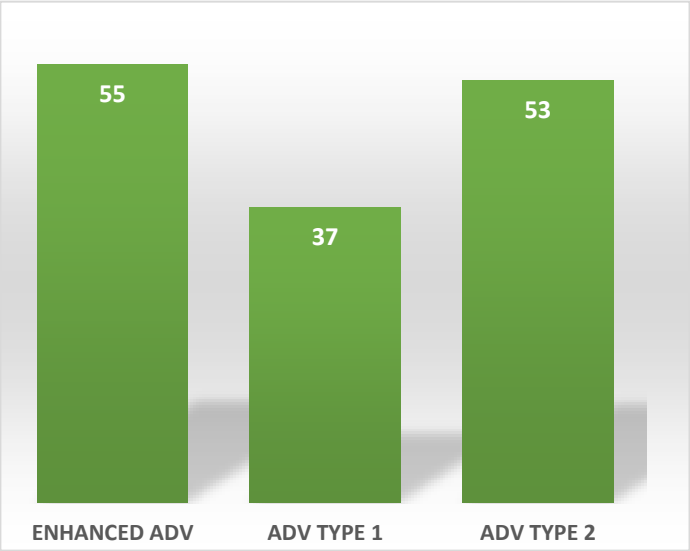

Figure 16 - Disribution of Advertising Strategies Amang Cases

Figure 16 shows the number of companies which are using the enhanced advertising strategy, advertising type 1 and advertising type 2 strategies out of 100 cases analyzed. As result of the analysis, it is seen that 55 companies are applying enhanced advertising, while 37 companies are applying advertising type 1 and 53 companies, type 2. (The companies could use more than one advertising strategy in their platform). On the other hand, if the strategies are examined by considering all the possibilities of their usage. It is seen that (figure 17) there is still 21% of the companies do not prefer to use any advertising strategies in their platform which means that 79% percent of the companies use at least one advertising strategy. Also, 15% percent of the companies are using al the advertising strategies.

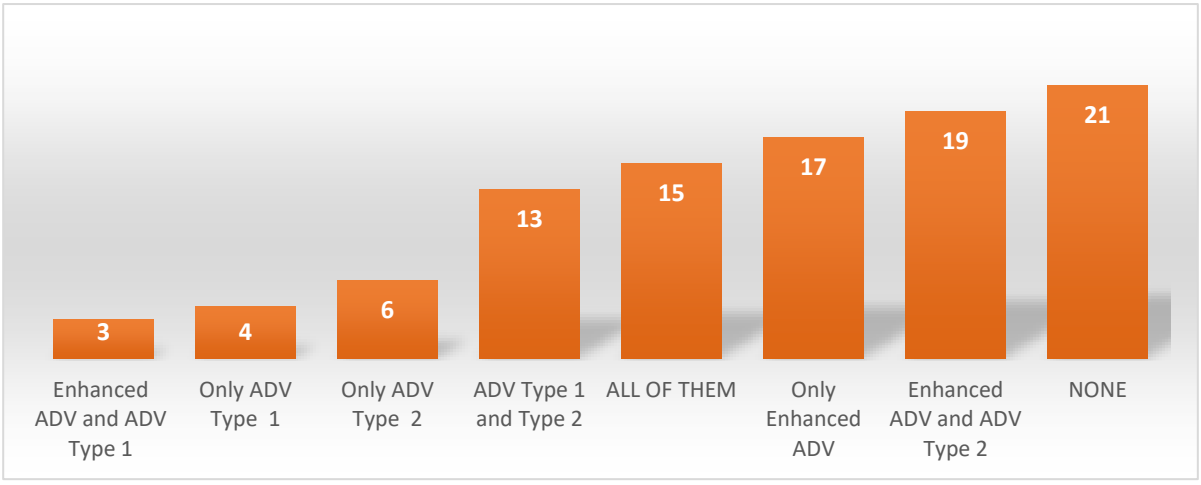

Figure 17 - Demonstrating the preferences of the companies on the usage of Enhanced Advertising, Advertising Type 1 and Advertising Type 2 strategies

4.3 Enhanced Advertising

As it is explained before, one of the classifications of two-sided markets is transactional and non-transactional models which were shown previously. For the enhanced advertising model, Trabucchi et al (2017) indicate that they are inspired by transactional models for defining this strategy. According to their definition, enhanced advertising occurs when the traditional transaction two sided platform includes advertisement mechanism as well.

During the research it is observed that, the strategy of Enhanced Advertising model expands "the traditional Client-As-a-Target relationship between a Non-Transaction player (i.e. advertisers) and the first side (i.e. End-users) taking a Client-As-a-Source perspective" (Trabucchi and Buganza, 2018). In this strategy, platform provider allows the second side participants (ie. Merchants) to use the data gathered by the platform in order to provide the customized and relevant messages, to create customers based promotion strategies and advertisements to the first side (ie. End user). Also it enables the second side participants to become advertisers and to create extra relationship between each other in the platform. In this way, the first side (ie. End users) is used both as a Target and as a Source. It is seen as source, since the second side (ie. Merchant) use the data of the first side (ie. End users) which is gathered by the platform and represent to the second side. And also it is seen as a target since, after the data gathering the second side provide a customized messages, advertising, and promotions to the first side. (It could be seen in the figure 18)

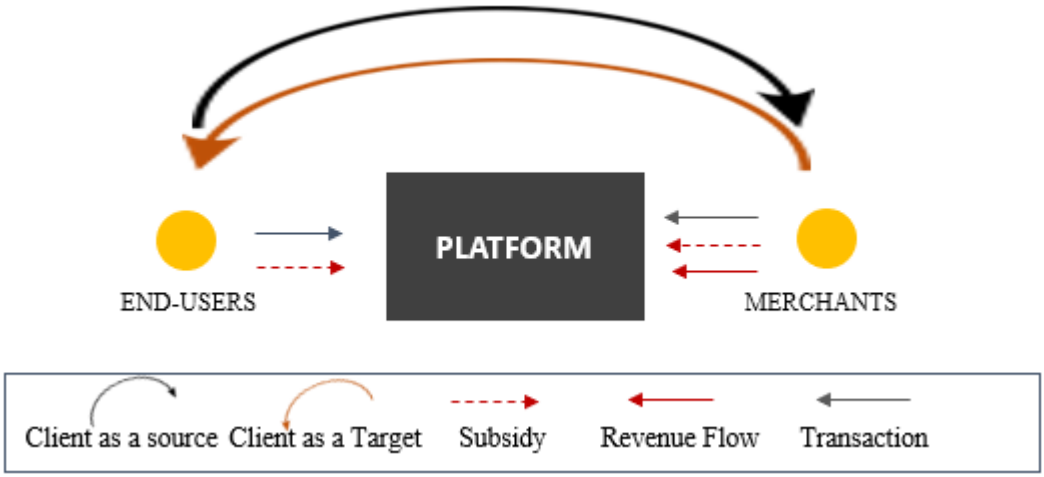

Figure 18 - Enhanced Advertising

As a result of the analysis, it is seen that the 71% of the companies among the companies using enhanced advertising strategy has B2C marketplace participants, while 13% companies are C2C, 2% companies are B2B and 14% of the companies includes both B2C and C2C participants (figure 19). Furthermore, these companies which are applying enhanced advertising strategies has mostly the "service" transaction content (80%, only among the companies which are applying enhanced advertising) and 40 % of the companies using enhanced advertising strategy are delivering its "service digitally" while 60% of them delivering its "service offline". Also 8% of the companies which are using enhanced advertising strategy has "product" service content and 12 % of them has both "product and service" transaction content which means that they are serving both service and product with their platform.

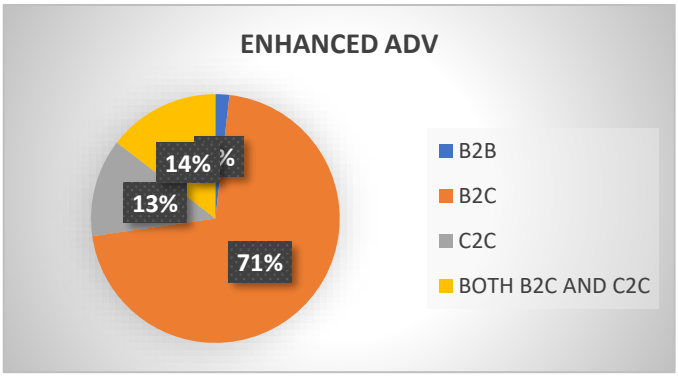

Figure 19 - Participants of Companies Using Enhanced ADV Strategy

Moreover, figure 20 indicates that the companies applying enhanced advertising strategies are coming the most "Travel & Local" and "House & Home" categories. Both 90% of the companies in these two categories using enhanced advertising strategy. Also 80% of the companies in "Food & Frink" category, 70% of the companies in "Entertainment" category are using it.

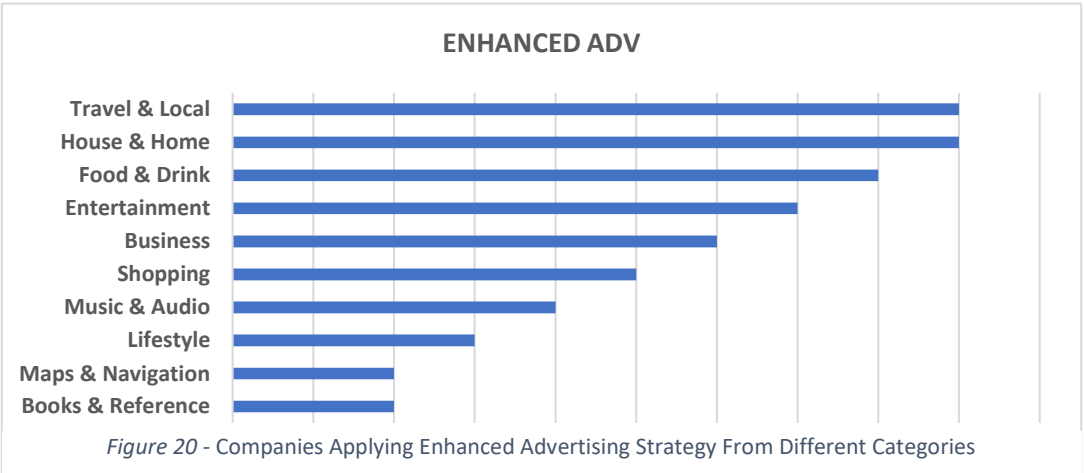

Figure 20 - Companies Applying Enhanced Advertising Strategy From Different Categories

4.4 Advertising Type 1

In the Advertising type 1, there is at least two transaction sides in the platform, and also there is a non-transactional relationship between the first side (ie. End user) and the third-party companies which place an advertisement in the platform. The difference between the enhanced advertising strategy and advertising type 1 strategy is: in enhanced advertising, the second side participant is giving its own advertisement or preparing its own promotion strategy by using the platform and the data of the platform provided by the first side (ie. end user). On the other hand, in the advertising type 1, the companies being different than the second side participant give the advertisement on the platform. They use the first side (ie. End users) as Client as a Target, since they are showing their advertisements to the end users by using the platform (it could be seen in figure 21)

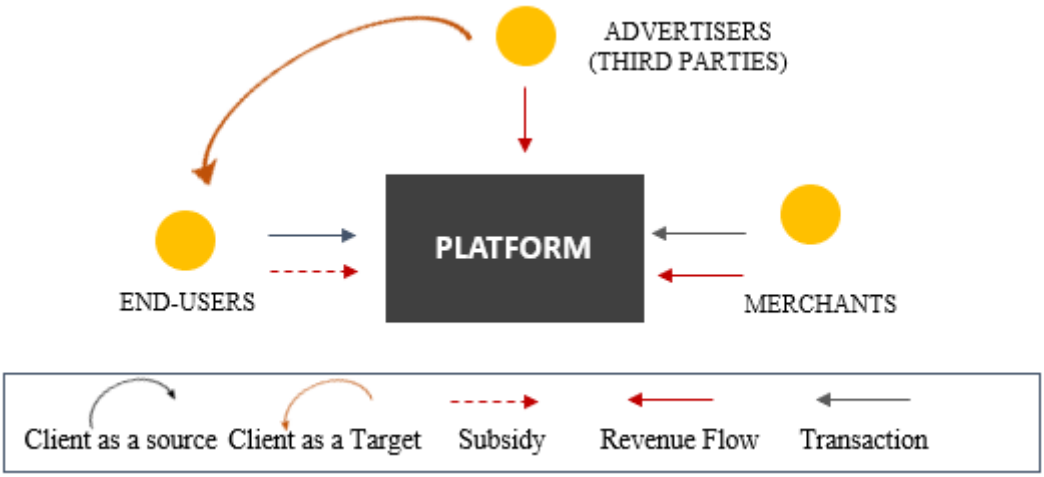

Figure 21 - Advertising Type 1

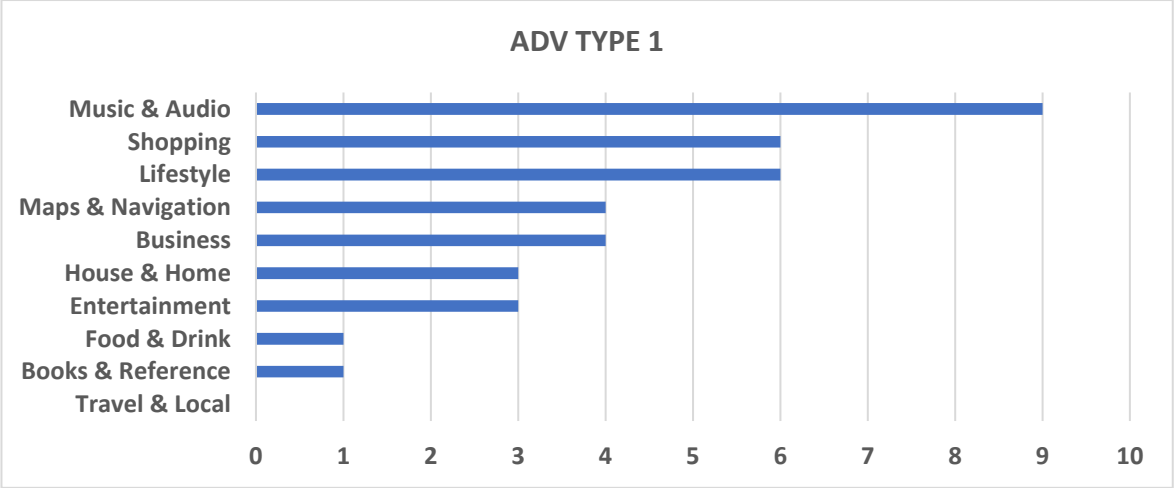

Figure 22 - Companies Applying Advertising Type 1 strategy From Different Categories

It is seen that the companies especially from Music & Audio category are using this strategy with high amounts (90% of the companies in this category is using this strategy).(figure 22)

Since companies in Music & Audio category are using this strategy considerable higher than other category, it could be useful to look at the characteristics inside of the category. It is seen that all the companies using this strategy have a B2C participants while serving offline services as a transaction type and transaction content. (figure 23)

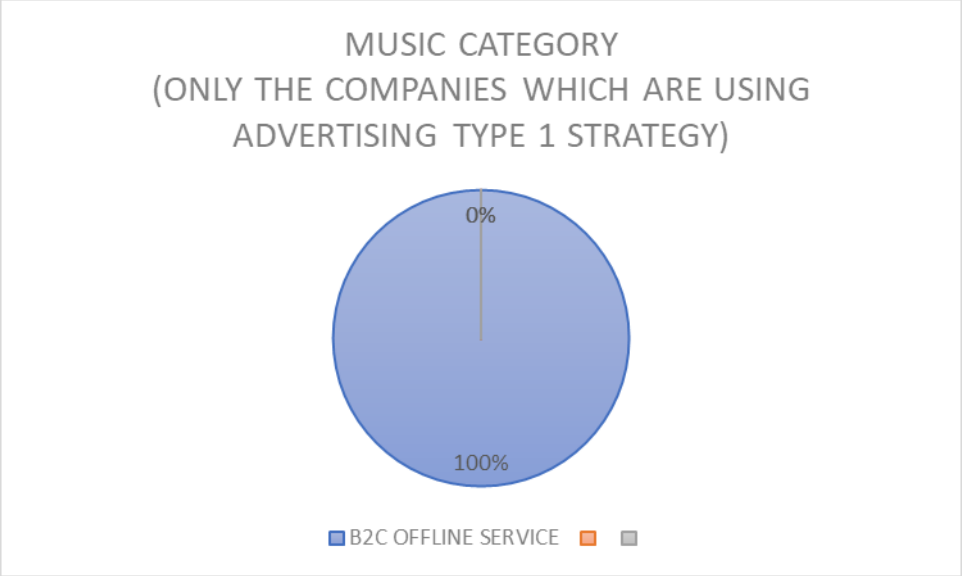

Figure 23 - Participants, Transaction Content and Type of Companies Using Advertising Strategy

4.5 Advertising Type 2

In Advertising Type 2, there is similar structure with advertising type 1, since there is at least two transactional side which interact each other and there is a relationship between the first side (ie. end users) and third parties. But here, in advertising type 2, the platform sells its data which is gathered from the end users to the third-party advertising companies which create non-transactional relationship. That is why both Client as a Source and Client as a Target relationship are seen between the end users and the third-party advertisers, since the platform sell the data of end users to the advertisers, and these advertisers could show their targeted advertising to the end users. (it could be seen in figure 24)

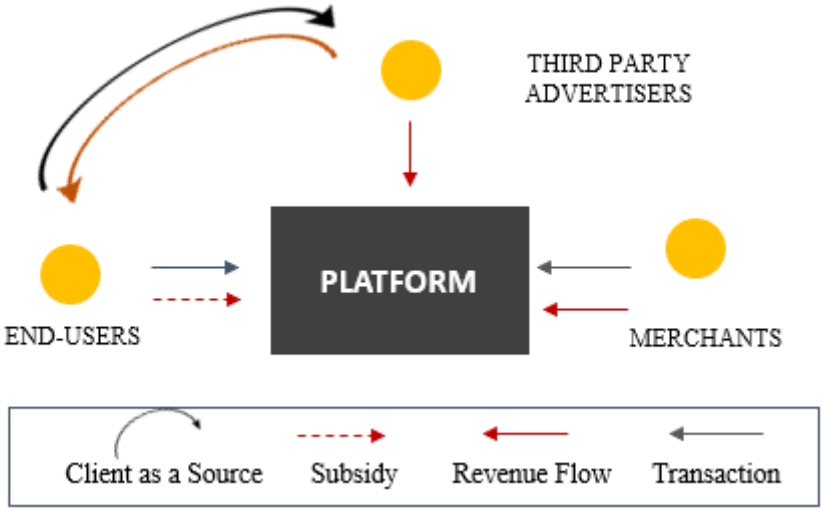

Figure 24 - Advertising Type 2

It is seen that the companies from Travel & Local category are using this strategy with the highest rate (90% of the companies in this category is using this strategy). (figure 25)

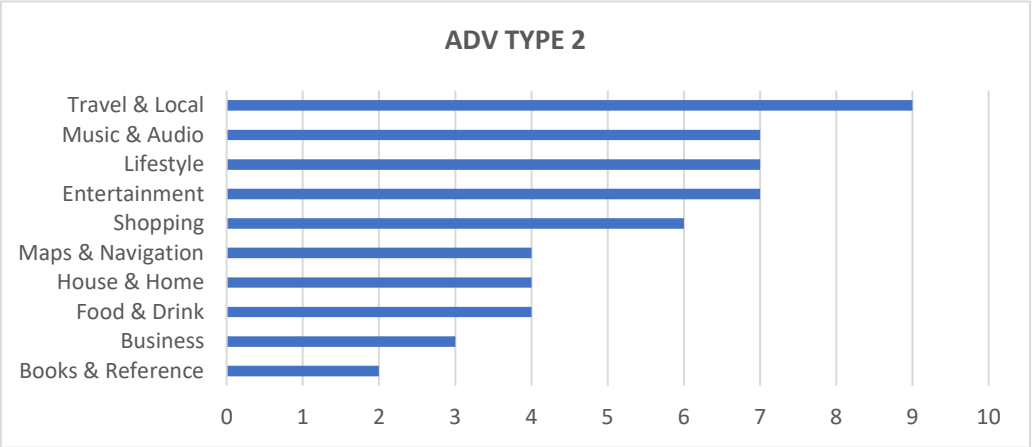

Figure 25 - Companies Applying Advertising Type 2 Strategy From Different Categories

70 % companies which are using Advertising Type 2 strategy have B2C participants (23% C2C, 7% both B2C and C2C). While 75% companies are providing service as a transaction content (9% product, 16% both product and service). Meanwhile 60% companies which are using this strategy deliver its activity offline (40% digital).

4.6 Data Driven Value-Added Services

In strategy of Data Driven Value-added Services, the platform provider is sharing its data with one side of the users in order for them to get some insights and learn their statistics for their performance improvement. Platform providers could see this opportunity during the data gathering process, since it could facilitate the new services with using basic structure of

the platform and serving the same participants. Trabucchi and Buganza (2018) indicate that "In particular, the data gathered may be useful to the platform provider to enhance the relationship with one of the two sides."

The structure of the platform shows a Client-As-a-Source relationship between the first and the second side, since the platform allows the second side to use the data of the first side, which is gathered by the platform, in order to get insights about the first side. And deliver them a better and more personalized service (it could be seen in the figure 26)

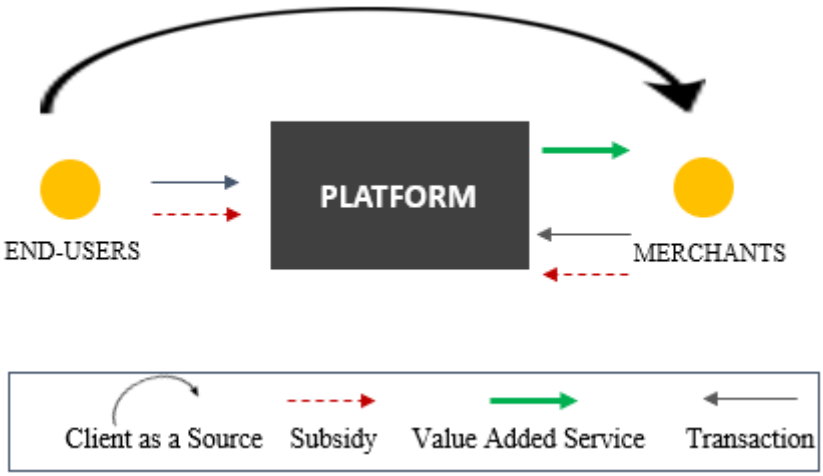

Figure 26 - Data Driven Value Added Services

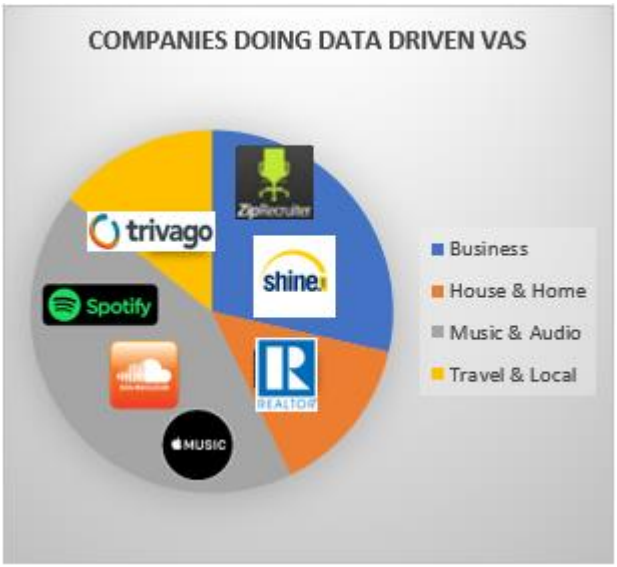

Figure 27 - Companies Applying Data Driven VAS Strategy From Different Categories

As a result of the analysis it is observed that only 7 companies in the sample are using Data Driven Value-added services from Business, House & Home, Music & Audio and Travel &Local categories. In Music & Audio category, three big players: Spotify, Apple Music and Soundcloud are using this strategy in order to provide insights and some statistics to the artists in the platform in order for them to increase the engagement between the sides including artists and audiences. Also, Trivago company from Travel & Local category, Realtor.com from House & Home category, and Ziprecruiter and Shine.com from Business category. (figure 27) Also, all the Data Driven Value Added Service strategies of these companies are presented below in figure 28.

Company Name	Value Added Service	The Launch Date of Value-Added Service	Providing Service with Payment	Description of the Service
Spotify	Spotify For Artists	2017	No	It helps artists to get their song statistics and fan insights to discover more about their audience
Apple Music	Apple Music For Artists	2018	No	It helps artists to evaluate their music's overall performance, to get details of trends over time and to learn insights about their playlists and fans.
SoundCloud	SoundCloud Pro	2013	Yes	It provides advanced and full statistics to the artists to improve their performance
Trivago	Trivago Hotel Manager	2014	Yes	It allows hotels to access their customers' data and insights
Realtor	Realtor My Home	2017	Yes	It provides home owners the data to compare mortgage rates for refinancing, to realize their financial possibilities and to transform them into opportunities
Shine	Shine Recruiter	2008	Yes	It is for the companies who are already partner with Shine to access the database to find more convenient employees.
ZipRecruiter	ZipRecruiter ATS Partners	2017	No	It provides statistics and insights to the employers about the employees using the platform

Figure 28 - Demonstrating Companies' Data Driven Value Added Strategies

Moreover, 6 companies which are doing Data Driven Value added services have B2C type of participants and only one of them which is SoundCloud has C2C type of participants (figure 29). Also, all seven companies have "service" transaction content.

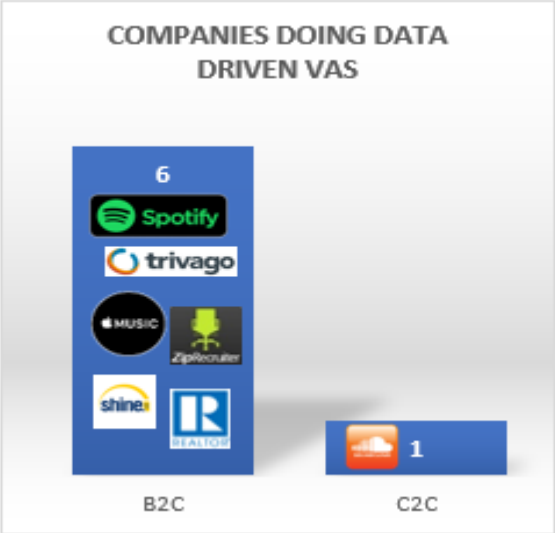

Figure 29 - Participant of Companies Applying Data Driven VAS

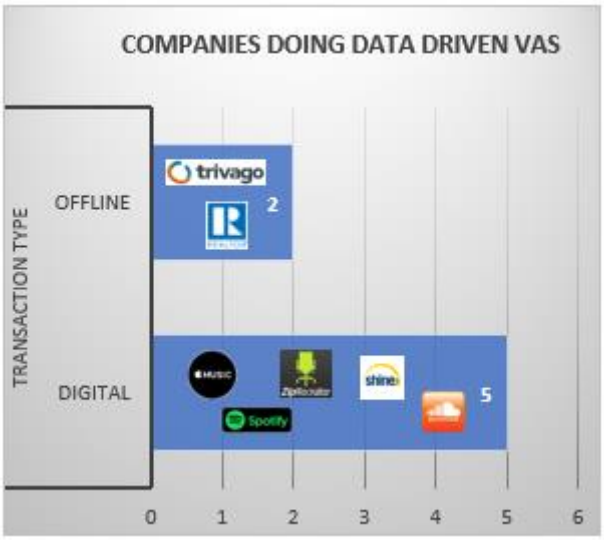

Figure 30 - Transaction Type Of Companies Applying Data Driven VAS

Furthermore, while Trivago and Realtor.com are providing their services offline, Apple Music, Spotify, SounCloud, Shine.com and Ziprecruiter are providing its service digitally. (figure 30)

4.7 Data Trading

As it is mentioned before, platform providers have a chance to gather the data of both sides and this collected data could be very crucial for other companies in the market. That is why some of the two-sided market platforms see this need and ability to capture the data of the other companies and start to share their data gathered to them. Privacy policy of each

company allows them to gather the data through platform and to share or sell the data collected by the platform to the third parties (Trabucchi and Buganza, 2018). Generally, the data trading is done without sharing any personal information of the users and all the data trading mechanism is indicated in privacy policy of each company. The structure consists of the regular transactional sides which interact with each other and also one non-transaction side which include third parties for sharing the data with them and this side has the relationship as Client as a Source with each side (it could be seen in figure 31)

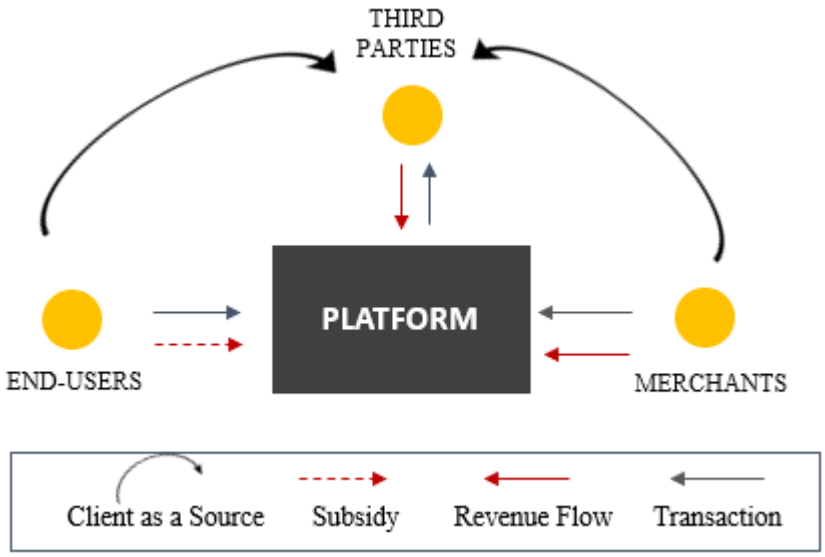

Figure 32- Data Trading

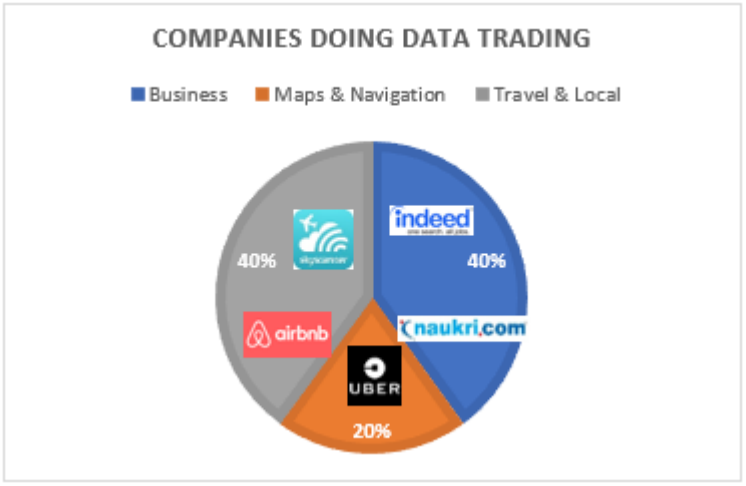

Figure 31 - Companies Applying Data Trading Strategy From Different Categories

After the analysis it is seen that only 5 companies in the sample are using Data Trading strategy from Business, Travel &Local and Maps & Navigation categories. In Travel & Local

category, Airbnb and Skyscanner are applying this strategy and sharing its data gathered through the platform to the third parties. Also, Uber from Maps & Navigation category, Indeed and Naukri.com from Business category. (figure 32). All of these companies' data trading strategies will be presented in figure 33 (all the cases are going to be furthered analysed in the following part)

Company Name	Data Trading Service	The Launch Date of Data Trading Service	Providing Service with Payment	Description of the Service
Airbnb	Airbnb Citizen	2015	No	Airbnb Citizen releases the data for the top 300 cities and 80 countries/regions worldwide including Global Statistics, *Airbnb Database Data,* Active Listings, Total guest country of origin, *Survey Statistics,* City and Country Statistics
Uber	Uber Movement	2017	No	Uber Movement provides anonymized data of more than two billion trips to help plan cities around the world.
Skyscanner	Skyscanner Partners	2014	Yes	Skyscanner Partners provides third parties which are mostly working in the field of flight, car rental, hotel unique insight about travelers' choices and demands.
Indeed	Indeed Hiring Lab	2014	Yes	Indeed Hiring Lab delivers insights that help drive the global labor market conversation. It is available to media, researchers, policymakers, job-seekers and employers to help them better navigate the world of work today.
Naukri	Naukri Database	2016	Yes	Naukri Database provides its data accessible for the companies and consultants who would like to access the data

Figure 33 - Demonstrating Companies' Data Trading Strategies

It is also seen that only Airbnb has both B2C (restaurants and end user) and C2C (guest and host) participants and is providing offline service as a transaction content and type, while Uber has C2C participants and is providing offline service like Airbnb, and Skyscanner, Indeed and Naukri.com have B2C participation. Skyscanner has both service and product transaction content and providing them totally offline. Also, Naukri.com and Indeed.com are providing digital services. (figure 34 and figure 35)

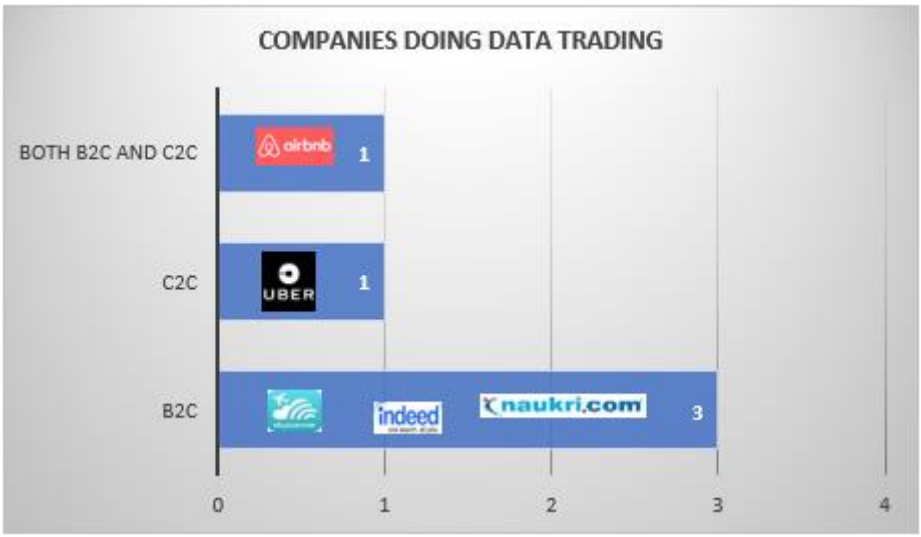

Figure 34 - Participant of Companies Applying Data Trading Strategy

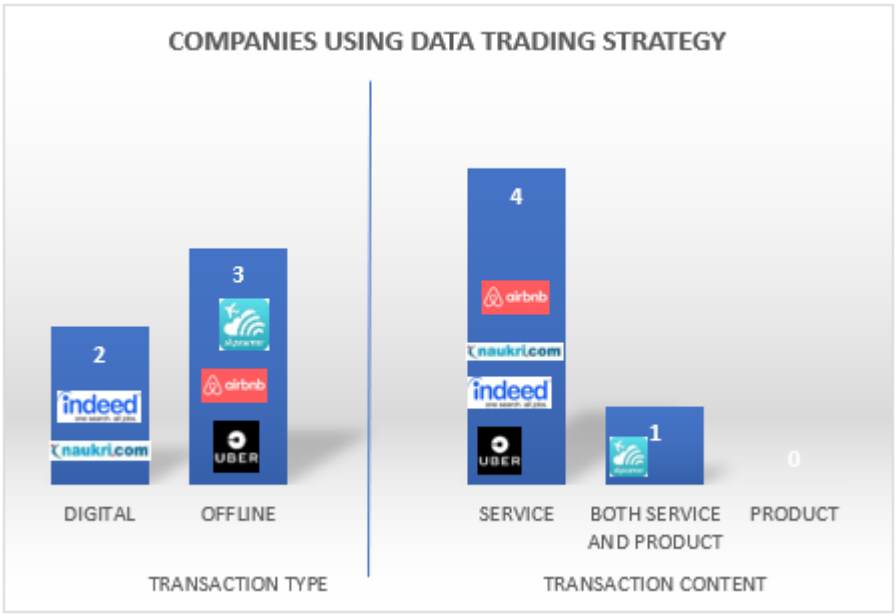

Figure 35 - Transaction Type and Content of Companies Applying Data Trading Strategy

As of now, all these six strategies will be examined in each case (100 mobile application companies which is selected from application store) to reach the final quantitative and qualitative results for understanding the evolution of the two-sided platforms into multi-sided platforms, and how these companies move their business models into more complex structures with these evolutions. First, the structure of most important cases will be shown category by category. Most important cases from each category is defined by considering their new strategies which is determined above (The visual representation of all 100 cases will be given as appendix).

4.8. Travel & Local Category

The first category defined from the application store is "Travel and Local". As it is mentioned before, all the categories include 10 representative cases in order to examine the crucial strategies used by this category. The cases examined are: Airbnb, Skyscanner, Booking.com, MakeMyTrip, Trivago, Agoda, Expedia, KAYAK, Hotels.com, Goibibo. The three cases that will be presented are Airbnb, Skyscanner and Booking.com, since they have interesting strategies which shows the move from two sided to multi-sided platform.

4.8.1. Airbnb

First one is Airbnb which is founded in USA in 2008. It provides a platform for travelers and host which allows participants "to showcase, discover, and book accommodations for various time periods including a night, week, and month." (Bloomberg, 2018), While the basic structure of the company is analyzing, the business model structure of Tauscher and Laudien (2017) is used and thus, it is seen that it is operating as both Customer to Customer (C2C) (connecting the hosts and guests) and Business to Customer (connecting restaurants and customers), also, the company's platform type is available both from mobile and web, and its transaction type is offline. It is known that all the transactions in two sided platforms happen as digital, but in this thesis it is considered in a different way (in all the other cases which will be evaluated, same mentality will be used): since the service itself occurs physically or offline such as staying at the place reserved or trying new activities with experience providers. That is why it is considered that Airbnb enables customers to have these services offline. Also, obviously, its transaction content is the "service" and its key activity is "community building" (since it aims to bring together guests and hosts and provide them something more which make them feel unique by providing additional services like "Airbnb Experience").

Furthermore, in 2017, Airbnb notice that it expands its business by offering a new hotelier experience and new reservation system with restaurants. Bloomberg article by Olivia Zaleski (2017) indicate that Airbnb, by expanding its business into restaurant reservations, aims to become "full-service travel-booking company". It shows that they make a Supply (side) extension by adding experience providers and restaurants into the platform. It is important to say that these experience providers should be hosts at the same time and they are

using the same customer base with hosts. On the other hand, Airbnb has an agreement with many restaurants in order to allow its participants to book reservations with these restaurants. With this move, Airbnb intends to extend the activity chain covered by their company providing not only a place to stay to the travelers in the platform, but also what to do (Trabucchi and Buganza, 2018) and where to eat during the travel. Moreover, Airbnb starts to share its data gathered from hosts and travelers to the third parties without payment. The name of the data sharing service is "Airbnb Citizen" (Data trading strategy of Airbnb), it gives insights about hosts and guests in all over the world with city and country statistics and thus, the third parties could reach the data of different cities and countries in which Airbnb is serving. Also, Airbnb allows its users (like restaurants or hosts) to promote themselves in order to increase their visibility and increase their chance to gain the customer by creating both "Client as a Source" and "Client as a Target" relationship between the sides. This shows that Airbnb is using the strategy of enhanced advertising by providing the data gathered through the platform to the hosts (or experience provider, or restaurants) in order to make them promote themselves to the right travelers.(figure 36)

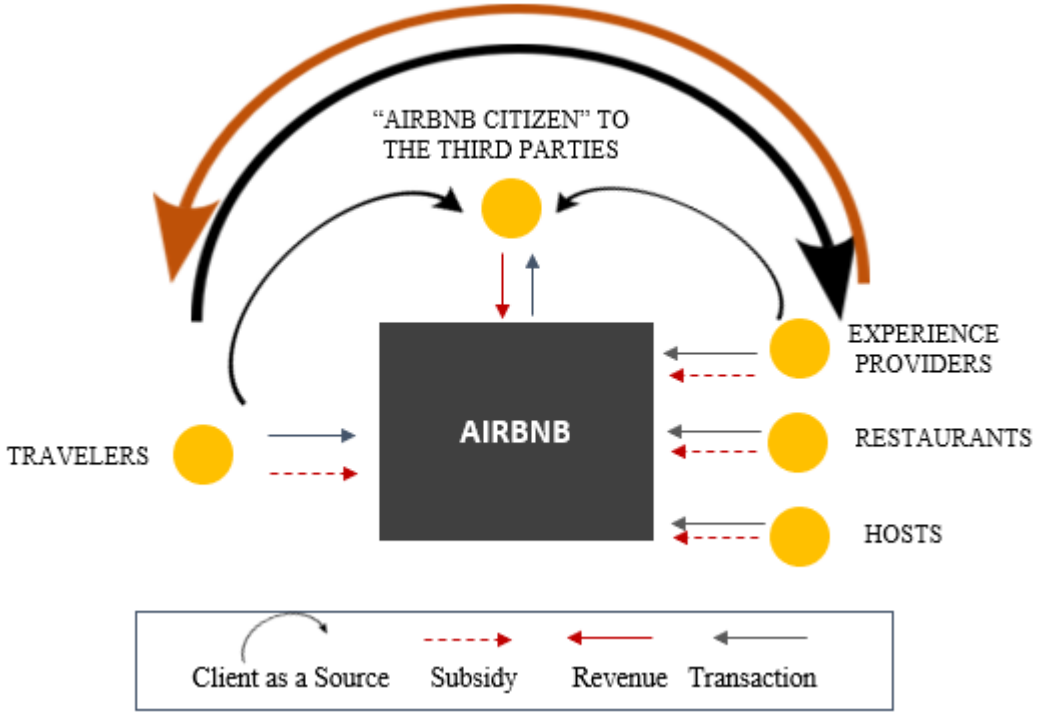

Figure 36 - Airbnb Business Structure

4.8.2. Skyscanner

Second one is Skyscanner, which is founded in UK in 2001, is the platform which operates as travel search engine offering flight bookings, accommodation reservations and car

rentals. It compares many airlines and online travel agents to deliver cheapest flights, accommodations and car rentals to the customers on the other side. Its basic structure is Business to Customer (B2C) (linking hotels and customers), the company's platform type is available both from mobile and web, its transaction type is "offline" (since the service itself occurs physically or offline as flying with an airline or staying at the place or renting a car after using Skyscanner). Also, its transaction content is the "service" and its key activity is "data services" (since it aims to bring together and compare all the different prices of airlines and travel agents, it is providing huge data to the customers within one platform). (figure 37)

As an initial version of Skyscanner it is seen that the platform includes more than two sides since it is offering flight, accommodation booking and car rental services, therefore, it has Supply (side) extension. Moreover, Skyscanner has an additional strategy which is Skyscanner Partners that is doing data trading to the field players like airlines and airports in order to provide many statistics and insights. On the other hand, strategy of enhanced advertising (which allows flight, accommodation or car rental companies to promote themselves and to offer customized advertising to the customers by using the data gathered by the platform, it has both Client as a Source and as A Target relationship between the customers

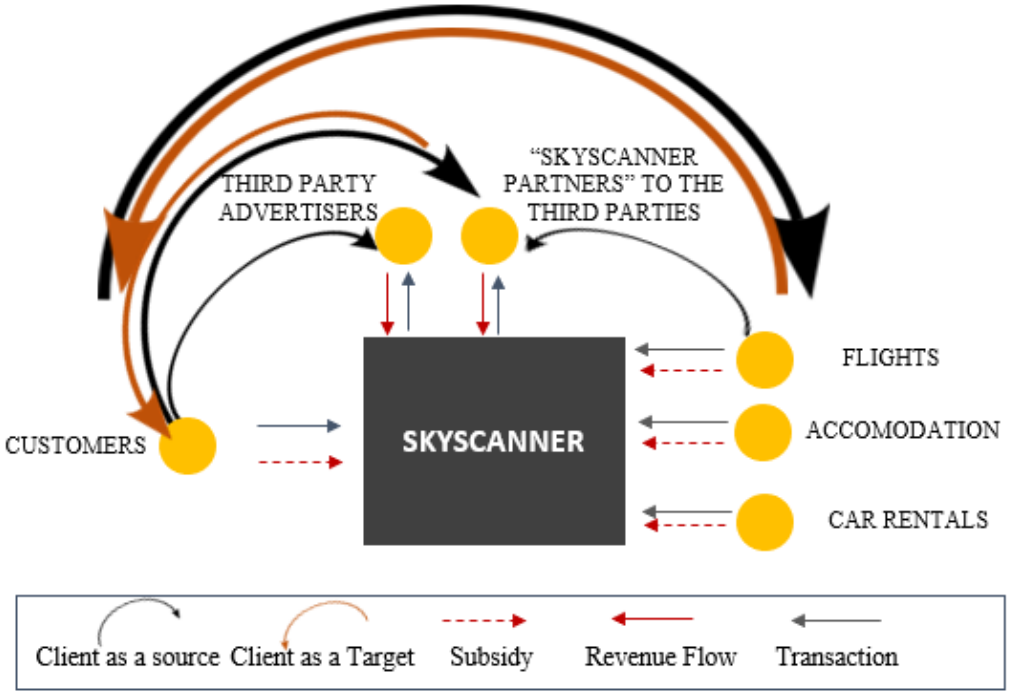

Figure 37 - Skyscanner Business Structure

and the service delivery companies) and Advertising Type 2 (which shows that the platform sell its data to the third party advertisers and allow them to leverage on Customer as a Source

relationship, this information is reached by looking at the privacy policy of the company) are also observed in the platform.

4.8.3. Booking.com

Third one is Booking.com which is a platform that connects customers and flight, accommodation and car rental companies for the booking services and is published in 1996 in Netherlands. The basic structure of the platform based on Business to Customer (B2C) model, the company's platform type is both mobile and web , its transaction type is offline (The same reason with Skyscanner which is explained above), it transaction content is the service and its key activity is data services (since it aims to connect and compare all the different prices of airlines, hotels and other accommodation etc., it is providing huge data to the customers within one platform). It has the similar transaction structure with Skyscanner with since it provides the similar services, that is why Booking.com also has Supply (side) extension. Moreover, similarly with Skyscanner, it has enhanced advertising strategy and strategy of advertising type 2. However, dissimilarly with Skyscanner, the Booking.com platform is not providing data trading services (figure 38).

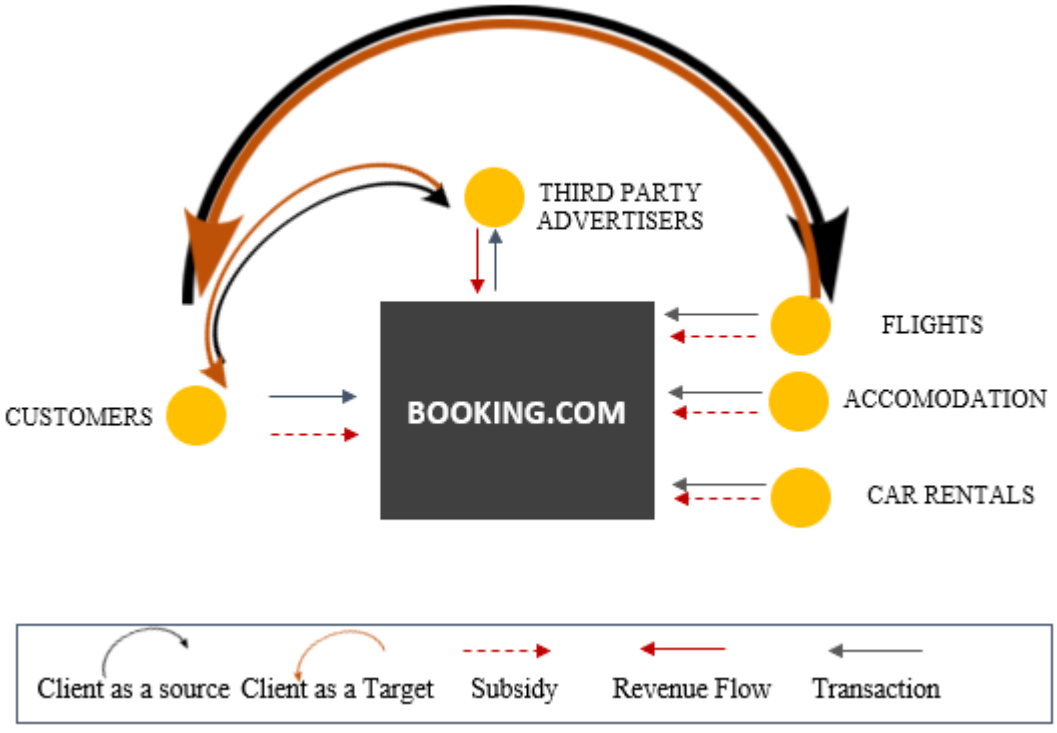

Figure 38 - Booking Business Structure

4.9. Shopping Category

The second category is "Shopping" which includes 10 cases: eBay.com, Amazon, AliExpress, Geek.com, letgo.com, Wish.com, Flipkart.com, Snapdeal, Groupon, Wallapop companies. EBay, Amazon and AliExpress cases will be shown as representative of the category.

4.9.1. eBAY

First one is, Ebay which is a multinational e-commerce company, launched in USA in 1995 which connects sellers and buyers thanks to the platform. Dimancea (2016) mentions the entire philosophy of eBay as "It is based on the idea that virtually anything that can be traded can be made possible through this Internet retailer, and this auction platform provider was implementing the concept of e-commerce even more forcefully." Moreover, the basic structure of the company is defined as follows: it is seen that it is operating both as "Customer to Customer (C2C) and Business to Customer (B2C)". Here it is interesting to mention that the platform connects the customers on both side who want to sell or buy any kind of product since 1995. Even though C2C concept is, now, more familiar to all of us, eBay has been one of the first applicants in the past.

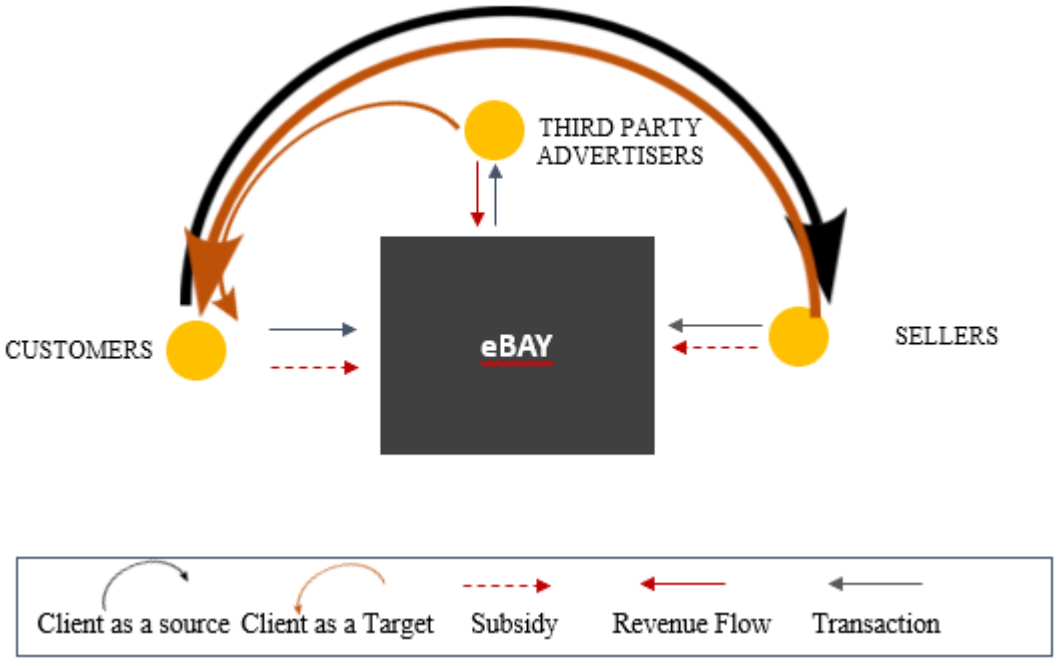

Figure 39 – Ebay Business Structure

In addition, the platform type is based on both mobile and web, its transaction type is "offline" (since the delivery and the usage of the product realizes in the physical or offline), the transaction content is "product" and its key activity could be both "community building" and "content creation" (since the platform constitutes a buyer seller community within the customers in order for them to sell any product they want without needing any business to sell it or buy it easily, also it allows sellers to show their products by creating their own page). If the platform structure and its strategies are examined, it will be seen that eBay does not apply any Supply (side) extension and keep its two-sided level. But on the other hand, it provides enhanced advertising and advertising type 2. This shows that eBay gives a chance to sellers to promote themselves among the other sellers by enhanced advertising (both Client as a Source and as a Target relationship). Also, eBay is selling its data to the third-party advertisers and allow them to use the data of the platform and create a Client as a Source relationship by advertising type 2. (The structure and strategies of eBay could be seen in the figure 39)

4.9.2. Amazon Shopping

As a second case, Amazon Shopping will be represented, but in general Amazon is a online retailer, an electronic e-commerce and cloud computing platform (cloud service provider) that connects mostly buyers and sellers. It is founded in USA in 1994. Although it is explaining under the "Shopping" category, Amazon company in general will be also considered while explaining the strategies in order to understand the company's evolution from two to multi sided. On the other hand, while explaining the basic structure, only Amazon Shopping will be considered. The basic structure of the company consists of: Business to Customer (B2C) business model. Furthermore, the platform type is based on both mobile and web, its transaction type is "offline" (since the delivery and the usage of the product realizes in the physical or offline), the transaction content is both "product" and "service" (because sellers are also able to sell both products and services like cleaning and assembly..etc.) and its key activity could be both "community building" and "content creation" (it based on the similar reasons with eBay).

The strategy of the Amazon based on the Supply (side) Extensions, since the company has 17 additional services besides Amazon shopping in order to transact with the customers: Amazon Music, Amazon Fresh, Amazon Kindle, Amazon Drive, Amazon Global, Amazon

Business, Amazon Photos and so on. With all these additional services, Amazon intends to satisfy broader needs of its customers about different industries. For example, with Amazon Music, the company connects the artists and the audiences with a platform and allow audiences to listen the music that they desire. Also, with Amazon Drive, the platform provides a cloud storage for the photos, videos and files and with Amazon Fresh, the company ensures a platform for the customers and grocery markets and connect them in order to provide a delivery to the customers who need grocery delivery in a reliable and fast way. Furthermore, Amazon Company is also using the strategy of enhanced advertising and Advertising Type 1 in Amazon shopping. With enhanced advertising, Amazon allows its sellers to promote themselves and increase their chances among their competitors and increase their visibilities. Also, the platform allows third party companies to publish an advertising in the website of Amazon shopping in order to be seen by the customers in the platform (Advertising Type 1). (Figure 40, only represents the business structure and strategies of Amazon Shopping. As it is explained before Amazon Company has a lot of Supply side expansion as an addition to Amazon Shopping)

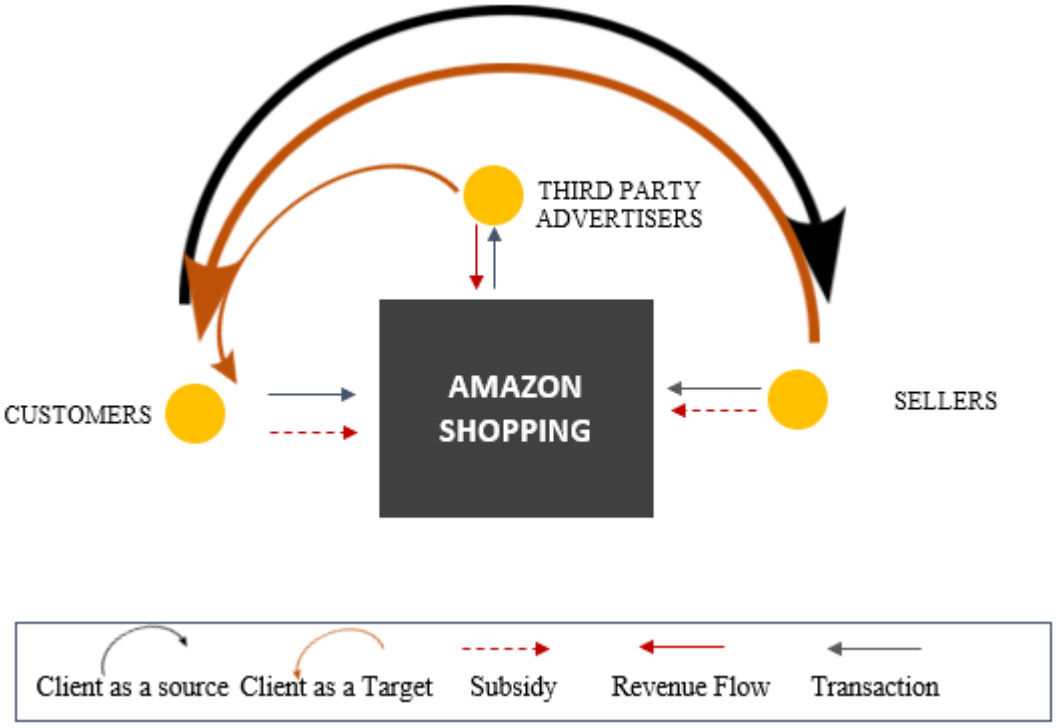

Figure 40- Amazon Shopping Business Structure

4.9.3. AliBaba

Third case AliBaba, which is founded in China in 1999, is a multinational two sided platform specializing in e-commerce, retail, Internet, AI and technology. The company provides web portals, electronic payment services, shopping search engines and cloud computing services. It shows that AliBaba provides various services in different business and sectors internationally and it is accepted that the world's most admired companies by Fortune.

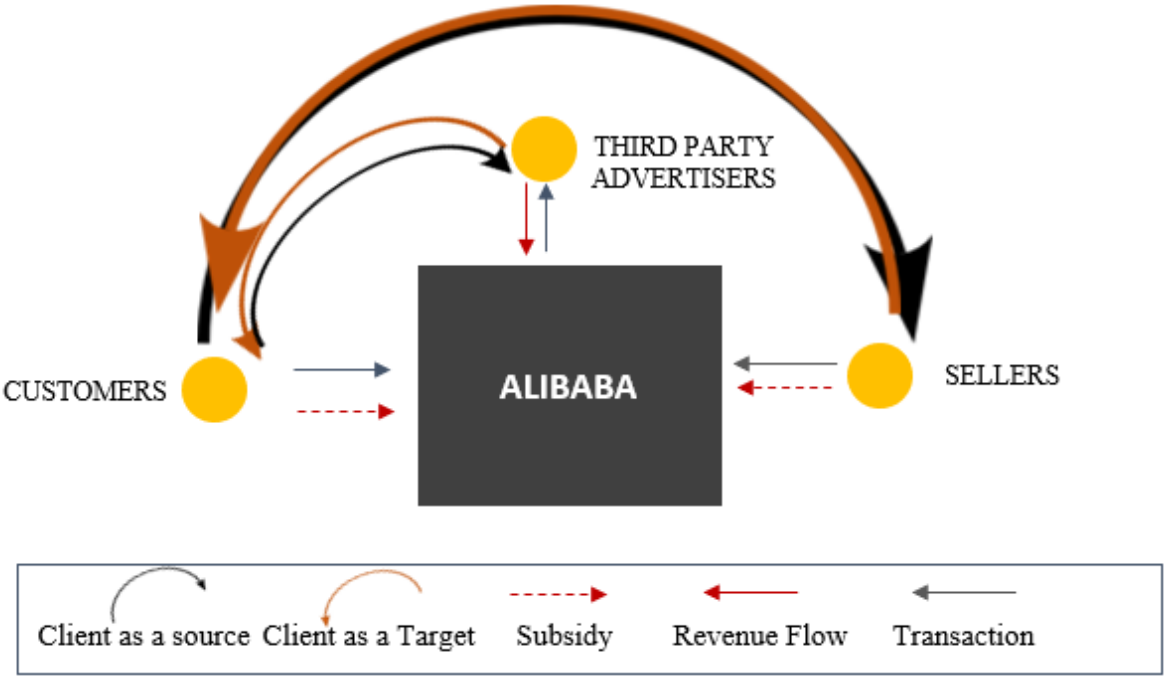

Figure 41 - Alibaba Business Structure

The basic structure of the company is based on Business to Customer (B2C) business model. additionally, the platform is available on both mobile and web, its transaction type is "offline" (since the delivery and the usage of the product realizes in the physical or offline), the transaction content based on "product" and its key activity could be both "community building" and "content creation" (it based on the similar reasons with eBay and Amazon). Moreover, Similarly with Amazon Company Alibaba is using Supply (Side) extension strategy in order to provide additional services to its customers and satisfy broader needs in different sectors. Therefore, the company has many additional services like: AliExpress, AliBaba Cloud, Alipay, AliMusic, AliHealth, AliSports, Alimama, Cainiao Network and so on. As it is explained in the Amazon Shopping case, figure 41 is only showing the shopping platform's structure which connects two sides (buyers and sellers), but when the total AliBaba Group is considered there are many different sides that make the transaction possible for different sides.

Furthermore, AliBaba is using the strategies of Enhanced Advertising and Advertising Type 2 strategies through the platform. Enhanced Advertising allows sellers to promote themselves by using the data gathered by Alibaba and to reach the right customers with higher visibility. Meanwhile AliBaba sells its data to third party advertisers and allow them to use the platform "Client as a Source" which is defined as Advertising Type 2. (figure 41)

4.10. Music & Audio Category

Third category is "Music & Audio" and it includes the 10 cases which is examined as follows: Spotify, SoundCloud, Apple Music, Google Play, Pandora, TuneIn, Deezer, Amazon Music, Gaana, Saavn Music. The three cases selected are Spotify, SoundCloud, and Apple Music in order to explain the strategies in the Music & Audio Category.

4.10.1. Spotify

First one is Spotify, which founded in Sweden in 2006, is a music streaming service which connects the artists and record companies and audiences. Spotify is providing a freemium service which includes basic features are free with some limitations but premium services happens with paid subscriptions. Its basic structure based on the Business to Customer (B2C) business model. Furthermore, the platform is available both from mobile and web, its transaction type is "digital" (since all the process happens in digital, there is no physical connection with a platform during the service and after the service delivered), also, the transaction content based on "service"(since the platform providing a music and audio) and its key activity could be both "community building" and "content creation" (Spotify intends to create a large community and also the platform enables to create a profile for every user of the platform).

On the other hand, Spotify uses some strategies to evolve its platform to become multi sided, to catch more participants and to deliver better services by understanding its customers better. One of the strategies of Spotify is creating a "Data Driven Value-Added Services" which is called "Spotify for Artists". Spotify makes its data available and accessible only for artists which are registered in the platform. This available data includes relevant insights and statistics about the audiences that helps artists to understand them better and to take right decisions about their music plans. Moreover, as a second and third strategies, Advertising type 1 and 2 are observed in the platform. In the free version, advertisings from third parties are stated between the songs at certain intervals which is Advertising Type 1 and the relationship is Client as a Target. Also, Spotify indicates its privacy policy that they are selling their data

to third party advertisers which is Advertising Type 2. (The business structure of Spotify could be seen in the figure 42)

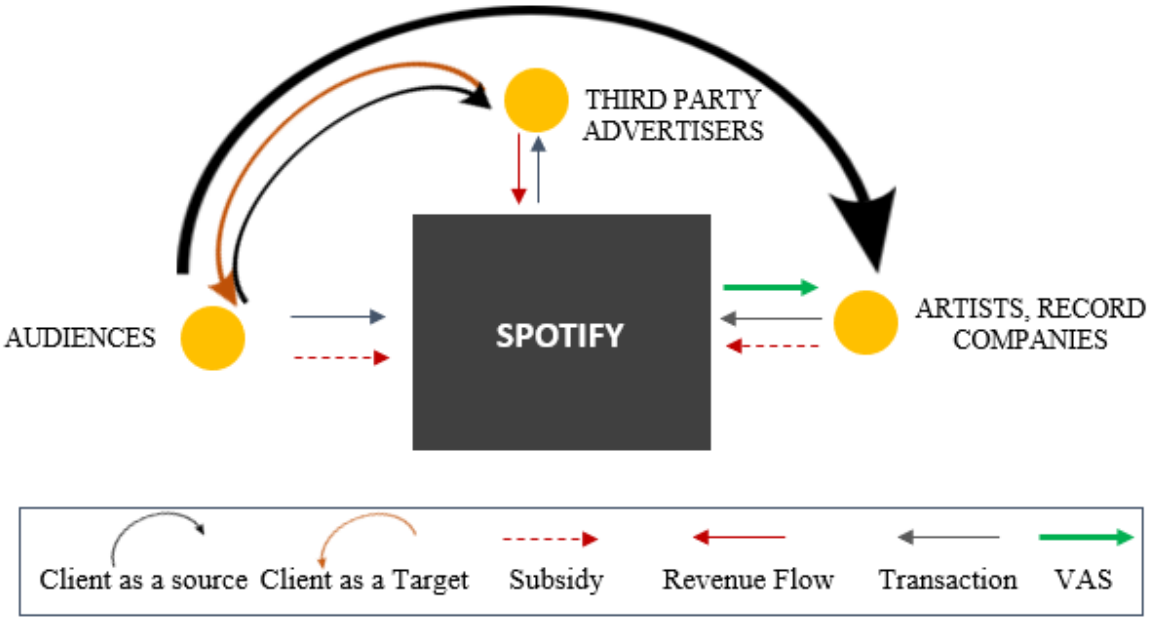

Figure 42 - Spotify Business Structure

4.10.2. SoundCloud

Second one is Soundcloud, which is world's largest music and audio platform, allows participants to discover the great selection of music and also, enables participants to share demos, tracks and podcast and share (directly connect) with the artists. It is founded in Germany in 2007. Its basic structure based on the Customer to Customer (C2C) business model since the platform allows participants both listen to the music and share demos (or tracks, songs and podcasts). Additionally, the platform could be reachable both from mobile and web, its transaction type is "digital" (Similar reasons with Spotify, since they are delivering similar services), the transaction content based on "service"(since the platform providing a delivering music and song sharing service) and its key activity could be both "community building" and "content creation" (in its website, SoundClound indicates that the aim is to create a large community and also the platform gives a chance to create a profile for every user of the platform).

Moreover, SoundCloud has complex strategies including a lot of factors which make it multi sided rather than two sided. First strategy is, they have made a Supply (Side) Extension by adding the side of "Soundcloud for developers" (for example, it enables developers to build

applications which allow users to upload and share sounds across the web), also the platform is using both an Enhanced Advertising and Advertising Type 2. This indicates that Soundcloud provides the participants (could be accepted as artists) who are sharing their demos (or tracks, podcasts) to promote themselves by Enhanced Advertising (both Client as a Source and as a Target relationship). Also, by looking at their Privacy Policy it is seen that SoundCloud is selling its data to the third-party advertisers and allow them to use the data of the platform and create a Client as a Source relationship by Advertising Type 2. Moreover, the platform is using Data Driven Value Added Services to its artists inside of the platform. The name of service is "SoundCloud Pro" which allows artists to understand their audiences better by getting many data and insights which is provided by the platform as a premium service (available for the artists only with additional payment). (figure 43)

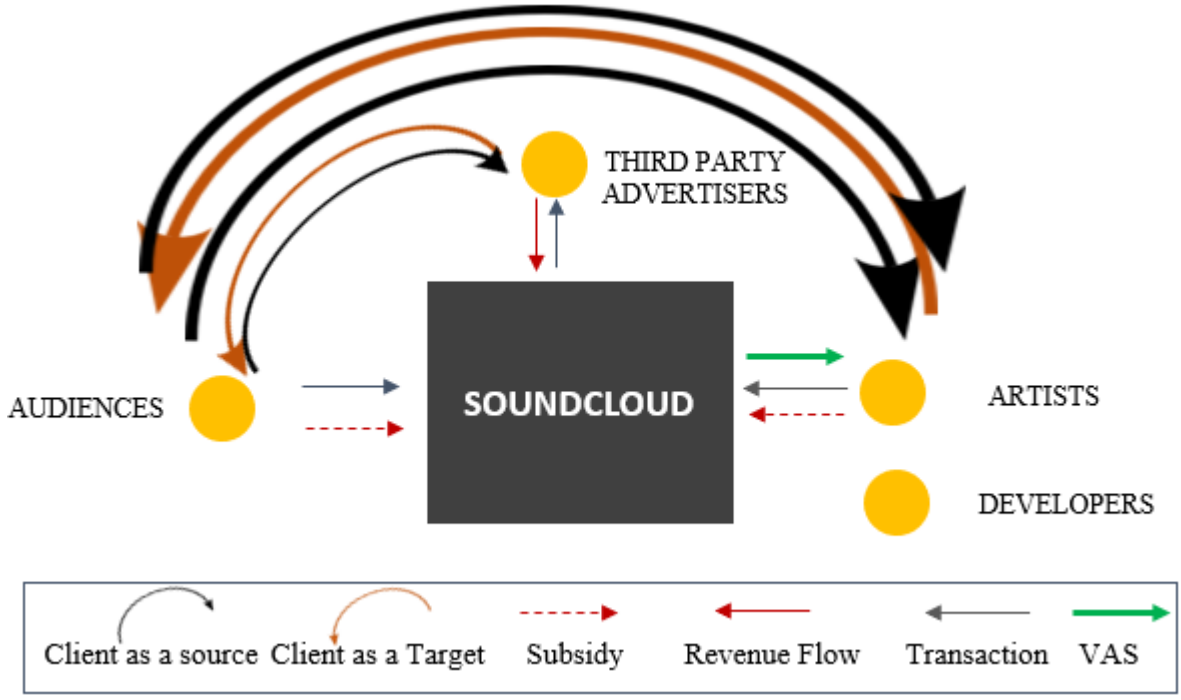

Figure 43 - Soundcloud Business Structure

4.10.3. Apple Music

Third case is Apple Music, which is a music and video streaming service launched by Apple Inc. in 2015 and it allows users to choose music to stream to their device on-demand, or they can listen ready playlists or internet radio station Beats 1. Its basic structure based on the Business to Customer (B2C) business model since the platform connects the audiences and record companies or professional artists. Also, the platform is available both from mobile and web, its transaction type is "digital" (Similar reasons with Spotify and SoundCloud, since they

are delivering similar services), the transaction content based on “service”(since the platforms a music and audio platform for audiences to listen music) and its key activity could be “community building” (Since Apple Music tries to create a large, closed community like in other products of Apple by offering unique services or experiences).

Moreover, Apple Music’s strategy mainly based on “Data driven value added services” which is called “Apple Music For Artists” which could be accepted similar with Spotify for Artists, since they are, similarly, offering Artists (or Record Companies) data gathered by the platform in order for them to get some insights about the audience and to create right strategy. Also, it is observed that only Advertising Type 2 is used which is reached from privacy policy in the website.(figure 44)

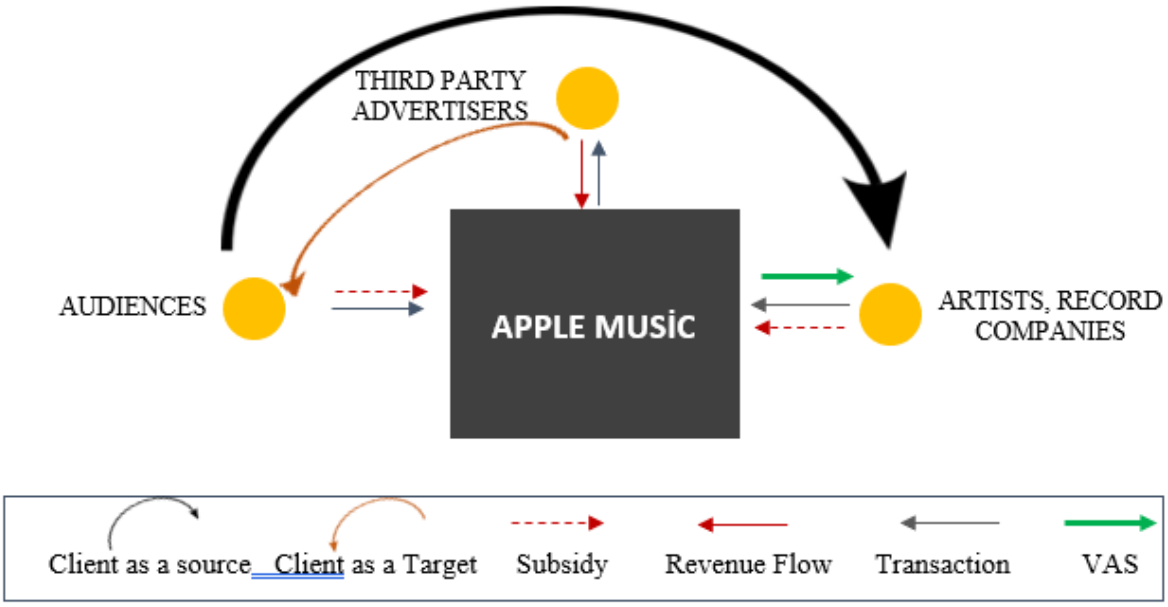

Figure 44- Apple Music Business Structure

4.11. Maps & Navigation Category

Fourth Category is “Maps & Navigation” which includes 10 cases as follows: Uber, Gett, Grab, myTaxi, Easy, Lyft, Via, Flywheel, Olacabs, zTrip. Uber, Gett and Grab are the selected in order to represent detailly according to their interesting strategies.

4.11.1. Uber

First case is Uber, which is a peer-to-peer ridesharing, taxi cab, food delivery, and transportation network company, founded in USA in 2009 and it is seen as the prominent in sharing economy. Its basic structure based on the Customer to Customer (C2C) business model (since the basic model of Uber gathers the riders and drivers into the same platform.)

Also, the platform is available both from mobile and web, its transaction type is “offline” (Uber is delivering all its services in the physical platform such as ride sharing and food delivery), the transaction content based on “service” (ride sharing, food delivery..etc) and its key activity could be “community building”.

Furthermore, the strategies of Uber mostly based on Supply side extensions (many) and then data trading which is called Uber movement. In the Supply (side) extension strategy, it is observed that Uber expands its transaction from two to multi sides by adding different services for customers but still keeping the basic transactional strategy of the platform. One of the most well-known additional services of Uber is Uber Eats which is a food delivery service linking restaurants and customers. Also, Uber has other additional ride sharing service for business which provides transportation service specifically for companies. In addition, there is “Uber Freight” which is the other additional transactional service that connects shippers and carriers and customers who would like to send a cargo. Further, there is “Uber Health” service that is launched in 2017 and it is defined by Uber as “Since July 2017, we’ve been partnering closely with healthcare organizations to build something together to meet their unique transportation needs. Today, Uber Health is a HIPAA compliant technology solution that’s helped tens of thousands of patients and caregivers get to and from care. Providers can also use Uber Health to help get crucial staff to work.” (Uber Health,2018)

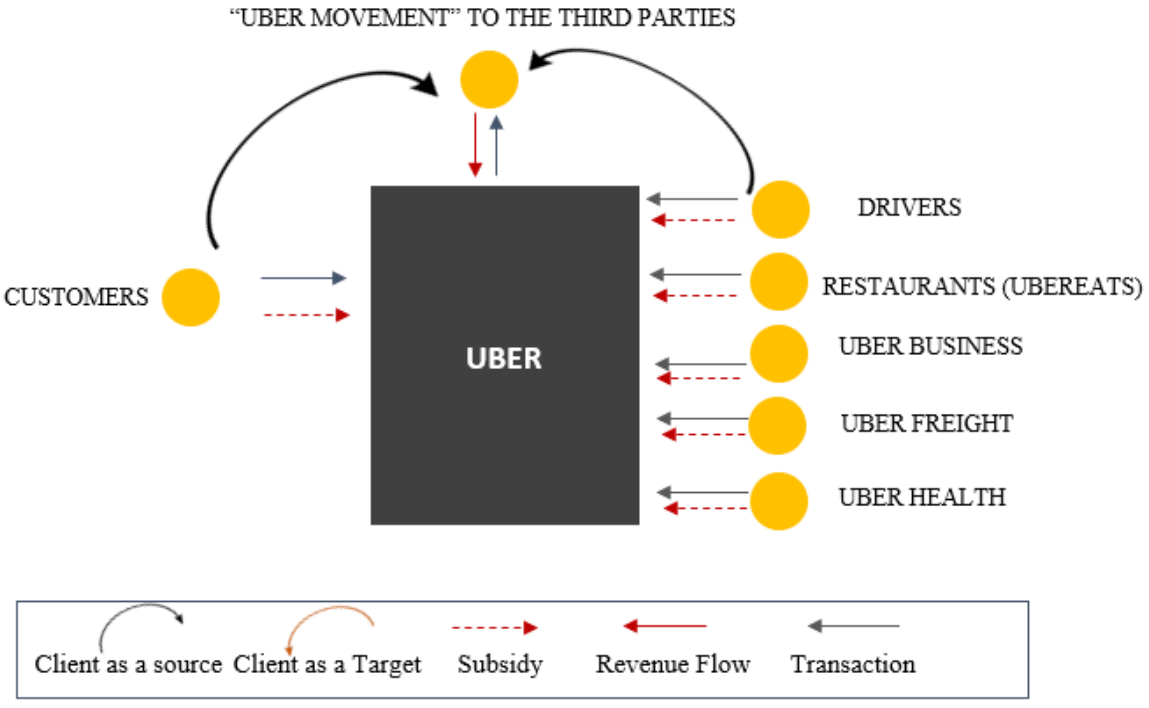

Figure 45 – Uber Business Structure

On the other hand, as another strategy: Uber Movement which is the data trading platform, is created by Uber. The platform keeps all the data gathered by the service for providing anonymized data from over two billion trips to help urban planning worldwide (Trabucchi and Buganza, 2018) (figure 45)

4.11.2. Gett

Second case is GETT which is previously known as GetTaxi, is founded in Israel in 2010. is an international on-demand mobility platform that links customers with transportation, goods and services. Its basic structure based on the Customer to Customer (C2C) business model (Gett gathers the riders and drivers into the same platform. Each person could be the driver by registering the platform) Also, the platform is available both from mobile and web (Customers have a chance to order a taxi or courier both using the company's website, or the company's GPS-based smartphone app.), its transaction type is "offline" (Since the Gett has a service of ride sharing which happens in physical environment), the transaction content based on "service" (ride sharing) and its key activity could be "community building" between drivers and riders.

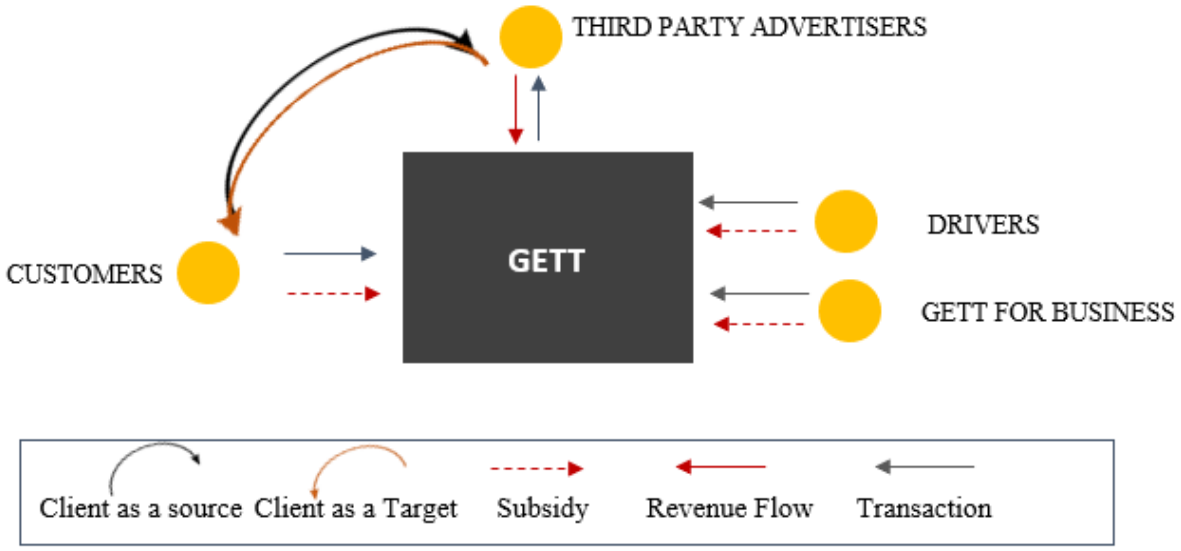

Figure 46 – Gett Business Structure

In addition, when it is considered the strategies of Gett, it is seen that Gett has done Supply (side) extension and connects the employees and drivers (the extension allows the workers of the companies to get a driving service by using Gett application). Also, Gett sells its data to third party advertisers which is the strategy of Advertising Type 2 (this information is reached from the privacy policy of Gett).(figure 46)

4.11.3. Grab

Third case, GRAB, which is founded in 2012 in Singapore, is offering ride sharing, food delivery and logistics services both to Singapore and other Southeast Asian countries. Its basic structure based on both Business to Customer (B2C) and Customer to Customer (C2C) business model. Also, the platform is available both from mobile and web, its transaction type is "offline" (Since the Grab services like ride sharing happen in physical environment), the transaction content based on "service" (ride sharing, food delivery, logistics.. etc.) and its key activity could be "community building" especially between riders and drivers.

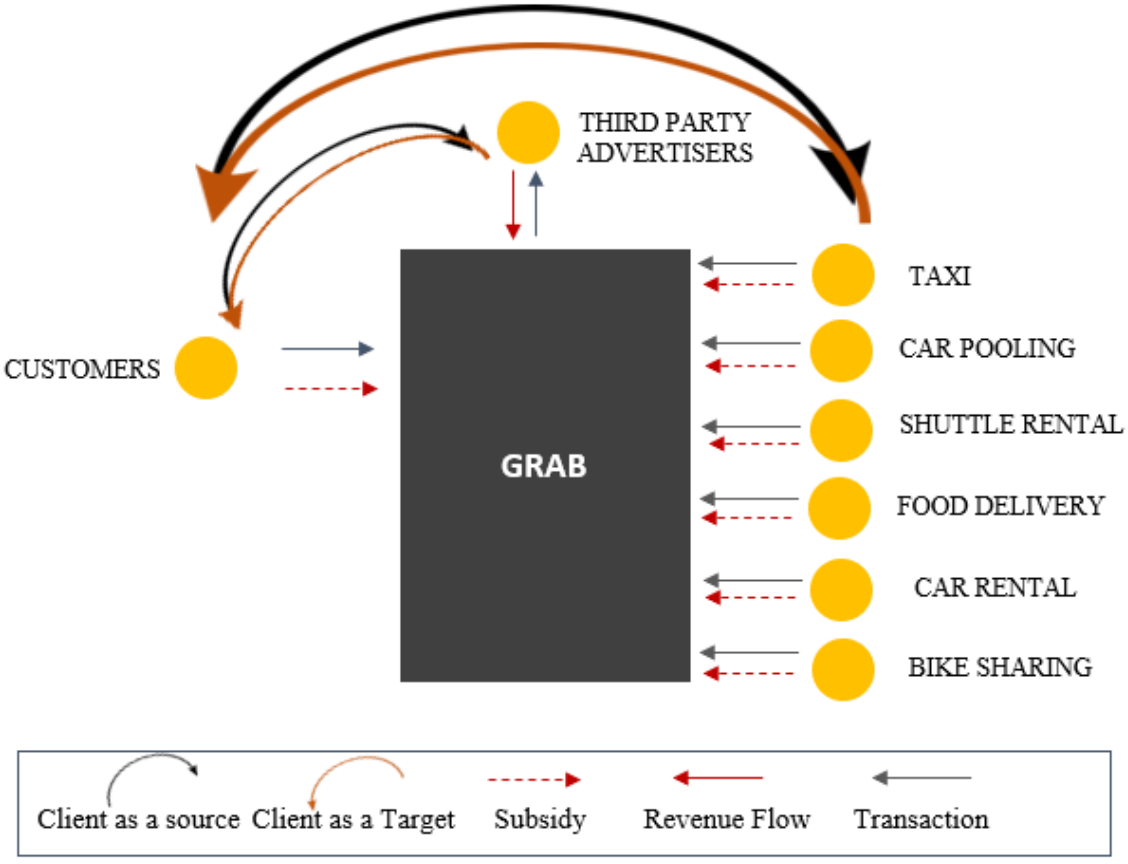

Figure 47 – Grab Business Structure

Moreover, it is observed that there are a lot of strategies that Grab is using in order to accept them as multi sided market. First one is Supply (side) extension. Grab company adds many additional services in the platform while keeping the basic structure of the platform. It is seen that there are taxi, car pooling, rent a car, rent a shuttle or big busses, bike sharing and food delivery services which makes Grab a multi sided platform. Also, the strategies of Enhanced Advertising and Advertising Type 2 is observed (figure 47).

4.12. Lifestyle Category

Fifth Category is Lifestyle" which includes 10 cases: Care.com, Tinder, Find Me Gluten Free, Woo, Redfin Real Estate, Housing, Keller Williams, Hot or Not, Movoto, SurveyMini. The cases which will be shown detailly are Care.com, Tinder, Find Me Gluten Free in order to represent strategies within the category.

4.12.1. Care.com

First case, Care.com which is founded in USA in 2007, is a platform that helps user to find child care, senior care, pet care, or house-keeping services. Its basic structure based on and Customer to Customer (C2C) business model (Since the platform allows participants to be a service provider which means participants have a chance to become care worker in different areas like petcare, childcare etc. and at the same time participants have a chance to get a service of the areas mentioned) Also, the platform could be reached both from mobile and web, its transaction type is "offline" (Since the caring service realizes in the physical environment), the transaction content based on "service" (pet care, childcare, senior care and housekeeping services) and its key activity could be "community building" between service provider and the service taker.

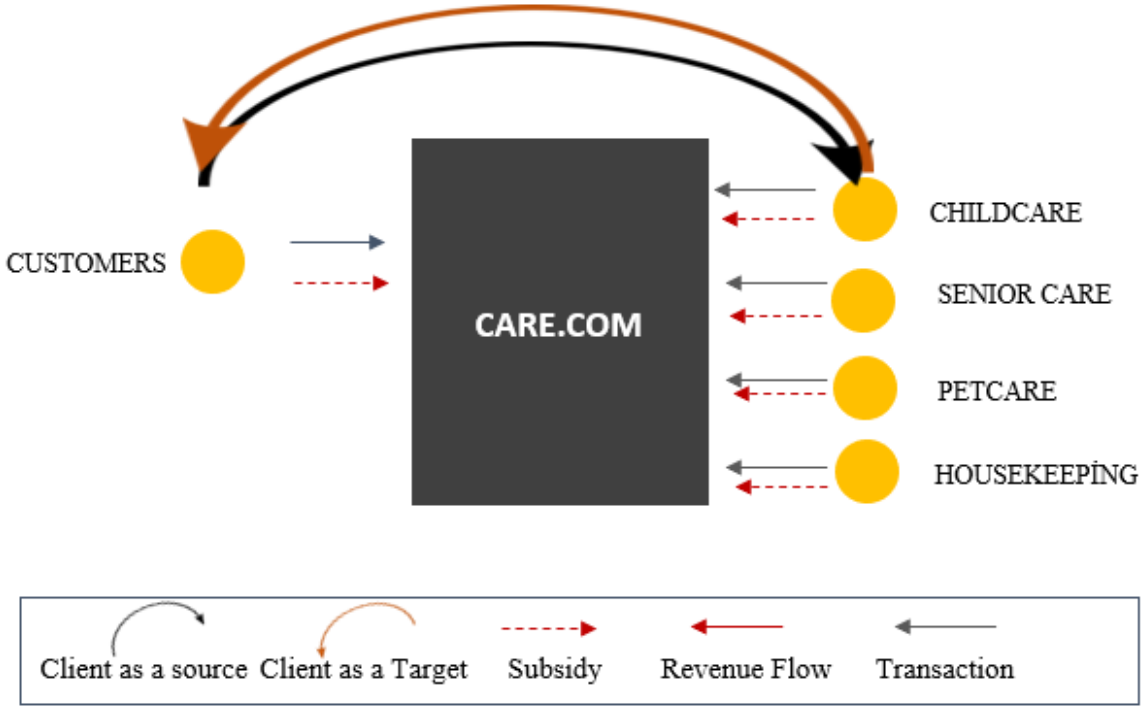

Figure 48 – Care.com Business Structure

Moreover, the strategies of Care.com include Supply (side) extension and enhanced advertising. It is clearly seen that Care.com prefer to provide more than one services to the users of the platform in order to reach more customer and to increase the transaction area of the company. Meanwhile they are offering to the participants who are providing any kind of services the opportunity to promote themselves inside of the platform in order to increase their chance of being selected (Enhance Advertising type). (Figure 48)

4.12.2. Tinder

Second case, Tinder which is launched in USA in 2012, is a location-based social search platform that enables users to like or dislike other users in order to be matched with them. Its basic structure based on and Customer to Customer (C2C) business model. Also, the platform is available both from mobile and web (but mostly it is used by mobile application), its transaction type is "digital" (Since Tinder connects women and men by matching them according to their preference and allow them chat and interaction), the transaction content based on "service" (matching platform between men and women) and its key activity could be "community building" between women and men. Moreover, its strategies include Advertising Type 1 and Supply (side) Extension. Since Tinder allows third parties to give an advertising inside of the platform (Advertising Type 1). And Tinder extends the transaction by opening an additional service between women in order to build friendship between them, the name of an additional service is Hey! Vina which shows that Tinder also apply supply (side) extension to target more people. (Figure 49)

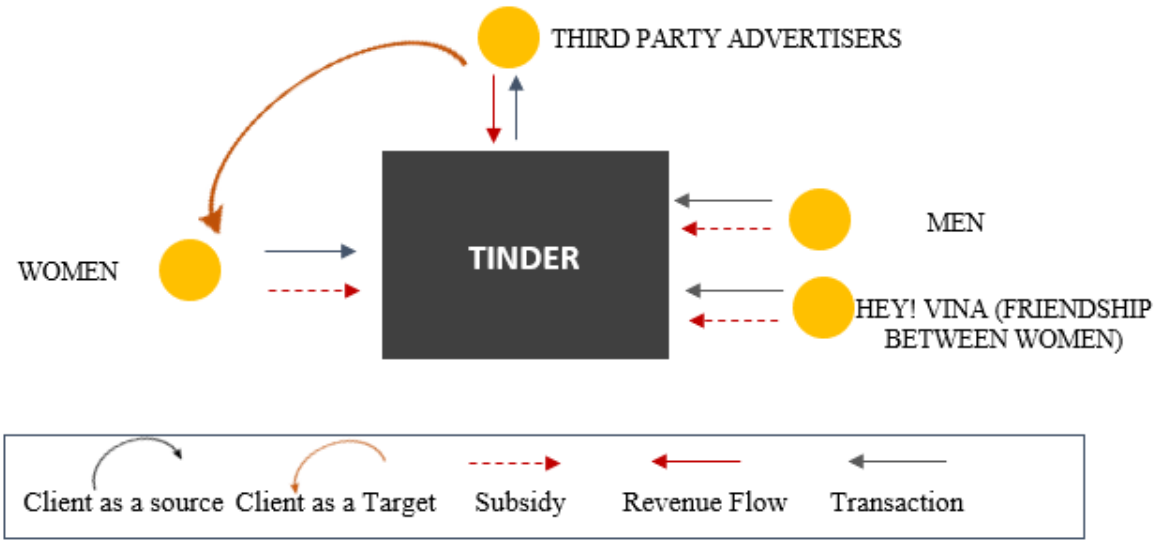

Figure 49 – Tinder Business Structure

4.12.3. Find Me Gluten Free

Third case, Find Me Gluten Free which is funded in 2010 in USA, allows customers who have gluten tolerance to find gluten free friendly restaurants easily, so it is the platform that links these customers with restaurants which are gluten free friendly. Its basic structure based on and Business to Customer (B2C) business model (since it is between restaurants and customers). Also, the platform is available both from mobile and web, its transaction type is "offline" (Since the customers, after using the platform, go and eat in the restaurants founded by the platform which is a physical or offline activity), the transaction content based on "service" and its key activity could be "community building" (since the platform tries to make easier to find a gluten free friend restaurants for the customers who have gluten tolerance by creating great community). Furthermore, when the strategies of the platform is considered, it is seen that the platform includes only Advertising Type 1 (it means that it allows third parties to give an advertising inside of the platform). There is no other strategies for now for this platform. (Figure 50)

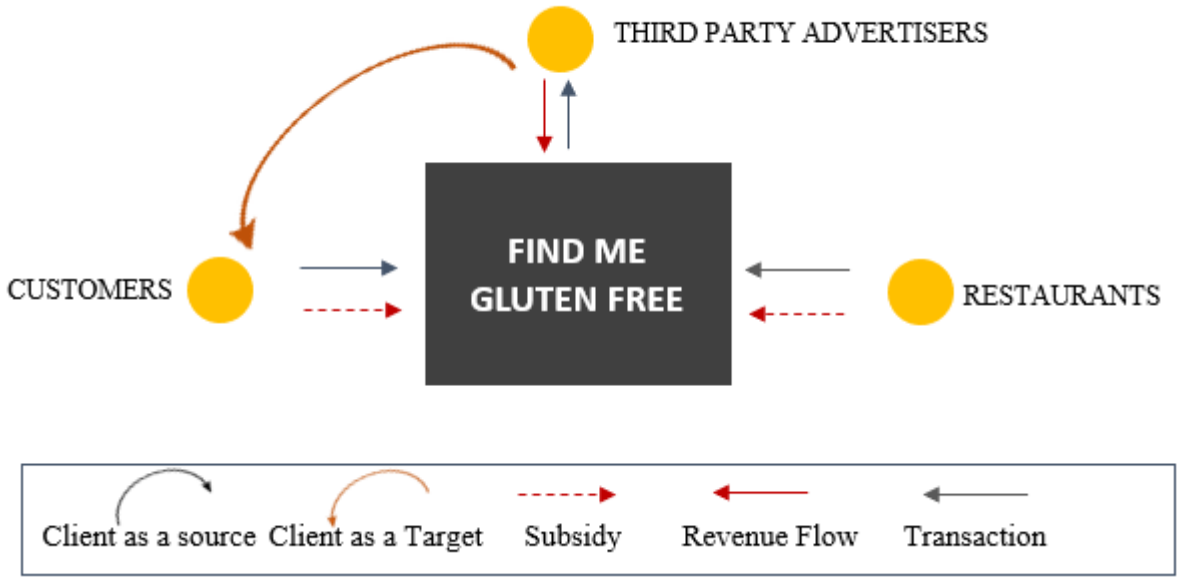

Figure 50 – Find Me Gluten Free Business Structure

4.13. House & Home Category

Six category is "House & Home", which includes 10 cases: Zillow Real Estate and Rentals, Trulia Real Estate and Rentals,Trulia, Realtor Real Estate and Rentals,, Hotpads Apartments and Home Rentals, Zillow Apartments and Rentals, Common Floor, Domain, Zip Realty Real Estate, Homesnap Real Estate and Rentals.

4.13.1. Realtor

First case, Realtor which is founded in USA in 1996, is a real estate listings website which has claims to become the largest website in the United States for real estate listings, and in 2016 was valued at $2.5 billion by Morgan Stanley. Its basic structure based on Business to Customer (B2C) business model (Since platform connects the buyers and agencies in order to find houses to buy or rent, also there is selling opportunity within the platform, but the structure does not provide direct interaction between buyers and sellers that is why it based on business to customer) Also, the platform could be reached both from mobile and web, its transaction content based on "service" (housing platform enabling buying, selling, renting operations) its transaction type is "offline" (Since after buying selling or renting process , the house which is an physical entity change its owner or is used for different user for a while if it is rented), and its key activity could be "content creation" (since the platform allows house sellers to show theirs houses, all the features and details by creating a profile). On the other hand, they have couple of strategies used by the platforms. Firstly, the platform has supply side extension which includes buying, selling, renting and mortgage opportunities for the users in the platform. Also, company uses the Data Driven Value Added service as a different strategy by sharing its data with the sellers or renters in the platform with the name of "Realtor My Home". Moreover, it is seen that the platform is using the enhanced advertising strategy and strategy of Advertising Type 2. (figure 51)

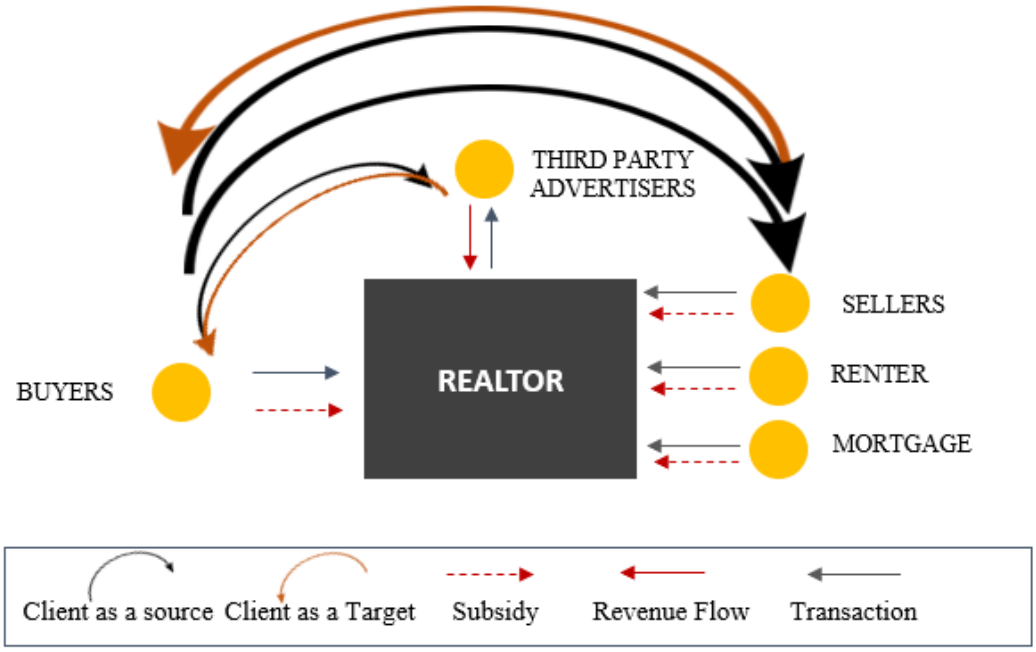

Figure 51 – Realtor Business Structure

4.13.2. Hotpads

The second case, Hotpads which is founded in USA in 2005 is a map-based housing platform which enables user to find the house considering its location.by using the platform, buying, renting or selling the house is available. Its basic structure based on Business to Customer (B2C) business model (Since platform connects the buyers and agencies in order to find houses to buy or rent, also there is selling opportunity within the platform, but the structure does not provide direct interaction between buyers and sellers that is why it based on business to customer) Also, the platform could be reached both from mobile and web, its transaction content based on "service" (housing platform enabling buying, selling, renting operations) its transaction type is "offline" (Since after buying selling or renting process , the house which is an physical entity change its owner or is used for different user for a while if it is rented), and its key activity could be "content creation" (since the platform allows house sellers to show theirs houses, all the features and details by creating a profile). Moreover, the platform applies some strategies among the strategies mentioned in the beginning of the result part in order to keep (or increase) it position in the market. These strategies are enhanced advertising type 1 and type 3 and supply (side) extension. Firstly, it is seen that by Enhanced Advertising, platform allows sellers to promote themselves by using the platform. And with Advertising Type 2, it is seen that the platform sells its data to the third-party advertisers (information from privacy policy). On the other hand, the platform has more than two sides since it has both selling and renting options, so it shows that the platform is using supply side extension in order to reach more people by having more services.(figure 52)

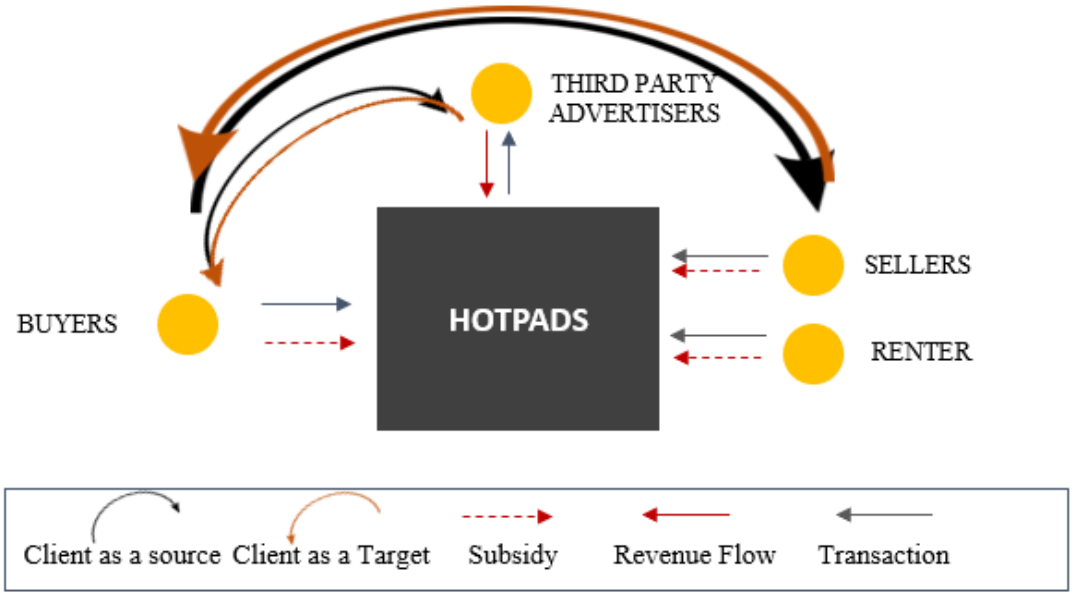

Figure 52 – Hotpads Business Structure

4.13.3. Domain

Third case, Domain which is founded in Australia in 1999, is a real estate company that enables to buy or sell houses by using the platform.in Australia, it is best known portal and second largest real estate marketing business having a 90% market penetration. Its basic structure based on Business to Customer (B2C) business model (similar reasons with Realtor and Hotpads) Also, the platform could be reached both from mobile and web, its transaction content based on "service" (housing platform enabling buying and selling operations) its transaction type is "offline" (Since after buying or selling process , the house which is an physical entity change its owner which is the same reason with Hotpads), and its key activity could be "content creation" (similar reasons with Hotpads and Realtor)

Furthermore, the platform applies some strategies similarly with Hotpads except the strategy of Advertising type 2 which means that also Domain has Supply side extension which includes both seller and renter option and has Enhanced Advertising which allows buyers to promote themselves by using the platform (figure 53).

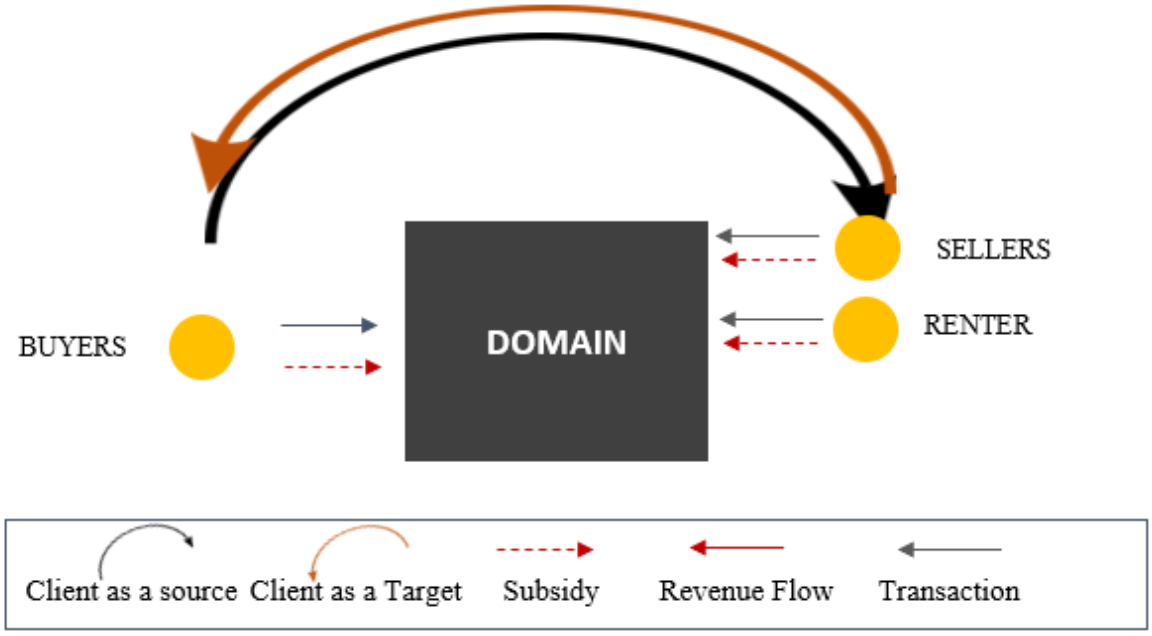

Figure 53 – Domain Business Structure

4.14. Food & Drink Category

Seventh category is "Food & Drink", which includes Deliveroo, Just Eat, Zomato, BeyondMenu, Talabat, Eat24, FoodPanda (Foodora), UberEats, GrubHub, OpenTable companies. And the cases that will be shown detailly are: JustEat, Deliveroo and Zomato according to their interesting business strategies.

4.14.1. Deliveroo

First case, Deliveroo which is founded in UK in 2012, is a food delivery platform that connects restaurants and customers with riders who transport orders from restaurants to riders. Its basic structure based on Business to Customer (B2C) business model (Since platform connects the restaurants and customers) Also, the platform could be reached both from mobile and web (it is mostly used from mobile application), its transaction type is "offline" (Since the delivering service realizes in the physical environment), the transaction content based on "service" (food delivery) and its key activity could be "community building" especially within riders. Moreover, as the strategy of Deliveroo, the platform allows restaurants to promote and advertise themselves to the right customers in the platform by using the data gathered by the Deliveroo, and have a chance to reach more customers. So, it could be said that the platform has Enhanced Advertising strategy also by looking at the privacy policy of Deliveroo it is seen that Deliveroo is selling its data to third party advertisers which is called Advertising Type 2. Also, the platform connects the customers both with riders and restaurants. Actually, the direct touch is provided with the riders, since they are delivering the food ordered by the customers, but also customers reach the restaurants by using the platforms. So Deliveroo is using the strategy of Supply Side Extension.(figure 54)

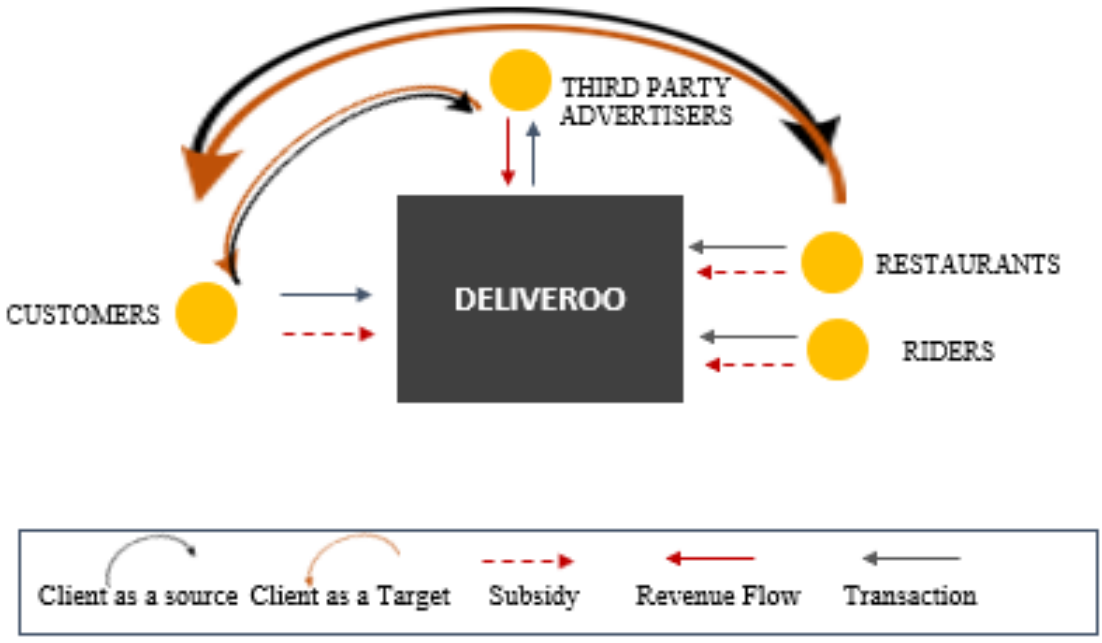

Figure 54 – Deliveroo Business Structure

4.14.2. JustEat

Second case, Just Eat which is founded in UK in 2000, is the platform that links independent take-out food outlets and customers in the same platform in order to do food delivery to the customers. Its basic structure based on Business to Customer (B2C) business model (Since platform connects the restaurants and customers like in the case of Deliveroo) Also, the platform could be reached both from mobile and web (it is mostly used from mobile application), its transaction type is "offline" (Similar reason with Deliveroo), the transaction content based on "service" (food delivery) and its key activity could be "community building"

Furthermore, the strategies of Just Eat include only Enhanced Advertising among the strategies examined before. This situation shows that Just Eat still is using its basic structure only adding the promoting (or advertising) opportunity to its participants which are restaurants (Enhanced Advertising).(figure 55)

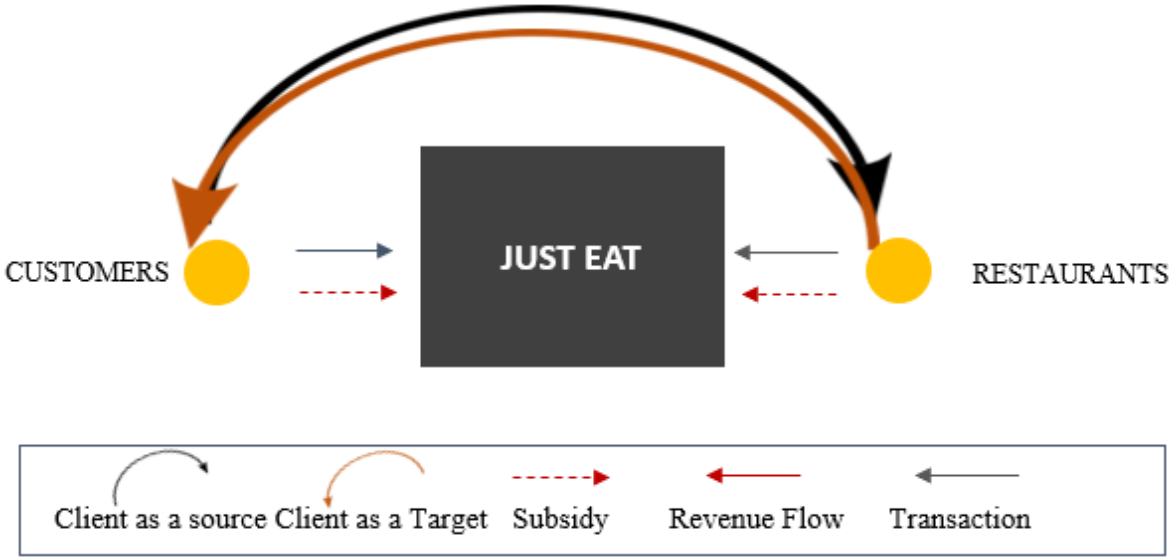

Figure 55 – Just Eat Business Structure

4.14.3. Zomato

Third case, Zomato which is founded in India in 2008, is a platform that enables users to search restaurants, to read/write comments and to evaluate them. Its basic structure based on Business to Customer (B2C) business model (Since platform makes possible the search of the restaurants for customers) Also, the platform is available both from mobile and web, its transaction type is "digital" (the service is searching for the restaurants and the searching process occurs completely digital), the transaction content based on "service" (restaurant search) and its key activity could be "community building" (since the platform tries to create

a community for the people who are searching for the information about restaurants or try to discover new restaurants)

The strategies of the company consist of enhanced advertising which allows restaurants to promote themselves and to appear at the top of the list as a result of the search and Advertising Type 2 which means that the platform sells its data to the third-party advertisers (Client as a source relationship). (figure 56)

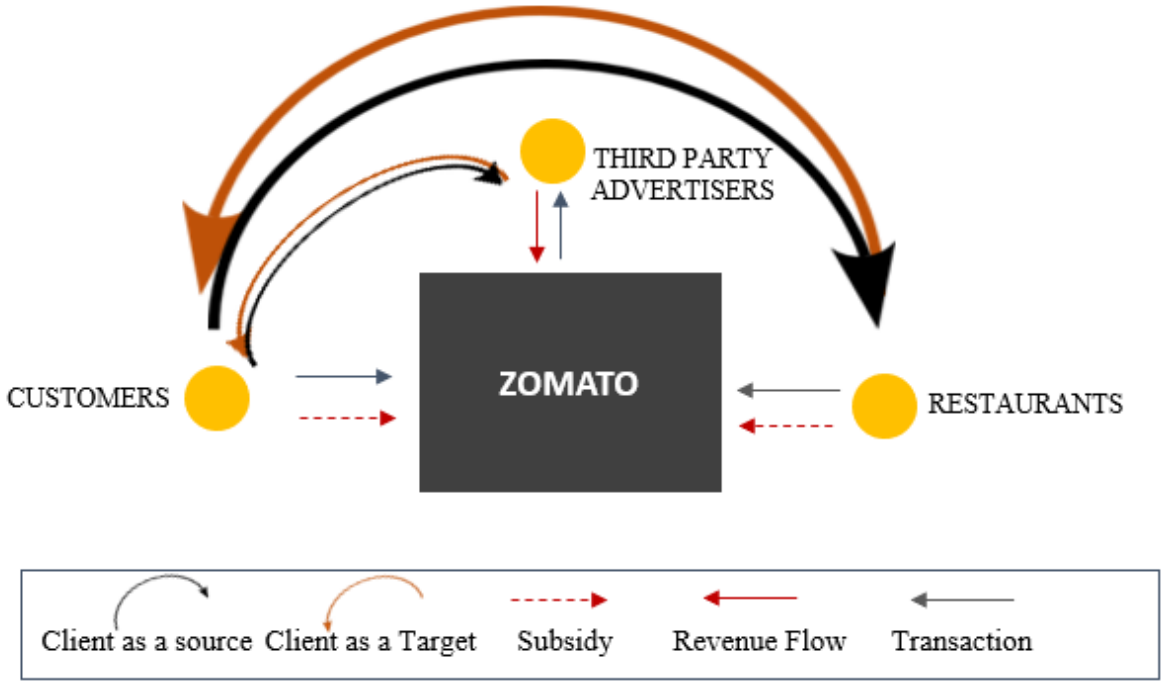

Figure 56 – Zomato Business Structure

4.14. Entertainment Category

Eighth category is "Entertainment" that includes 10 cases as follows: YouTube, Netflix, Steam, Google Play, Fandango, Hulu, Crunchyroll, Twitch, Dailymotion, BookMyShow. YouTube, Netflix and Steam companies will be represented detailly in order to examine the strategies in the category and the evolution of the companies.

4.14.1. YouTube

First case, YouTube which is launched in 2005 in USA, is a video sharing platform that enables users to upload user-generated videos, rate, share, report, watch and comment on videos, and subscribe to other users. Its basic structure based on Customer to Customer (C2C) business model (Since platform connects audiences and content creators, and allow all the platform users to create their own content and upload a video). Also, the platform is available both from mobile and web, its transaction content based on "service" (video sharing

platform), its transaction type is “digital” (the service of YouTube occurs completely on digital through creating videos, uploading or watching videos, commenting etc.), and its key activity could be “community building” (since the platform tries to create a community between content creators and audiences).

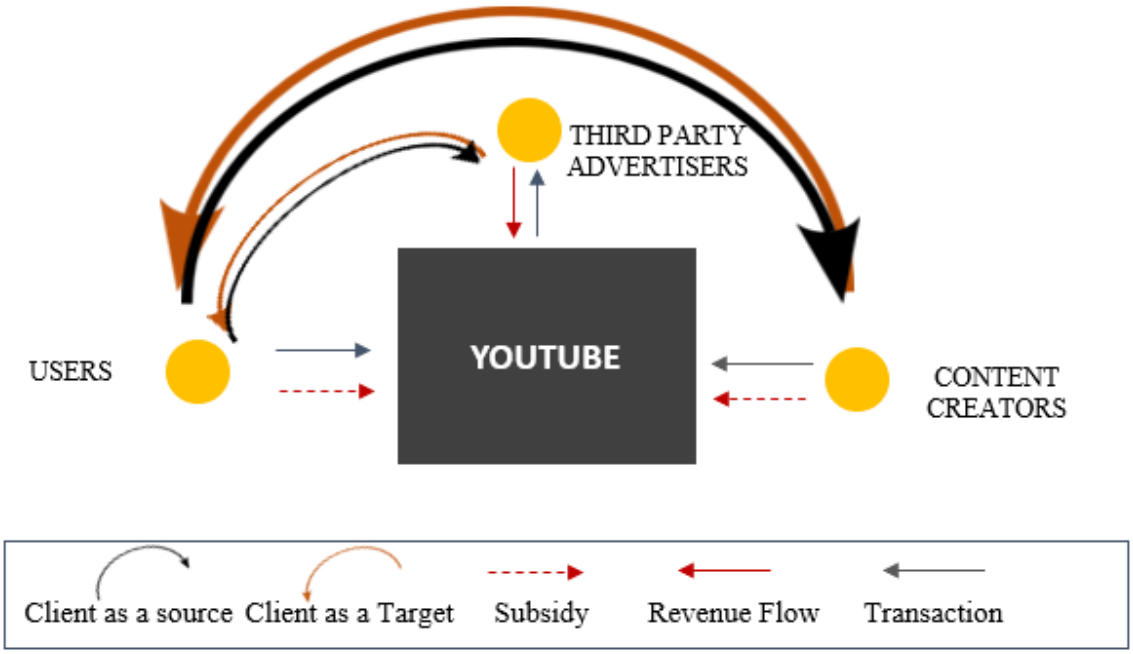

Figure 57 – YouTube Business Structure

Furthermore, the strategy of YouTube totally based on enhanced advertising rather than other strategies, since the platform is very convenient to publish advertisings from content creators or third parties for reaching as many people as possible. All the types of advertising strategies are observed (Enhanced Advertising, Advertising Type 1 and Type 2). It means that YouTube allows content-creators to promote themselves by using the platform by giving advertisings (Enhanced Advertising). Also, third parties have a chance to publish advertising inside of the videos that they prefer. Moreover, YouTube is selling its data to the third-party advertising companies (the information is taken from the privacy policy) (Advertising Type 2) (figure 57)

4.14.2. Steam

Second case, Steam, which is founded in 2003 in USA, is an entertainments platform which allows users to play thousands of games, to meet new people, to join game groups and to chat in games. Its basic structure based on both Customer to Customer (C2C) (game players with game players) and Business to Customer (B2C) (Game producers and game players) business model. Also, the platform is available both from mobile and web, its transaction

content based on “service” (platforms allows to play games), its transaction type is “digital” (the service of Steam occurs completely on digital by providing entertainment platform for the users who would like to play games), and its key activity could be “community building” (since the platform tries to create a community between the gamers). On the other hand, the strategy of Steam company is not based on complex structure, since there is no advertising strategy that is used (of course, they are collecting data and they use it for improving their services and their marketing actions, but it is not related with enhanced advertising). It is observed that there is a Supply (side) extension, since the platform enables both playing the games through the platform and create video contents about these games, share them to the

Figure 58 – Steam Business Structure

users who would like to watch. It means that there are three sides in this platform, first one is users who would like to play games or watch the video about the games, second side is the game producers who create the games for this platform and third one is video creators (user-generated) about the games, game tactics and comments (figure 58)

4.14.3. Netflix

The third case, Netflix, which is founded in USA in 1997, is an over-the-top media services provider. Pogue (2007) indicates that the company’s primary business “its subscription-based streaming service, which offers online streaming of a library of films and television programs including those produced in-house”.(Pogue, 2007) In 2007, Netflix extented its business with the launch of streaming media, while keeping the DVD and Blu-ray rental service (streaming service is available over 190 countries). Also in 2012, Netflix goes in the content-production industry, launching its first series, Lilyhammer. Its basic structure based on Business to Customer (B2C) business model (Since platform connects audiences and Film/Tv programs producers). Also, the platform is available both from mobile and web, its transaction content based on “service” (library of films and tv series), its transaction type is “digital” (the service of Netflix occurs completely on digital through

offering the platform including films and tv series.), and its key activity could be “community building” when the strategies of Netflix is considered it is seen that it based on the Advertising strategies: first one is Enhanced Advertising and the second one is Advertising Type 2. (figure 59)

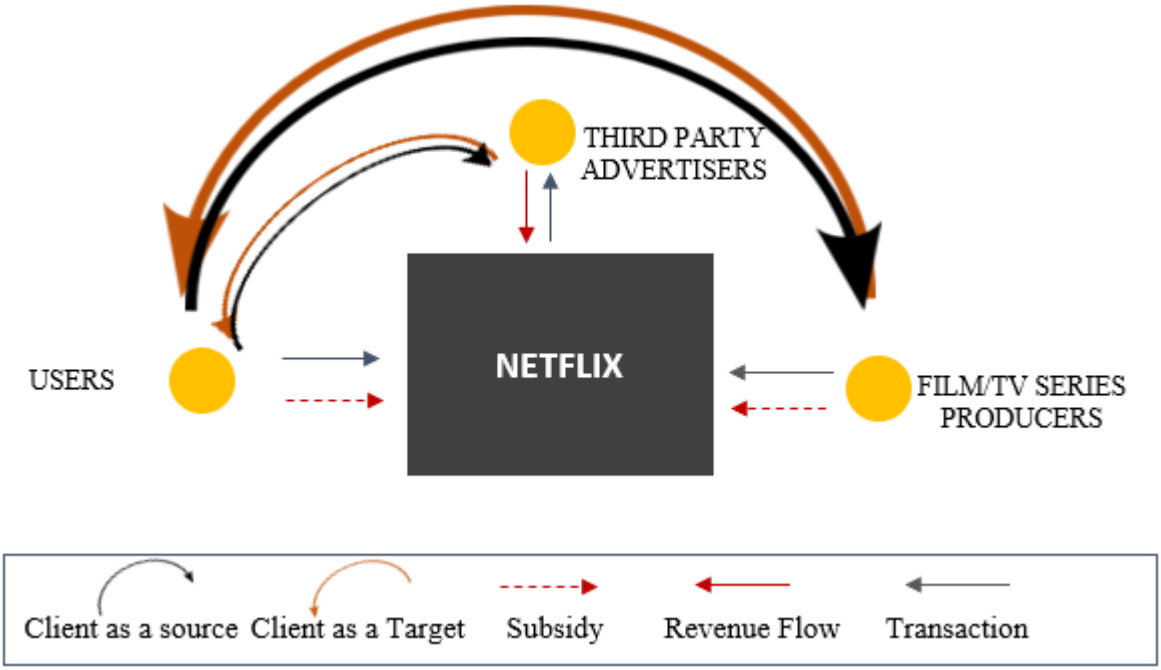

Figure 59 – Netflix Business Structure

4.15. Business Category

Ninth category is “Business”, which includes 10 cases as follows: Shine, Box, Indeed, ZipRecruiter, SnagaJob, Magic Bricks, Yammer, TimesJob, Naukri, Glassdoor. Shine, Box and Indeed cases will be shown detailly in order to understand the category strategies and its sbasic structures.

4.15.1. Shine

First case, Shine, which is founded in 2008 in India, is the most innovative and second largest online job portal in India. Its basic structure based on Business to Customer (B2C) business model (Since platform connects employees and recruiters). Also, the platform is available both from mobile and web, its transaction content based on “service” (providing recruiting service), its transaction type is “digital” (the service of Shine occurs completely on digital through offering a recruitment platform in which all the interactions realizes through the platform), and its key activity could be “community building”(between employees and

recruiters) and “content creation” (platform allows profile pages for recruiters in order to show their companies and the open positions).

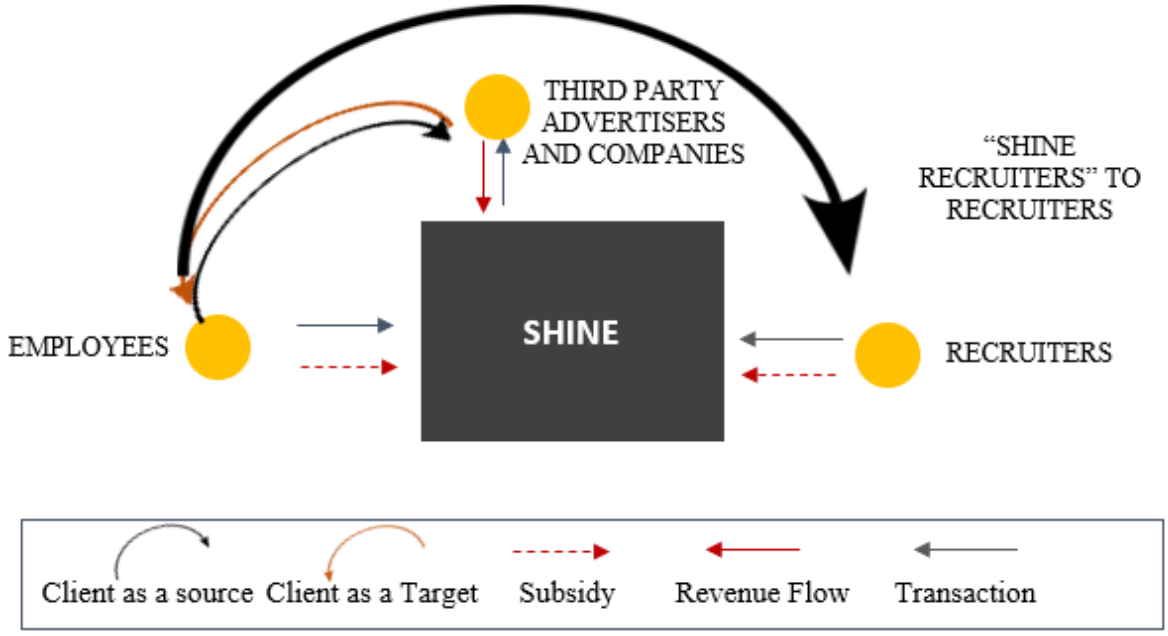

Figure 60 – Shine Business Structure

Moreover, it is observed that Shine is applying Data Driven Value Added service and advertising strategies in order to reach more people and perpetuate its existence in the competition. For the advertising, the platform has Advertising Type 1 which allows third parties to give advertising inside of the platform in order to attract users in the platform, and Type 2 which means that Shine is selling or sharing the data with the third party advertising companies in order for them to use the database of the platform which is called Client as a Source. Also, as another strategy, the platform is sharing its data gathered from the information of employees to the recruiters who are the participants of the platform which is called Data Driven Value added service. This service is named as “Shine Recruiter” which provides many insights about the employees thanks to its data gathered by the platform.(figure 60)

4.15.2. Box

Second case, Box, which is founded in 2005 in USA, is an enterprise content management platform enabling sharing and accessing files on mobile devices to business processes in an easier, faster and collaborative way. “Today, more than 41 million users and 85,000 businesses—including 69% of the Fortune 500—trust Box to manage content in the cloud.” (https://www.box.com/about-us) Its basic structure based on Customer to Customer (B2C) business model (Since platform connects employees within the organization in order for them to share and to access files). Also, the platform is available both from mobile and

web, its transaction content based on “service” (providing file sharing and accessing service), its transaction type is “digital” (the service of Box occurs completely on digital through offering a file sharing and accessing platform between the employees), and its key activity could be “community building” (between employees within the organization). On the other hand, the company’s strategies totally based on the advertising strategy among the strategies mentioned. (figure 61)

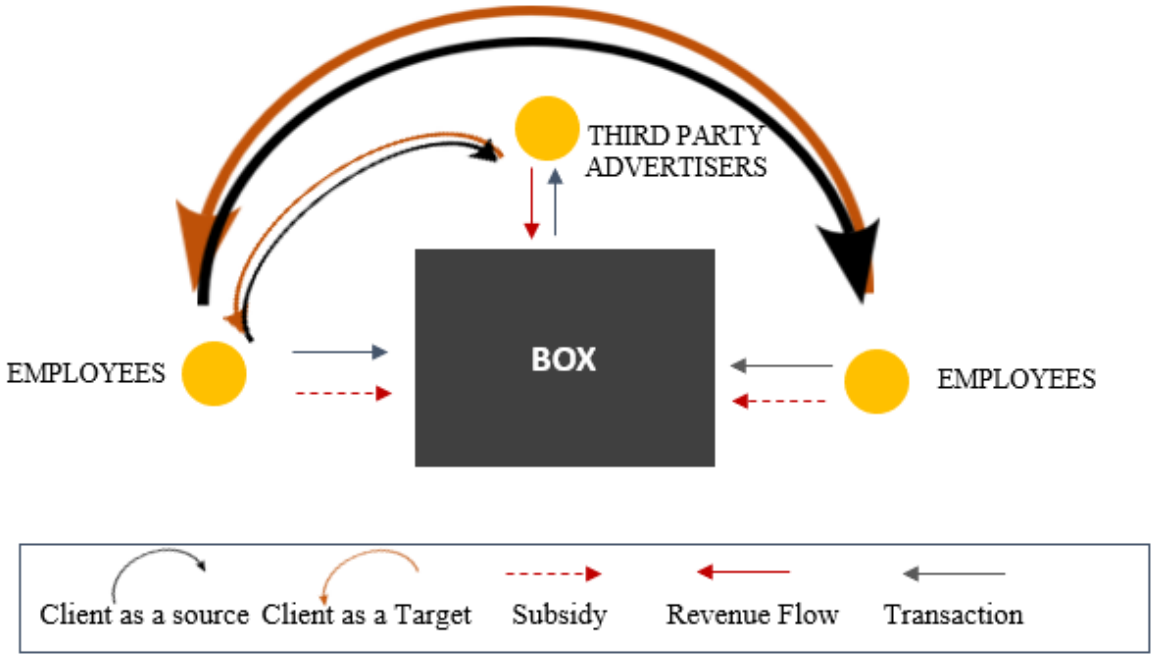

Figure 61 – Box Business Structure

4.15.3. Indeed

Third case, Indeed, which is founded in 2004 in USA, is a worldwide employment-related search engine for job listings. Its basic structure based on Business to Customer (B2C) business model (Since platform connects employees and recruiters). Also, the platform is available both from mobile and web, its transaction content based on “service” (employment related search engine), its transaction type is “digital” (the service of Indeed occurs completely on digital through offering the search engine for the employees who are searching for the job and the companies who would like to recruit new workers.), and its key activity could be “data services” (since it is a search engine platform for employees and recruiters which gathers huge amount of data in order to serve to the users of both sides)

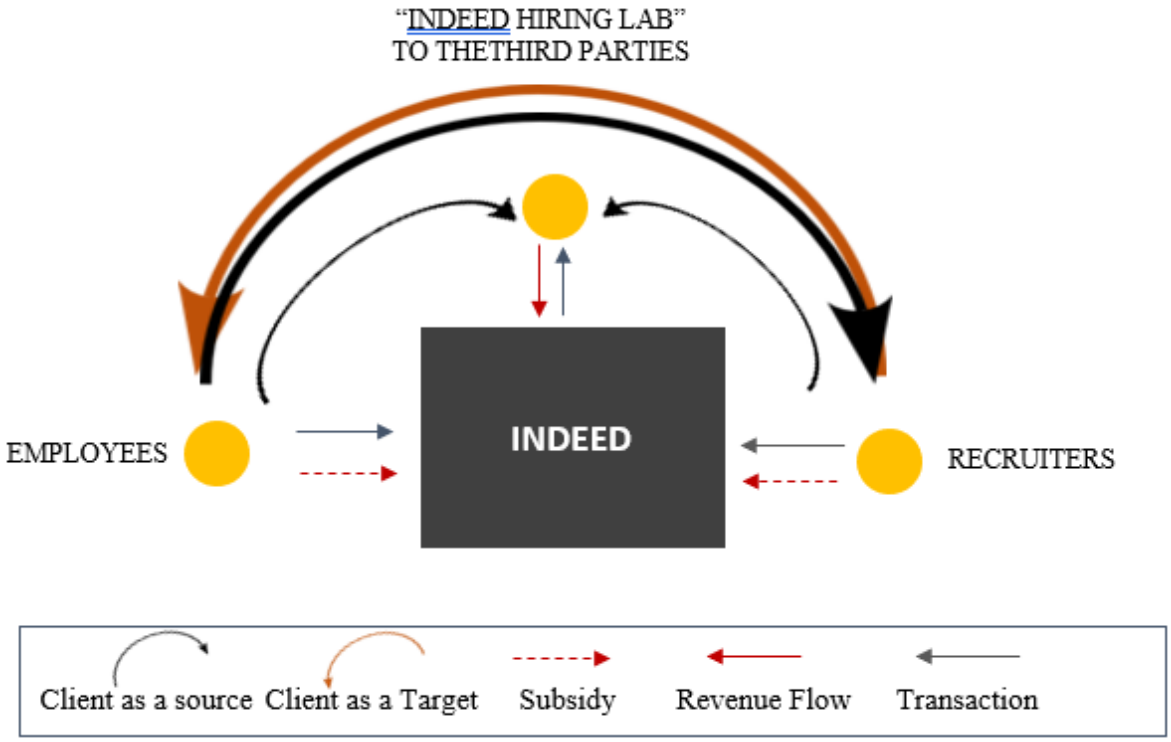

Figure 62 – Indeed Business Structure

Furthermore, it is observed that Indeed is applying enhanced advertising and data trading strategies. As an Advertising strategy, the platform is using Enhanced Advertising which allows recruiters to promote themselves or give advertisings about the company by using the platform in order to attract more employees and be located in higher search results. Also, as data trading they create a "Indeed Hiring Lab" for sharing the data collected from the employees through platform with the third parties without any payment. Thanks to this service, third parties have a chance to get many insights about the employees (It is available to media, researchers, policymakers, job-seekers and employers to help them better navigate the world of work today.) (figure 62)

4.16. Books & References Category

Tenth category is "Books & References" which includes 10 cases: Amazon Kindle, Audible, Scribd, Kobo Books, Nook, OverDrive, Librivox, Aldiko, Universal Book Reader, AudioBooks

4.16.1. Amazon Kindle

First case, Amazon Kindle is a product designed by Amazon Company, which is launched in 2007. It is a tool that enables to browse, buy, download and read e-books for the readers. Its basic structure based on Business to Customer (B2C) business model (Since it is a tool that links the readers and writers). Moreover, Kindle product itself is a physical tool so it should be bought to read the e-books but also there is an opportunity to use the Kindle application which is available for downloading from application stores. That is why it could be said that it is available as mobile application. On the other hand, if we consider the mobile application of Kindle, we could evaluate its transaction content is as "service" (since it is the platform for reading books, writing comments, receiving recommendations), its transaction type is "digital" (Kindle mobile application has completely digital transaction content by providing a digital library experience), and its key activity could be "community building" by gathering many e-readers into the Kindle application and allow them to connect, to comment, to reach thousand of books and recommendations. As a strategy of Amazon Kindle, it is observed that there is no strategies like enhanced advertising, data trading or supply (side) extension. There are still keeping the basic structure of the platform which is two sided and connecting the readers and writers. But Amazon Company itself has a lot of new strategies which make the company multi sided platform which is mentioned in the first category. (Figure 63 is only showing the structure of Amazon Kindle, but the total structure and strategy of the Amazon company was given while explaining Amazon Shopping in the first category)

Figure 63 – Amazon Kindle Business Structure

4.16.2. Scribd

Second case, Scribd which is founded in 2007 in USA, is platform that includes e-books and audiobooks which allows users to subscribe the platform and access all this digital library containing approximately 60 million documents. Its basic structure based on Business

to Customer (B2C) business model (Since it links the readers and writers on the digital platform). Also, the platform is available both from mobile and web, its transaction content based on "service" (digital library for the readers and also writers), its transaction type is "digital" (the service of Scribd has completely digital transaction content, since it moves the physical reading environment into digital), and its key activity could be "community building" (similar reasons with Amazon Kindle mentioned above)

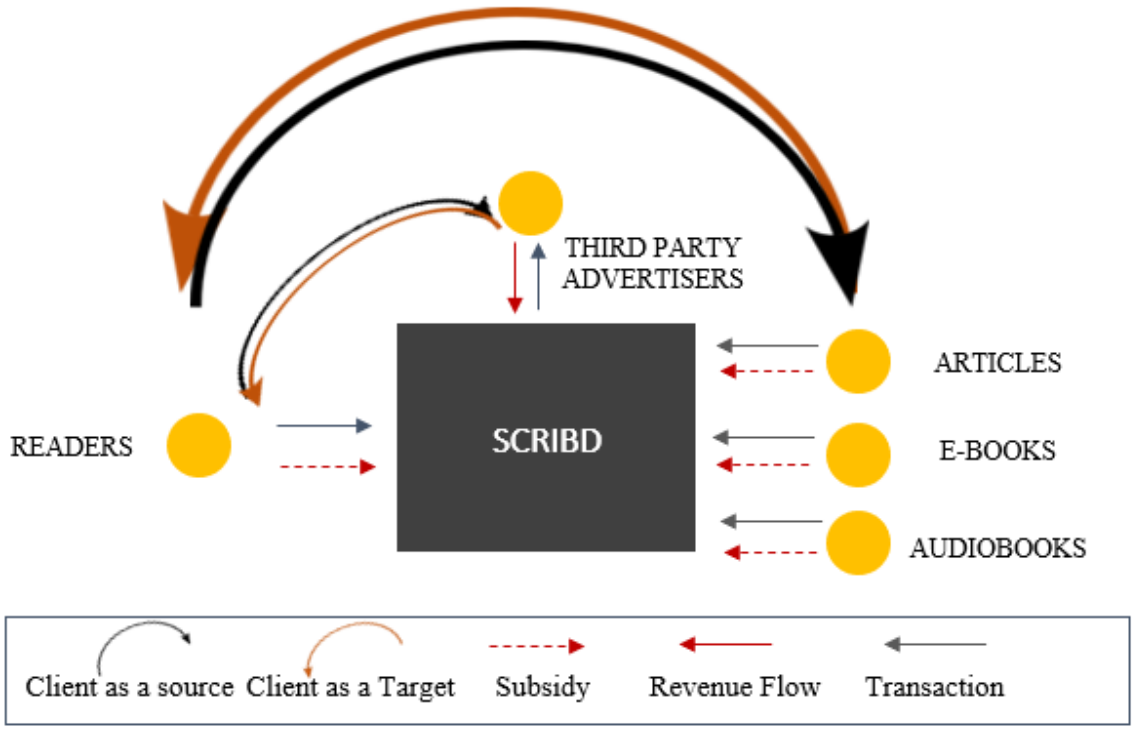

Figure 64 – Scribd Business Structure

When it is examined the strategies of Scribd it is seen that the company has supply (side) extension that enables to reach for the readers not only e-books but also online articles and audiobooks. Also, the platform includes enhanced advertising and Advertising Type 2. Enhanced Advertising allows authors to promote themselves by using the platform and have a chance to attract more users and to reach more readers who are exactly interested in the type of books (or articles) they write. Also Advertising Type 2 shows that Scribd selling its data gathered from users of all sides to third party advertisers (figure 64).

4.16.3. Kobo Books

Third case, Kobo books which is founded in 2009 in Canada is one of the world's fastest growing digital reading platform including over 5 million e books and magazines in order to connect the writers and the readers. Its basic structure based on Business to Customer (B2C) business model (connecting the readers and writers on the digital platform). Also, the

platform is available both from mobile and web, its transaction content based on “service”, its transaction type is “digital” (the same reason with Scribd, since they have similar structure), and its key activity could be “community building” (similar reasons with Amazon Kindle and Scribd). On the other hand, when it is observed the strategies of the platform it is based on Enhanced Advertising and supply (side) extension. Similarly with Scribd, Kobobooks also allows writers to promote their books or audiobooks to the readers by using the platform. Futherly, the platform has transaction expansion by offering both e books and Audiobook in the platform.(figure 65)

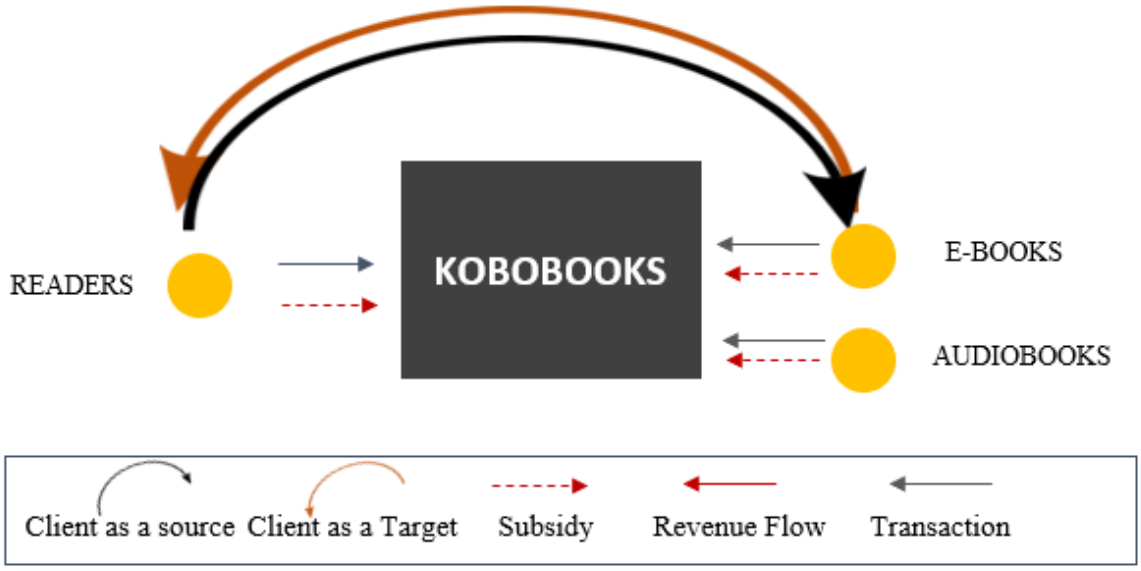

Figure 65 – Kobobooks Business Structure

In a general perspective, 15% companies in the sample do not use any of the strategies, while 85% companies are using at least one strategy 67% at least two strategies, 35% at least three strategies, 10% at least four strategies for their evolvement, however there is no company which is using at least five or all six strategies in its platform. (Figure 66)

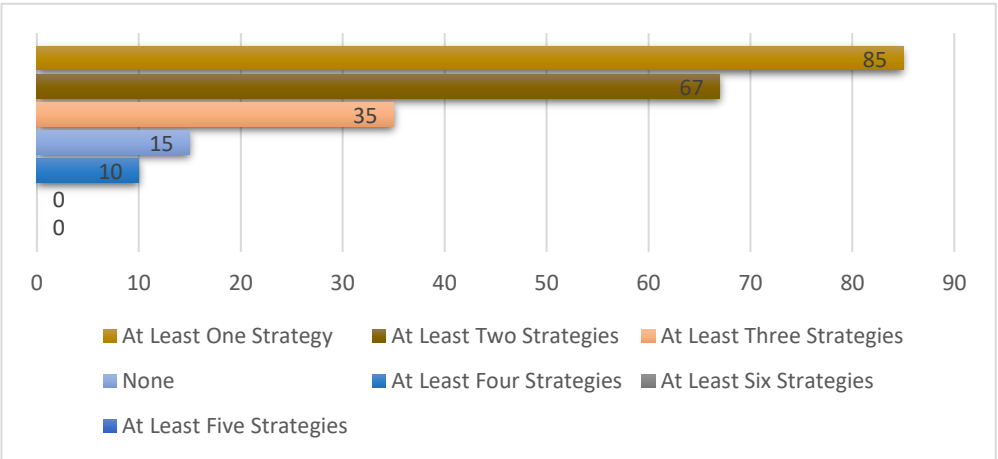

Figure 66 - Distribution of Strategies

5. DISCUSSION

Digital transformation has changed the needs of customers, structures of businesses and brings many innovations. The origins of digital transformation clearly depends on the technological developments and the birth of the internet. All these changes necessitate the re-design or re-definition in customer experience since the customers' demands are changing permanently. Two sided platforms have appeared in order to satisfy these changing needs and to adapt the new technologies and digitalizations and it has begun to play important role in the economy (Cusumano, 2010). Also, it is seen that during the years, since the digital transformation constantly continues, two sided platforms also evolve in order to deliver broader services and to catch the current trends and developments with innovative business models.

In this part, the strategies emerged during the research will be discussed detailly. For each strategy, the characteristics and features of the companies which are using these strategies will be indicated according to the results of the analysis. Furthermore, some guidance will be tried to be done for the companies which are searching for the direction in order to expand their businesses. Also, the conceptual framework offered by Trabucchi and Buganza (2018) will be discussed while doing the settlement of the strategies emerged during the analysis. At the end of the discussion part, the table will be created in order to summarize all the outcomes indicated trough the analysis, to do all the suggestions and identifications.

As it is mentioned before, this thesis aims to understand and deeply analyze the evolution of the two-sided into multisided platforms by considering different variables during the analysis of 100 cases. For finding out the evolution of the platforms, conceptual framework (figure 67) and four strategies (figure 68) that is already defined by Trabucchi and Buganza (2018) are considered and examined which are Supply side extension, Enhanced advertising, Data-driven Value-Added Services and Data Trading. I dig into all of these strategies in order to find out their drivers and try to discover more nuances about them. For example, while examining these strategies during the analysis, two more advertising strategies are realized with some differences from enhanced advertising strategy which I called them Advertising Type 1 and Advertising Type 2 and these strategies are also included into the research. By taking into account all these different strategies, I try to understand the rational behind them by identifying variables and characteristics of two-sided platforms.

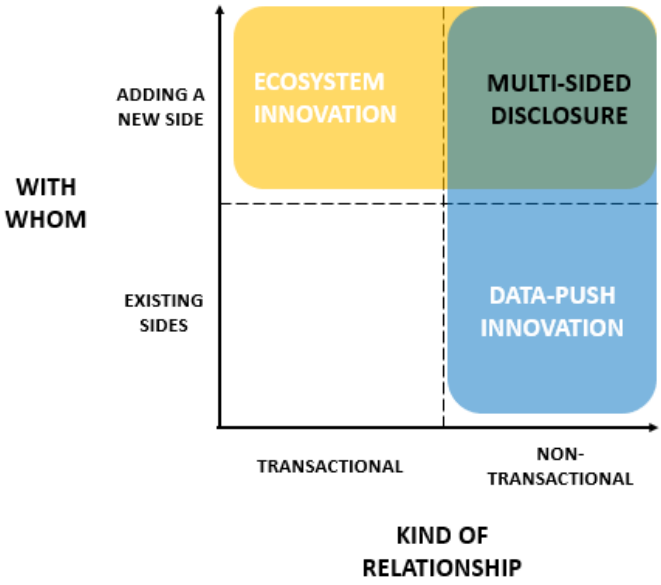

Figure 68 – Conceptual Framework

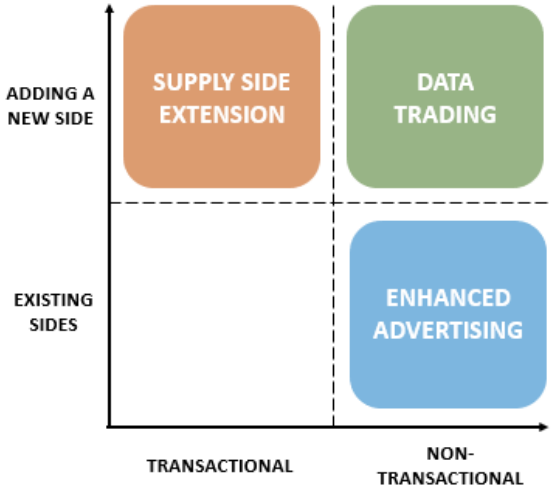

Figure 67 - Strategies' Settlement in Conceptual Framework

After doing the analysis of 100 cases, I had a chance to examine these projected strategies in the sample, to add some extra strategies emerged during the analysis, to discuss what kind of companies in my sample are using them, to understand their contribution to the evolution, to indicate the distribution of the strategies among the companies and to guide the companies from similar industries if they are searching for the way to evolve their platform and to become more complex than it used to be. That is why, these strategies will be discussed, and some recommendations will be done by considering my analysis including 100 two-sided platform companies.

5.1 Supply Side Extension

Supply Side Extension strategy is the strategy that is applied by the two-sided platform companies by expanding their transaction sides and delivering additional services. These extended platforms still use the main mechanism of the two-sided markets only increasing the number of sides which deliver wider business. It is really important to discuss this strategy, since it represents the physical transformation of platforms from two to multi sided by adding new services into the platform. In the literature, it is mentioned that with Supply side extension, the platforms have a possibility to serve Adjacent activity chain by providing new

activities in the platform (Sawheny et al., 2004; Trabucchi and Buganza, 2018). Trabucchi and Buganza (2018) claim that with this strategy, there is an opportunity to overcome the chicken-egg paradox which is one of the most discussed problem in the two-sided market literature (Caillaud and Jullien, 2003; Stummer et al., 2018.) by using the critical mass that has already reached with the first side previously on board (Trabucchi and Buganza, 2018). With analysis, I support that the companies try to use the same group of users when they add new sides (new activities) in the platform especially in Travel & Local category which is also the category have the highest usage of this strategy with the rate of 90%. Because it is observed that, in Travel & Local category, the companies do not prefer to connect, for example, only hotels and guests but prefer to offer similar services to create wider travel experience to the users with the platform by having flight tickets, car rentals, hotels and apartment rentals etc.

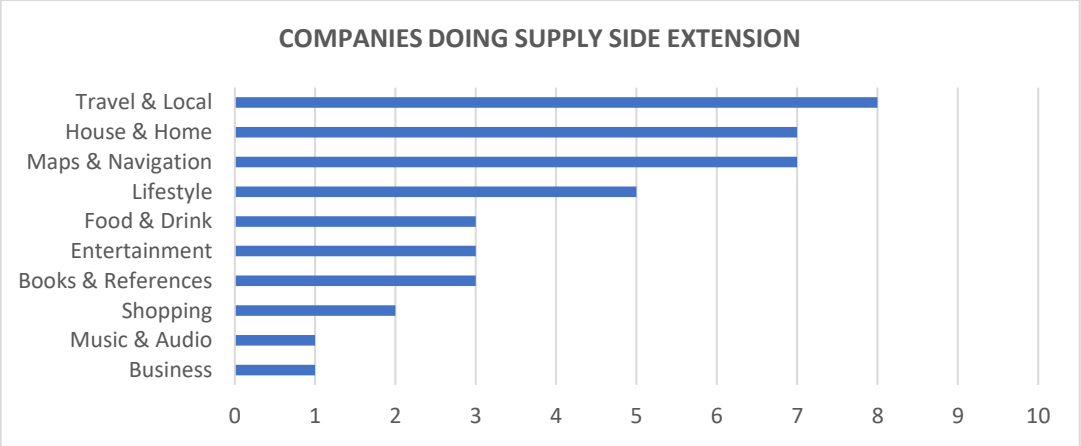

Figure 69 - Companies Applying Supply Side Extension Strategy From Different Categories

For the companies belonging to travel sector and looking for the expansion opportunities in order to create more complex platform, Supply side extension strategy may be very useful, since already many companies in Travel sector are using this strategy successfully (90% of the companies in Travel& Local category in my sample) (figure 69). It is observed that especially the companies with a B2C participants and serving both product and services in Travel & Local category are using Supply side extension strategy (figure 70, figure 71) and they serve its product or services offline. So, for the travel companies who would like to improve its platform by using Supply side extension, it is important to serve not only service but also products like transportation tickets, also it is important to satisfy the more travel needs of the customers in order to create whole travel experience with the platform.

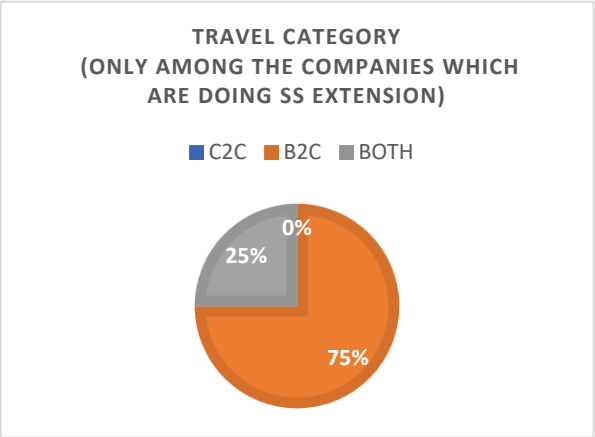

Figure 71 - Participants of Companies Using SS Extension Strategy in Travel Category

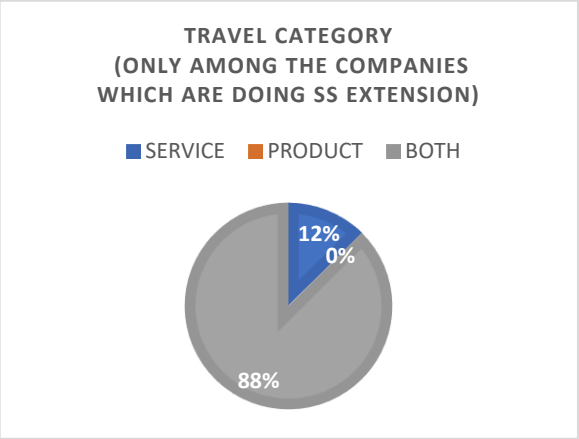

Figure 70 - Transaction Content of Companies Using SS Extension Strategy in Travel Category

On the other hand, the companies in House &Home sector who are searching for new opportunities to widen their business, again, Supply side extension could be useful opportunity. Since there are many examples using this strategy in this category (80% of the companies in House& Home category in my sample) especially the companies with B2C participation and providing offline services (figure 72 , figure 73).

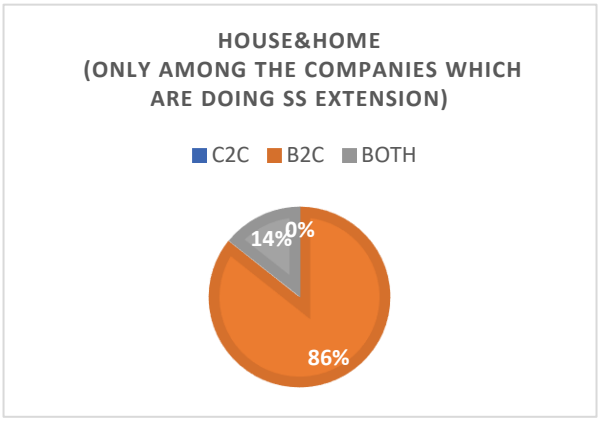

Figure 73 - Participants of Companies Using SS Extension Strategy in House Category

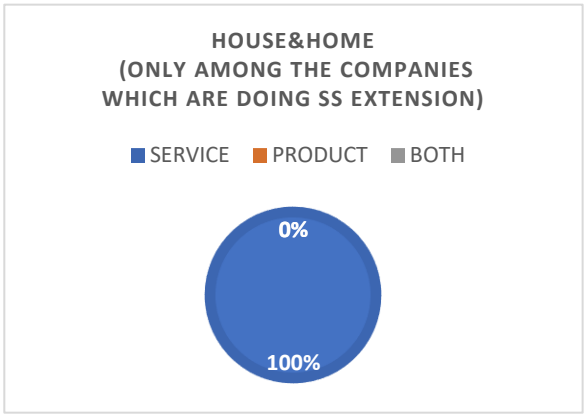

Figure 72 - Transaction Content of Companies Using SS Extension Strategy in Travel Category

Furthermore, if the results are considered without the specification of the categories, 58% of the companies which are using Supply Side Extension strategy has B2C participation (while C2C companies which are using this strategy are 22% and companies having both B2C and C2C participation are 20%). Also 78% of the companies using this strategy are delivering service while 2% delivering the product and 20% delivering both service and product. Moreover, 80% of the companies including this strategy delivering its activity offline (20% digital). It shows that companies with B2C participants which are delivering offline services are using this strategy the most.

Finally, by looking at my analysis, I could confirm that, this strategy brings new ecosystem into the platform, since the platform needs to define one (or more) activities to deliver by adding new sides into the platform with a new value proposition being convenient to the existing players which already on board on the first side (Muzellec et al. ,2015; Trabucchi and Buganza, 2018). Also, I could say that the companies from "Travel & Local" category are the antecedent for the Supply side extension strategy according to the results and the analysis, these companies have a business to customer participants mostly for which connects the hotels (or other accommodation providers) with travelers, but also it is observed that almost all the companies in this category provides additional services like reservation of flights (or train/bus) tickets, and rent a car in order to create total travel experience for the traveler who are using the platform. Hence, I could suggest that for the B2C travel companies who are searching for the direction for the growth, it could be useful to apply Supply Side Extension strategy since almost all the strong competitors already apply it to serve wider experience (including both services like hotel reservation and products like flight tickets).

5.2 Enhanced Advertising

In the literature, first strategy which is Enhanced advertising has been defined as a non-transaction mechanism (e.g. Filistrucchi et al., 2014; Ihlström Eriksson et al., 2016) by considering the advertising structures in the two-sided platforms like newspaper example (advertisers pay for giving an advertising in the newspaper in order to reach the readers which enables non-transactional relationship). Trabucchi and Buganza (2018) consider this original idea as a basis and realize something interesting in their analysis, since this strategy could provide mixed perspective which includes both transactional and non-transactional relationship in the platform. It means that the main structure of the platform will remain the same as transactional relationship that connects two sides but also it will have a non-transactional relationship between some of the players and the users in order to help these players to advertise (or promote) themselves by using the data gathered through the platform. With this new perspective, Trabucchi and Buganza (2018) find out that the data gathered through the platform thanks to its basic service, enables enhanced relationship between some players on one side and the users on the other side which creates a service extension by giving a chance to the players to be seen on the platform (Trabucchi et al., 2017).

As a result of my analysis, I could confirm the importance and relevance of the enhanced advertising strategy, since it is seen that 55% of the cases are using enhanced advertising strategy which is considerable amount. 71% of the cases using this strategy have B2C participants while C2C is 13%, B2B is 2% and the cases having both B2C and C2C participants are 14%. It is clearly seen that companies having B2C participants are using enhanced advertising strategy as a vast majority. That is why, it could be useful to explain which kind of B2C companies are using this strategy the most. B2C companies including Enhanced Advertising strategy are delivering 82% service, 5% product, 13% both of them and also, they are delivering its activity 65% offline and 35% digital. It shows that B2C companies which delivers offline services are mostly used this strategy.

On the other hand, if we evaluate the category by category, it is seen that companies in Travel & Local and House & Home category are using this strategy the most (with the rate 90%). Hence, it could be said that enhanced advertising strategy is relevant and play important role in these categories.(figure 74)

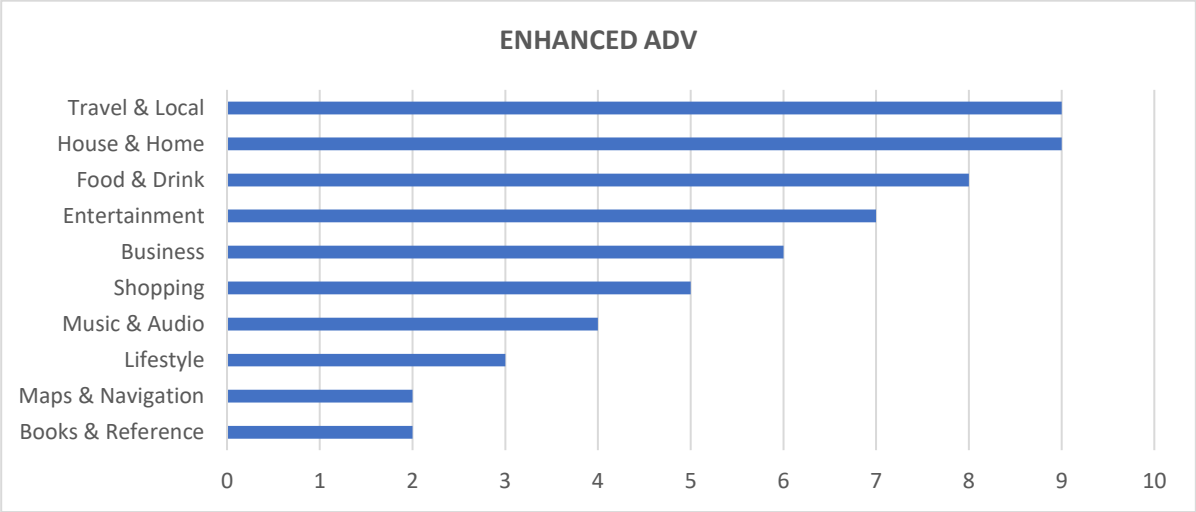

Figure 74 - Companies Applying Enhanced Advertising Strategy From Different Categories

In order to understand exactly which kind of companies are using this strategy inside of the categories in which there are highest rate of usage, one further step was analyzed. It is seen that in Travel & Local category 78% of the companies which is applying this strategy have B2C participants and 67% of the companies using this strategy are delivering both service and product (figure 75, figure 76).

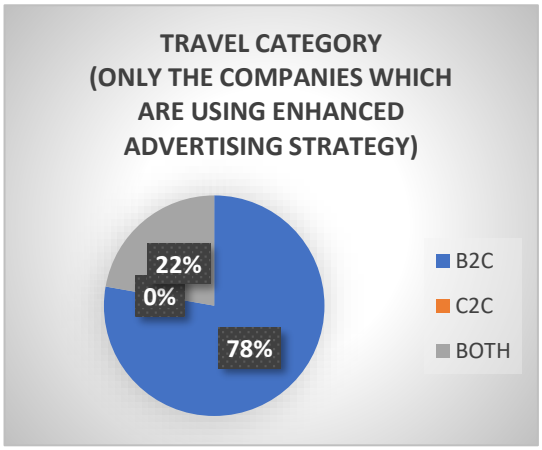

Figure 76 - Participants of Companies Using Enhanced Advertising Strategy in Travel Category

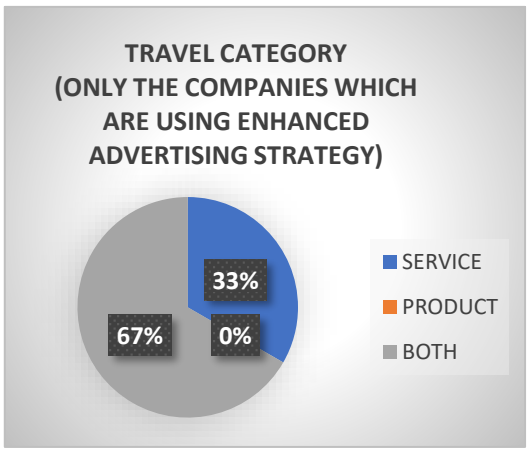

Figure 75 - Transaction Content of Companies Using Enhanced Advertising Strategy in Travel Category

And in House & Home Category, 67 % of the companies which is applying this strategy have B2C participants and 100% of the companies using this strategy are delivering service. (Figure 77 and figure 78)

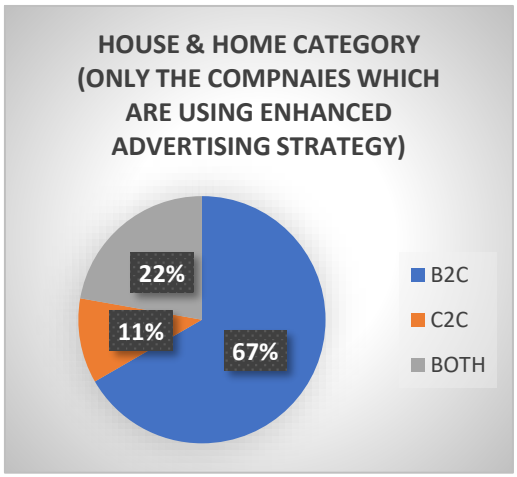

Figure 77 - Participants of Companies Using Enhanced Advertising Strategy in House Category

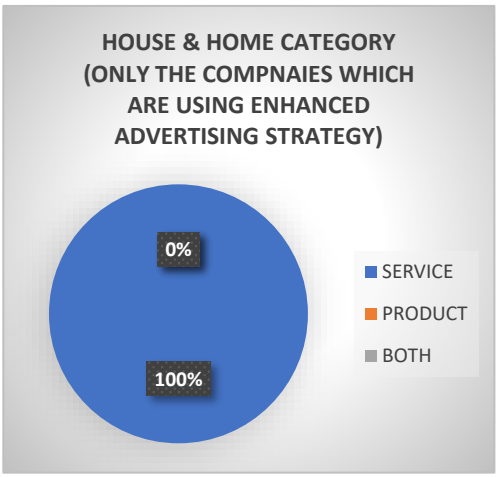

Figure 78 - Transaction Content of Companies Using Enhanced Advertising Strategy in House Category

It is seen that companies from Travel & Local categories and Home & House categories are the antecedents in terms of using this strategy. So, it could be said that the companies belonging to these categories have a high possibility to be successful with this strategy. Also, it is seen that the companies in these categories with B2C participants are more likely to use this strategy, while companies in Travel & Local category are serving both product and services together (ex. Doing hotel reservation and buying flight tickets from the platform) and companies in Home & House Category are providing only services (ex. Renting a house). It is, interestingly, observed that companies in Travel & Local category have highest usage rate in Supply Side Extension and enhanced advertising strategies, which shows that

companies from this category are not satisfied with only applying one strategy, but they are applying more than one, so I could suggest that the companies in Travel &Local category should apply the enhanced advertising strategy while considering the supply side extension strategy in order to create wider experience.

In addition to the findings of Trabucchi and Buganza in 2018 about enhanced advertising, two more advertising type were observed during the research which will be discussed with enhanced advertising. As it is mentioned before they are called Advertising Type 1 and Advertising Type 2,

5.3 Advertising Type 1

In Advertising Type 1, the platforms could keep the transactional relationship between two sides and could provide its platform to the third parties in order for them to advertise themselves and reach the customers in the platform. From the analysis it is observed that considerable amount of the cases is using this strategy (with the rate of 37%). The characteristics of the companies using this strategy is mostly based on the companies with B2C participants (62%) (27% is C2C, 3% B2B, 8% both C2C and B2C) also 83% of the companies which are using this strategy, are delivering "service" as transaction content. Also it is seen that the companies applying Advertising type 1 strategy mostly belong to the categories of Music & Audio, Shopping and Lifestyle. (figure 79)

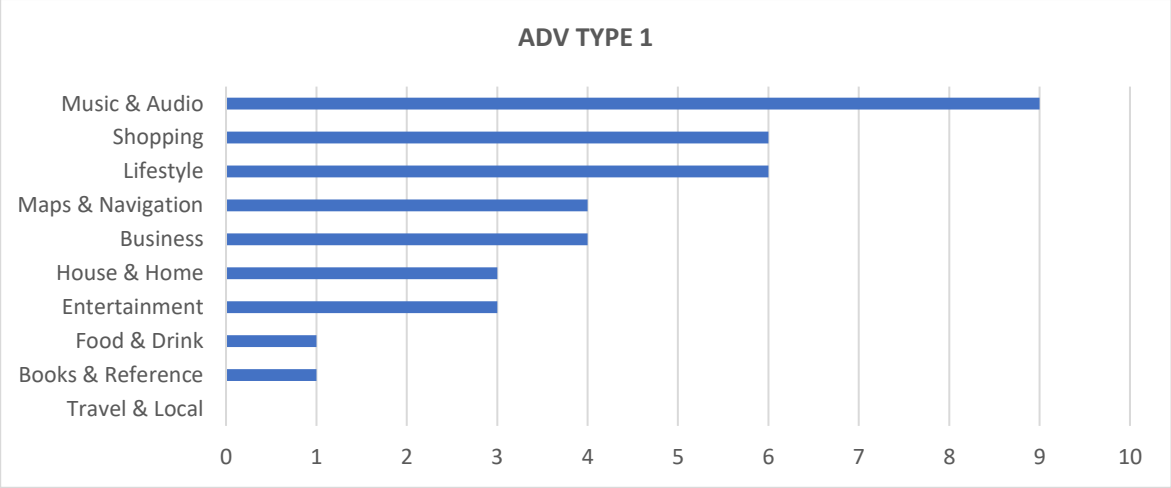

Figure 79 - Companies Applying Advertising Type 1 Strategy From Different Categories

As a result of the analysis, it seems that companies from Music & Audio category are the lead in terms of using this strategy, since the music streaming platforms are really convenient for third parties to publish the advertising (It is observed that these platforms mostly have free versus premium versions, and in the free version, the platform provides the music service with advertisings between the songs within particular time interval while the premium version does not include the advertising which is with payment). These companies mostly have characteristics like providing music streaming service through the platform digitally and connect business (artists and record labels) with audiences. So, the companies belonging to Music & Audio category and having these characteristics have a high chance to be successful with this strategy. If this advertising strategy is discussed with enhanced advertising, it will be seen that the companies which are applying the enhanced advertising strategy do not prefer to use advertising type 1 strategy, especially companies in Travel & Local category, also it could be seen from the figure 73 and figure 78 while the companies in food & drink and entertainment categories apply enhanced advertising strategies in considerable amounts, they are not applying advertising type 1 strategy, so it seems that one strategy replaces the other strategy especially in these categories. This means that while the companies in Travel & Local category only prefer to give a chance to the one of the two sides (generally hotels and other accommodation owners) to promote themselves by using the platform, the companies in Music & Audio category only gives a chance to the third parties to advertise through the platform rather than Artists (or record labels). Also, it could seen from the figure 79 that only 3 companies are using both enhanced advertising and advertising type 1. For this reason, I could suggest that depends on which category they are in, the companies could select only one of the two strategies to apply rather than investing for two strategies.

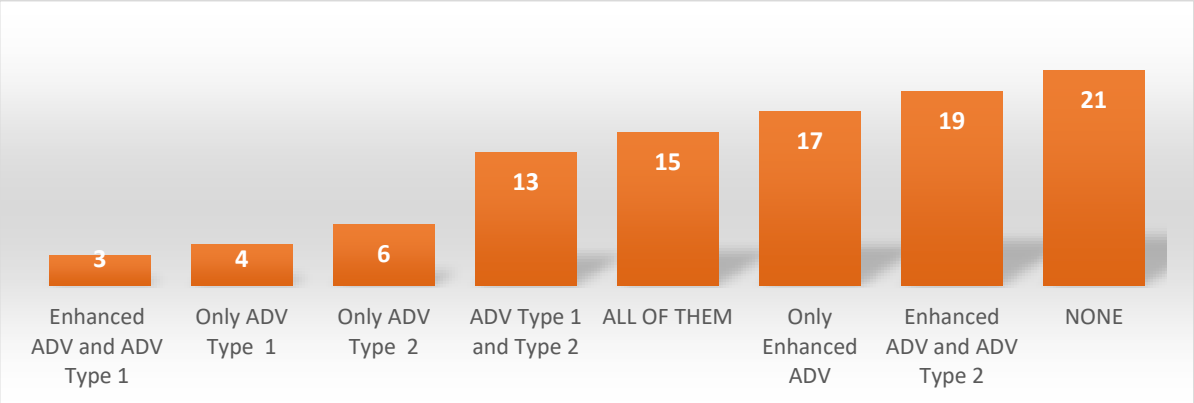

Figure 80 - Demonstrating the preferences of the companies on the usage of Enhanced Advertising, Advertising Type 1 and Advertising Type 2 strategies

5.4 Advertising Type 2

In Advertising Type 2, could provide (or sell) its data to the third-party advertising companies for them to use the customers in the platform "Client as a Source". From the analysis it is seen that more than half of the cases is using this strategy (with the rate of 53%). The characteristics of the companies applying this strategy is mostly based on the companies with B2C participants (70%) (23% is C2C, 2% B2B, 5 % both C2C and B2C) also 75% of the companies which are using this strategy, are delivering "service" as transaction content and all of them are delivering it "digital" as a transaction type. Moreover, these companies have Also it is seen that the companies applying Advertising type 2 strategy mostly belong to the categories of Travel & Local, Music & Audio, and Lifestyle. (figure 81)

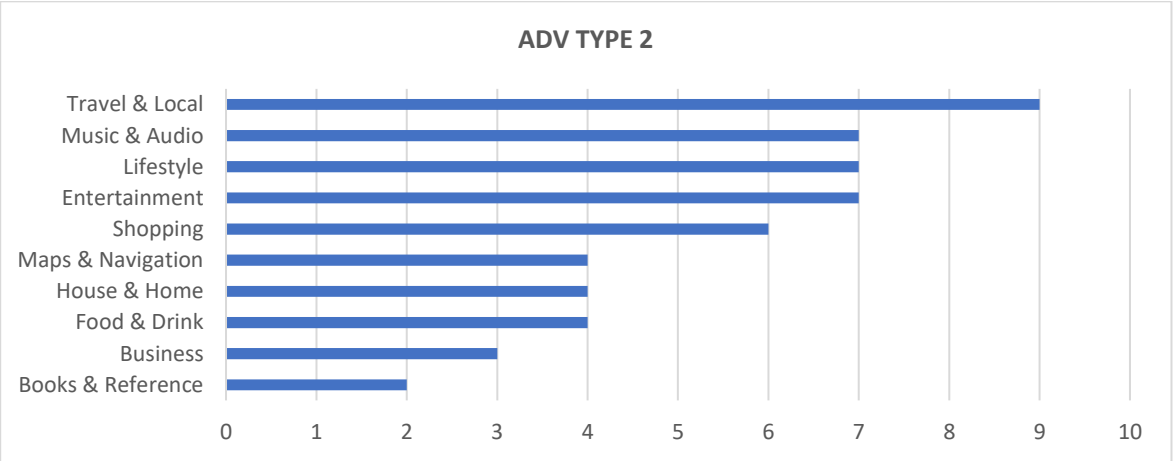

Figure 81 - Companies Applying Advertising Type 2 Strategy From Different Categories

If this strategy is discussed with the enhanced advertising strategy, it is seen that this strategy is more consistent with enhanced advertising strategy, since, for example, the companies in Travel & Local category are using both strategies in highest rates. Meanwhile, it could be seen from the figure 79 that 19 companies are using both of the strategies, that means while the companies allow one of its participants to promote themselves by using the data gathered and then provided them through platform, they also sell their data to the third-party advertisers. On the other hand, companies in Music & Audio category prefer to use both Advertising type 1 and type 2 strategies in their platform. So, it could be suggested that if the companies in Travel & Local category would like to use this strategy, it could be better to apply it with enhanced advertising strategy and then they have a higher possibility to be successful. While for the companies in Music & Audio category, they could combine advertising type 1 and type 2 strategies in order to be stand out.

5.5 Data Driven Value-Added Service

In Data Driven Value-Added Service strategy, the platform is sharing its data with one side of the users in order for them to get some insights and learn their statistics for their performance improvement. Trabucchi and Buganza (2018) point out that this strategy interesting to analyze, since it combines both two-sided market literature and the big data from open innovation perspective. They also added that the previous researches mainly considered the effect of this strategy on the pricing system of the whole market (e.g. Dou and He, 2016). While, Dou and He (2016) try to find out the pricing dynamics of the two sides and to increase the participation level of one side which is the side of the value-added service applied, Trabucchi and Buganza (2018) support the different perspective of this strategy which is about making a specific service design for the one side in order to improve the relationship with this side with the help of the data gathered through the delivery of the main service. Trabucchi and Buganza (2018) emphasize that with their perspective, this strategy adds more value to the platform rather than only being the matchmaker and gives a chance to engage the side, which the Data driven value-added service applied, into the platform.

With my analysis, I have observed that data driven value-added services have a chance to engage one side by providing useful data (or insights) similarly with Trabucchi and Buganza (2018) and this side will become more valuable for the other side (ex. End users). Even though this strategy provides more engagement to the sides, only 7% companies in the sample are using this strategy which is very less to make generalization. It is clear that the strategy is still foreigner for so many sectors; it may not be convenient for some of the services delivering in the platforms or it might expand into more categories in the following years with some innovative business models.

From the analysis, it is realized that Data Driven Value Added Service strategy is started to be used in some specific categories: Music & Local, Business, Travel & Local and House & Home. Music & Local category could be accepted as the most interesting category which also includes the highest rate of involvement of this strategy, since it involves crucial players: Spotify which is the dominant player globally, providing access to more than 35 million songs. including 180 million monthly active users and it is delivering the digital music streaming service involving B2C participants, and 83 million paying subscribers (Spotify, 2018). Spotify uses the strategy of Data Driven Value Added services with “Spotify Artists”

which helps artists make the most of their music and take control of their profile with the song statistics and fan insights to discover more about their audience (Spotify for Artists service is launched in 2017)

Meanwhile, Apple Music which rapidly gained popularity after its launch in 2015, having 50 million paying subscribers as of May 2018 (Nicolaou,2018) provides "Apple Music for Artists" in order to expand the understanding of the trends over time and give some data about the performance of the Artists including demographics of the top listeners of the artists (Apple Music for Artists service is launched in 2018) (Similar with Spotify, Apply Music is delivering digital services to B2C participants and SoundCloud which has successful business model having C2C participants and allowing users to upload, promote, share the audio. With this strategy, companies aim to help artists (or record labels) for understanding their audiences in a better and deeper way by providing them insights and statistics gathered through the basic service in the platform. Other companies using this strategy are Trivago from Travel& Local category, Ziprecruiter.com and Shine.com from Business category and Realtor.com form House & Home category (figure 82).

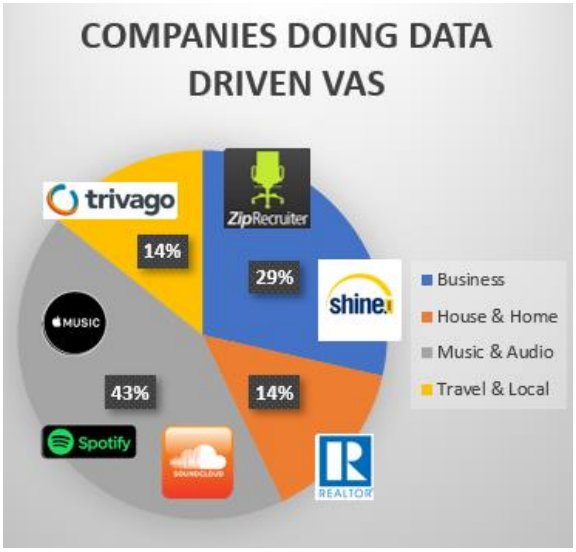

Figure 82 - Companies Applying Data Driven VAS Strategy From Different Categories

After looking at the companies in the sample which are using this strategy, I could support that these companies may increase the engagement with one of the two sides and also, to enhance the value of indirect network effects from the perspective of second side (Rochet and Tirole, 2003; Parker and Van Alstyne, 2005) but it is not possible to discuss the generalized characteristics of the companies which are using this strategy by looking at the analysis. Only thing may be discussed that strong players in the Music & Audio category have started to use

this strategy very recently, so for the established or even new players in this category, it could be useful to use this strategy in order to be stronger and catch the strong players in the market and gain trust of artists (or record labels) by providing insights and improve the interaction of the platform.

5.6 Data Trading

Trabucchi and Buganza (2018) offer that the Data Trading strategy is coherent with the previous researches about Client-As a Source strategies but emphasizes that it is more powerful due to the different data sources involved in the process since the data is coming not only from the participants in one side, but also involving the integrative data from all sides of users based on the total experience design by the platform (Trabucchi and Buganza, 2018) In the literature, previous researches also examined the relevance of the volume, the variety and the velocity dimensions of the data (McAfee and Bynjolfsson, 2012), but Trabucchi and Buganza (2018) focus on the dimension of the veracity which based on to the reliability of the data (Wamba-Fosso et al., 2015).

In my analysis, only 5 companies are using this strategy, that is why it is really hard to give some generalizations about the characteristics of the companies that are using this strategy and discuss its relevance and importance, but if it is examined as case by case it is seen that there are two disruptive players from different sectors: Airbnb and Uber, that use this strategy.

Figure 83 - Companies Applying Data Trading Strategy From Different Categories

Airbnb creates "Airbnb Citizen" platform and with this additional service, it releases the data for the top 300 cities and 80 countries/regions across the globe which includes Global Statistics, Airbnb Database Data, Active Listings, Total guest country of origin, Survey Statistics, City and Country Statistics (accessible for everyone). Meanwhile, Uber creates a

service called “Uber Movement” in order to anonymized data of more than two billion trips to help plan cities around the world which accessible for third parties to help urban planning. Their data involves the data of both sides which could be accepted as integrative data and rely on the big data of the both side users rather than relying on only one set of users. That is why it provides more relevant data to the third parties and it could create value to the new users from different industries and wide its horizon while searching for new markets to engage with the data sharing. Other companies which are using Data Trading strategy could be seen in the figure 83. It is seen that this strategy is still limited to few industries and mostly involves in the strategies of the big players, since Data trading is very complex strategy including both ecosystem innovation and data push innovation that may be the cause of the less usage rate of this strategy among the cases that I analyzed.

If I sum up the strategies emerged and discussed, four strategies defined by Trabucchi and Buganza (2018) are observed in my analysis as it is offered in their previous research, therefore, I could confirm the settlement of these strategies in terms of their innovation perspective. But two more strategies about advertising were emerged during my analysis, so I could add these two strategies into the conceptual framework according to their characteristics in order to extend the dimension of the framework. So the final version of the conceptual framework could be offered as in figure 84. The relevance of all strategies could be confirmed after my analysis but for the importance of the strategies, Data Trading and Data Driven Value added service are still need time to be used more in order to find out the real importance of the strategies for the two sided platform companies, since the companies have started to use two strategies very recently; for example, even strong players like Spotify and Apple Music have started to use Data Driven Value Added service in 2017 (launching Spotify for Artists) and 2018 (launching Apple Music for Artists) respectively, while Spotify was launched in 2006 and Apple Music is launched in 2015. Also, for Data trading strategy, the disruptive players like Airbnb and Uber have started to apply this strategy in 2015 (Airbnb Citizen) and in 2017(Uber Movement) respectively, while Airbnb is launched in 2008 and Uber is launched in 2009. For now, it is not easy to define the type of companies in order to suggest these two strategies to apply, but it could be suggested to the companies which have great amount of users and have enough data to present gathered through the platform and that is why these strategies are not very convenient for the start-ups which do not include sufficient users and great amount of data, since the companies doing Data Trading aim to provide insights to the

third parties coming from big data gathered through the platform and the companies doing Data Driven Value Added Services intend to provide big data to the one of the sides in order to improve engagement between the sides.

On the other hand, for the other four strategies I support the importance of the strategies since they are used in considerable amounts and help companies to grow their businesses. But especially for the companies belonging to Travel & Local category, Supply Side Extension, Enhanced Advertising and Advertising Type 2 strategies are very relevant and important, since the companies from this category have the highest usage rate of these strategies, so I could suggest to the Travel companies which would like to expand their businesses and searching for the direction could apply all the three strategies together in order to catch the companies which already use all of them. Furthermore, for the companies in Music & Audio category, I could suggest that they could use only advertising type 1 strategy, since there are great amount of cases already using this strategy successfully, and maybe they also use advertising type 2 or together. For all the strategies, it is seen that the companies no matter from which category they belong, their participation type mostly based on B2C and they are providing services, that is why I could say that generally these strategies are used by these type of companies, so it could be more useful for the companies which have B2C participants and providing services. (The further results and observations could be seen also in the figure 84)

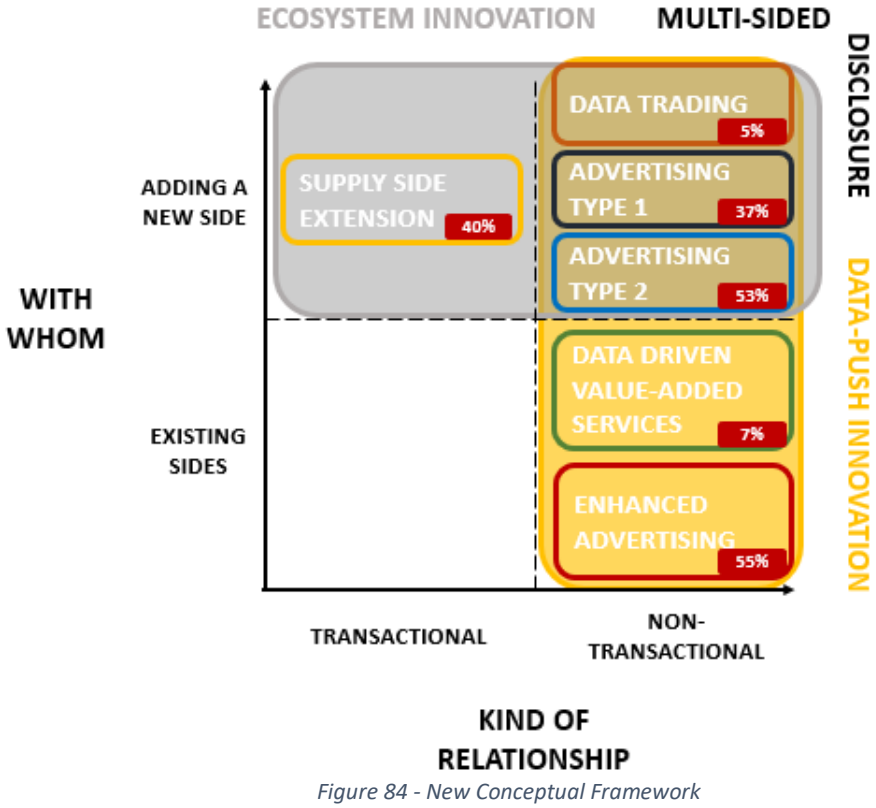

Figure 84 - New Conceptual Framework

Strategy	Brief Definition	Main Characteristics	Frequency	Rational (What Kind of Companies using these strategies at highest rates?)
Supply Side Extension	Expanding the transaction sides and delivering additional services	B2C, Service, Offline, Community Building	40%	It issues that B2C offliine service companies in **Travel & Local and House & Home** categories apply this strategy with the high rates, this seems to suggest that these businesses are convenient to apply this strategy.
Enhanced Advertising	Allowing the second side to use the data gathered by the platform to provide the customized and relevant messages, to create customers based promotion strategies and advertisements to the first side	B2C, Service, Offline, Community Building	55%	It issues that B2C offline service companies in **Travel & Local and House & Home** categories apply this strategy with the high rates, this seems to suggest that these businesses are convenient to apply this strategy.
Advertising Type 1	Allowing third parties to publish advertising in the platform to reach the customers in the platform	B2C, Service, Digital, Both Community Building and Content Creation	37%	It issues that B2C digital service companies in **Music & Audio category** and C2C offline product companies in **Shopping category** apply this strategy with the high rates, this seems to suggest that these businesses are convenient to apply this strategy.
Advertising Type 2	Providing the data to the third-party advertising companies for them to use the customers in the platform "Client as a Source".	B2C, Service, Digital, Community Building	53%	It issues that B2C offline service companies in **Travel & Local category** and B2C digital service companies in **Music & Audio category** apply this strategy with the high rates, this seems to suggest that these businesses are convenient to apply this strategy.
***Data Driven VAS**	Sharing the data with one side of the users in order for them to get some insights and learn their statistics for their performance improvement.	Spotify, Apple Music, Soundcloud, Trivago, ZipRecruiter, Shine Realtor	7%	**Newly adapted strategy** established companies from different sectors have started to add this strategy into their platforms "Spotify Artists" was launched in 2017 while Spotify launched in 2006, "Apple Music for Artists" in 2018 while Apple Music launched in 2015, "SoundCloud Pro" is in 2013 while SoundCloud launched in 2007, "Realtor My Home" in 2017 while Realtor launched in 1996, "Ziprecruiter ATS Partners" in 2017 while Ziprecuriter launched in 2010, "Shine Recruiter" in 2008, "Trivago Hotel Manager Pro" in 2014 while Trivago launched in 2005
***Data Trading**	Sharing the data (gathered from both sides through the platform) with the third parties	Airbnb, Uber, Skyscanner, Indeed, Naukri	5%	**Newly adapted strategy like Data Driven VAS,** companies from different sectors have started to applying it "Airbnb Citizen" was launched in 2015 while Airbnb launched in 2008, "Uber Movement" in 2017 while Uber launched in 2009, "Skyscanner Travel Insights" in 2014 while Skyscanner launched in 2001 , "Indeed Hiring Lab" in 2014 while Indeed launched in 2004, "Naukri Database" in 2016 and Nuakri launched in 1996

Figure 85 – Summary Table

*In Data Driven VAS and Data Trading, the companies using these strategies are presented rather than main characteristics, since there is not enough company applying them in order to generalize

6. CONCLUSION

In this part, all the outcomes, discussions and suggestions emerged during my thesis will be summarized with respect to the aim of my thesis. As it is mentioned before, this thesis aims to find out and deeply analyze the evolution of the two-sided into multisided platforms by digging into four different strategies which is already defined by Trabucchi and Buganza (2018) and also by trying to discover more nuances about them, while considering different variables in order to define the characteristics of the companies which are using these strategies.

Particularly, with this thesis, the evolution emerged in two-sided platforms, which also make these platforms more complex or even multi-sided, is analyzed by considering the conceptual framework offered by Trabucchi and Buganza in 2018 which is reflecting the innovation perspective on the concept of two-sided markets.

By using this conceptual framework, it is aimed to understand the tendencies of the companies in terms of changes, since this conceptual framework offers the possible innovative directions that the platforms could apply taking into consideration to the data usage gathered through the platform. These directions include different strategies that were also introduced by Trabucchi and Buganza (2018): Supply side extension, Enhanced advertising, Data-driven Value-Added Services and Data Trading.

For discovering the evolution of the platforms, these four strategies constitute the basis of the analysis. But two more strategies added related with the advertising strategies of the companies into thesis, since they were emerged during the analysis. Thus, the strategies that are considered has increased from four to six: Supply side extension, Enhanced advertising, Advertising Type 1, Advertising Type 2, Data-driven Value-Added Services and Data Trading.

Also, the analysis, which consists of on an extensive exploratory research based on 100 mobile phone application companies which have two-sided (transactional) structure, is supported with some other variables in order to discover the characteristics of the companies which are using different strategies. These variables are taken from the model offered by Tauscher and Laudien (2017) including marketplace participants, platform type, transaction

content, transaction type and key activities of the companies, and also companies' foundation country and years are considered to evaluate the companies regionally and chronologically.

With this analysis, I examine these variables and these projected strategies in the sample, see their contributions to the evolution of the platforms, indicate the distribution of the strategies among the companies and understand the feature of the companies which are using these strategies and are evolved into different structures.

Moreover, this thesis theoretically, widen the contribution to the discussion about the considerable effects of the big data into innovation which were previously enlarged with the research of Trabucchi and Buganza (2018) while offering the conceptual framework and the strategies and also, Ostrom and colleagues in 2015. The contribution widened since, the results of the analysis of 100 companies support the importance and relevance of the big data in the platforms (since all the strategies except Supply Side Extensions are directly related with the data gathering and its usage in the platforms).

Furthermore, this thesis could be accepted in the same path of the recent researches which have the convenience of managerial perspective on the two-sided platforms (Muzellec et al., 2015; Strummer et a., 2017; Trabucchi and Buganza, 2018), Since the analysis is appropriate to guide the companies from similar industries if they are searching for the way to evolve their platform and to become more complex than it used to be. The results could offer different strategies for different businesses according to their characteristics like their sector, business structure, transaction content and so on. It means that the managerial contribution of this analysis based on the possibility to the usage of the strategies by the managers (or companies, or start-ups) if they are trying to grow or enhance their basis activities in the platform and need some innovations, but do not have specific path.

Particularly, some insights and outcomes emerged during the analysis about the companies and their characteristics which could be given as a summary. The companies with B2C participants consist of the majority of the sample by delivering the service rather product. Also, it seems that as a key activity, delivering the data services with high relevance to the participants is the most important activity for the companies, but also community building is an increasing value which is also highly used by the two-sided platforms. The strategy which

is used at the highest rate is Enhanced Advertising Strategy by the companies in the sample (especially from Travel & Local and House & Home categories). For the companies belonging to Travel & Local category, it is observed that they are not only using Enhanced Advertising strategy at the highest rate, but also Supply Side Extension, and Advertising Type 2 strategies in considerable amounts. So, it could be said that Enhanced Advertising strategy is mostly used by the companies from Travel & Local category, but not alone, the companies prefer to use this strategy together with Supply Side Extension and Advertising Type 2. That is why, using these three strategies together could be convenient for the companies belonging to Travel & Local category and searching for a direction to grow their business. (the strategies are not complementary for each other, but it is seen that some platforms are using more than one strategy in order to grow in different dimensions)

Also, for the companies in House & Home category, both Enhanced advertising and Supply Side Extension strategies are used with high rates, so the companies playing in this sector and searching for opportunities to grow, could consider both strategies in order to expand their businesses. Furthermore, the companies in Music & Audio category mostly uses the Advertising Type 1 strategy while also using Advertising Type 2 in considerable amounts. Hence, for the companies from this category and searching for a direction to grow, combination of these two strategies could be useful.

Meanwhile, many companies from Maps &Navigation category, mainly focus on the strategy of Supply Side Extension in order to give comprehensive service with broader options. It means that the companies from this category do not have a tendency to use advertising strategies in comparison with Supply Side Extension strategy. That is why the companies belonging to Maps & Navigation categories should mainly focus on Supply Side Extension Strategy.

On the other hand, for the strategies of Data Driven Value Added Services and Data Trading, it is observed that very few companies in the sample are using these strategies now, that is why it is very hard to give general insights about the companies which are using these strategies. It is commented that these two strategies still need time to be used more in order to discover the real importance of the strategies and the real characteristics of the companies which are using them. It is seen that the companies have started to use two strategies very

recently, while the companies were launched much time before they started to use these strategies. That is why, I could say that these strategies could be more convenient for the companies which have great number of users and have enough data to present gathered through the platform and not very convenient for the start-ups which do not include sufficient users and great amount of data, since the companies doing Data Trading aim to provide insights to the third parties coming from big data gathered through the platform and the companies doing Data Driven Value Added Services intend to provide big data to the one of the sides in order to improve engagement between the sides.

Lastly, it is important to mention the limitations of the analysis, one of them is that the research, which includes great amount of two-sided platform companies, was done mostly based on the secondary sources, while the primary sources have been involved only the situations that secondary sources are not enough to find an answer. Also, in the analysis, more companies from different categories could be analyzed in order to get wider results, but here, only the companies which exist in the mobile application world, were considered after the filtering process which were done by Trabucchi and Buganza in 2018. These limitations could be the starting point for future researches, involving different perspectives, wider number of cases from different industries and maybe the foundation of new strategies or enhancement of the old strategies to understand the evolution of the two-sided platforms in the future.

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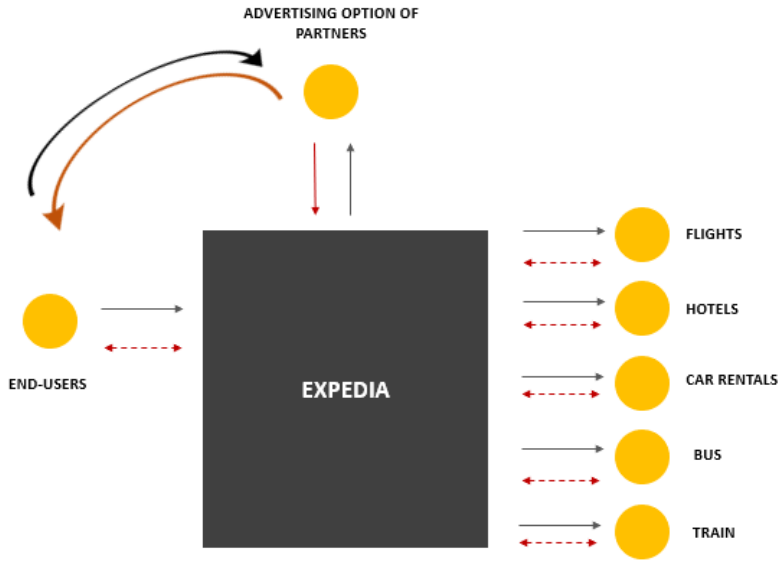
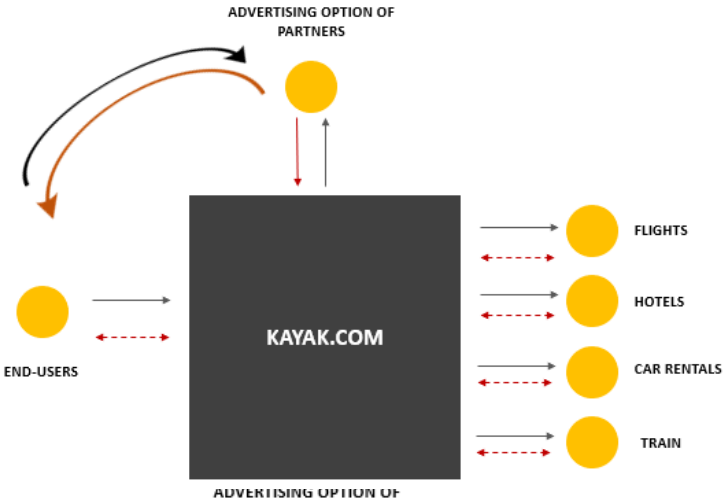
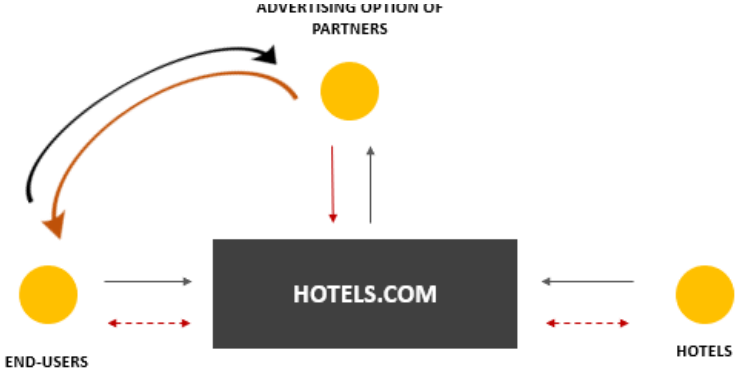
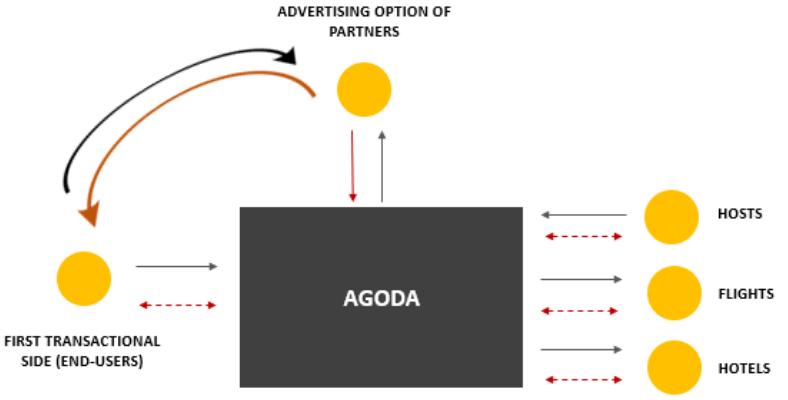
8. APPENDIX

8.1 Business Structures of All The Cases Not Presented in Thesis





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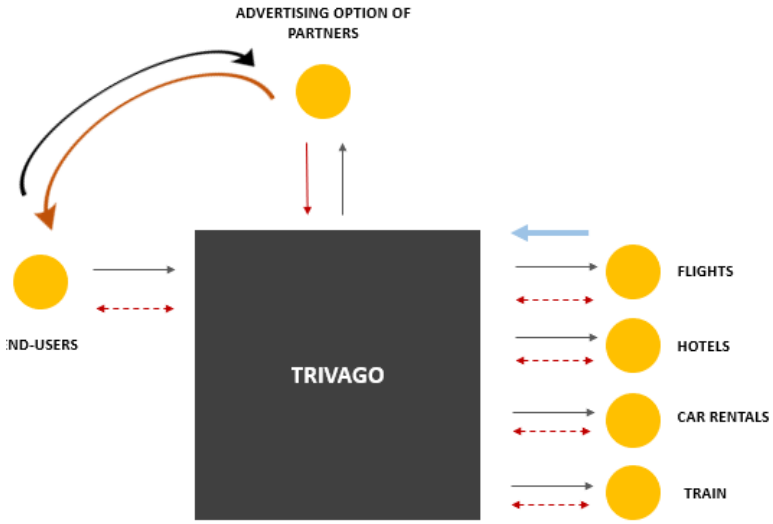
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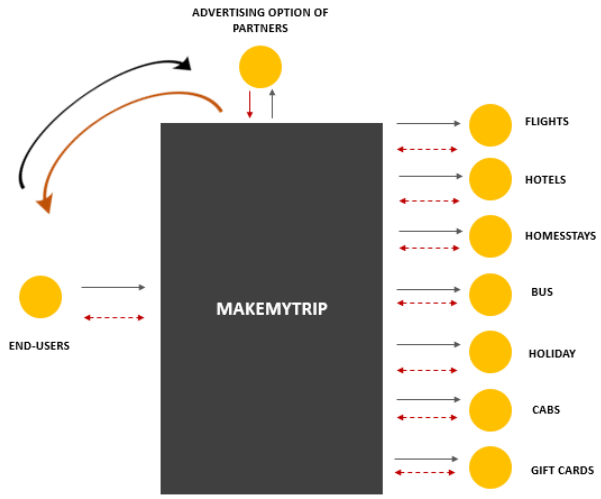
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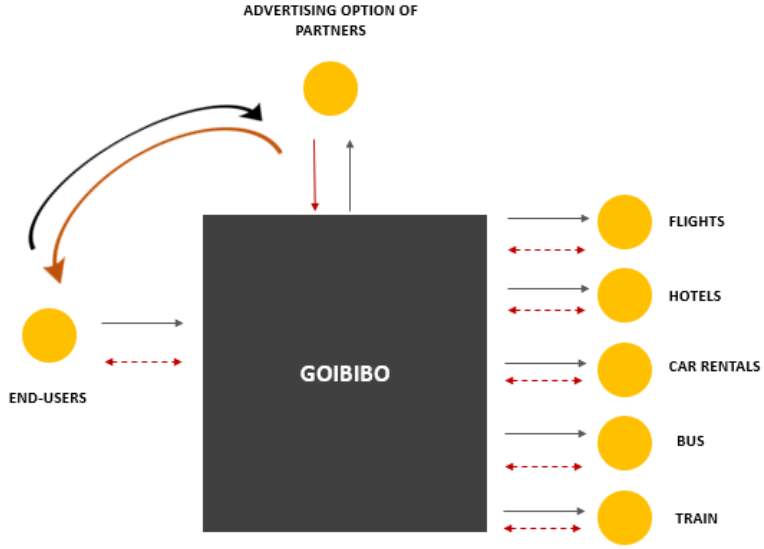
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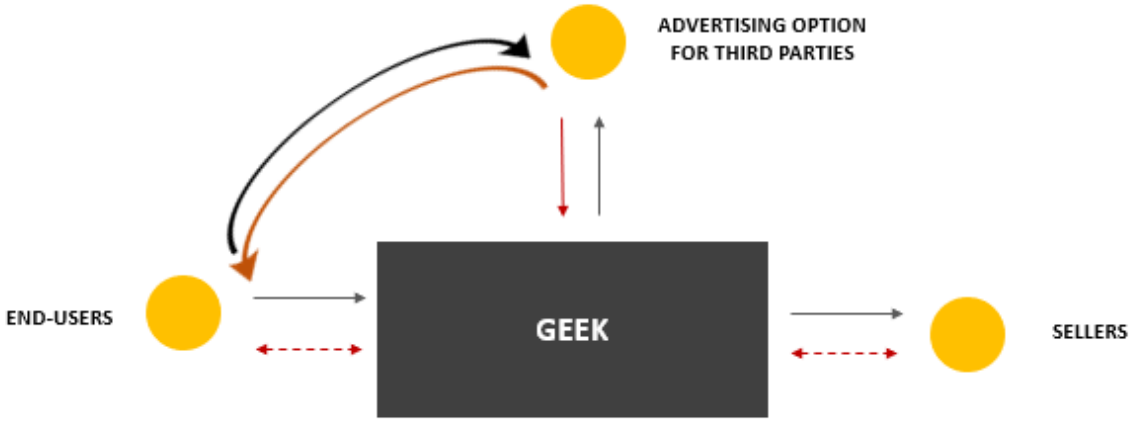
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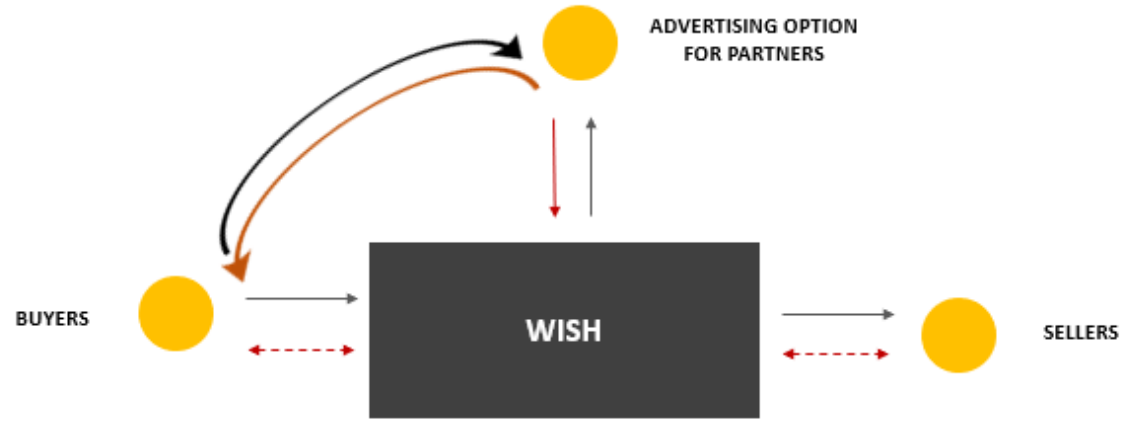
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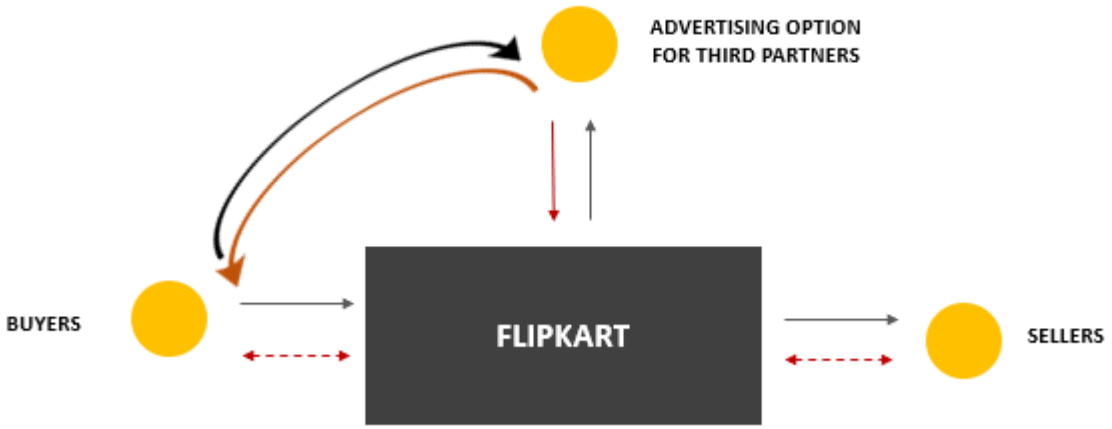
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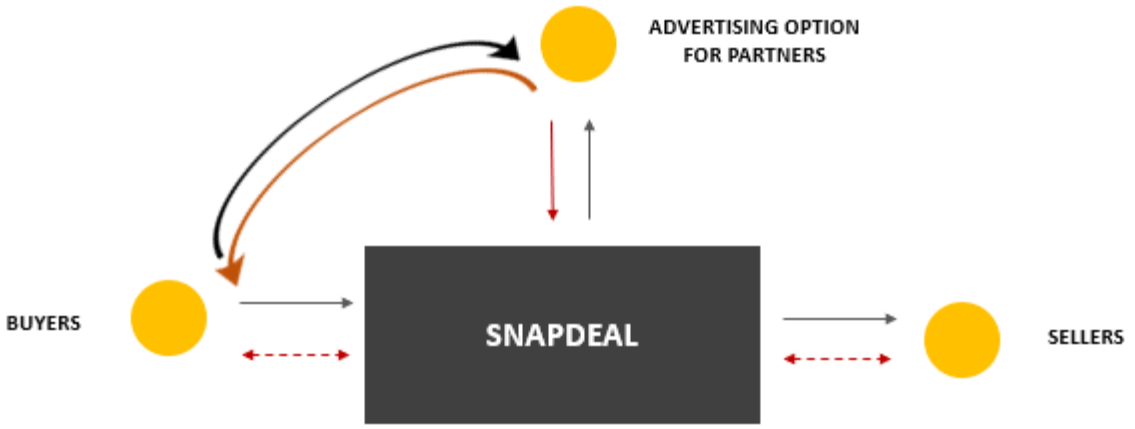
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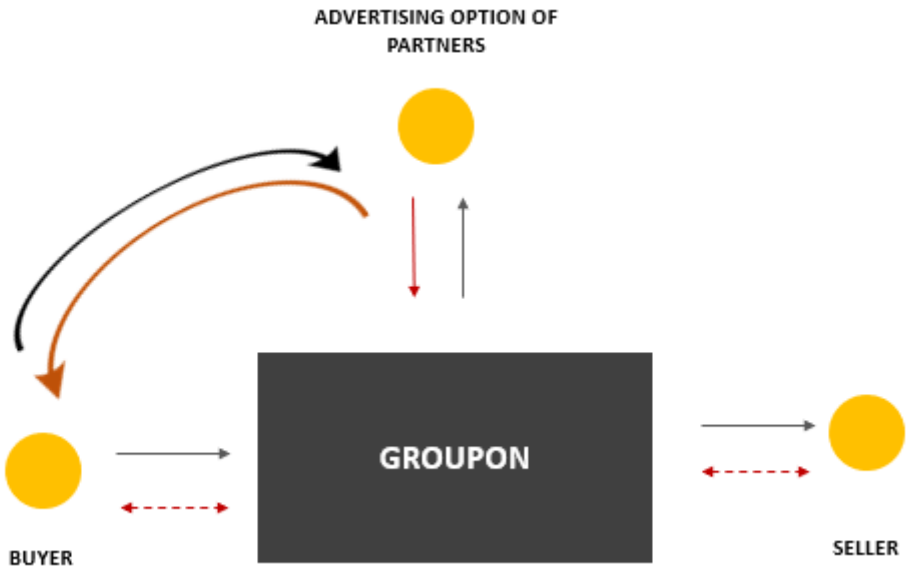
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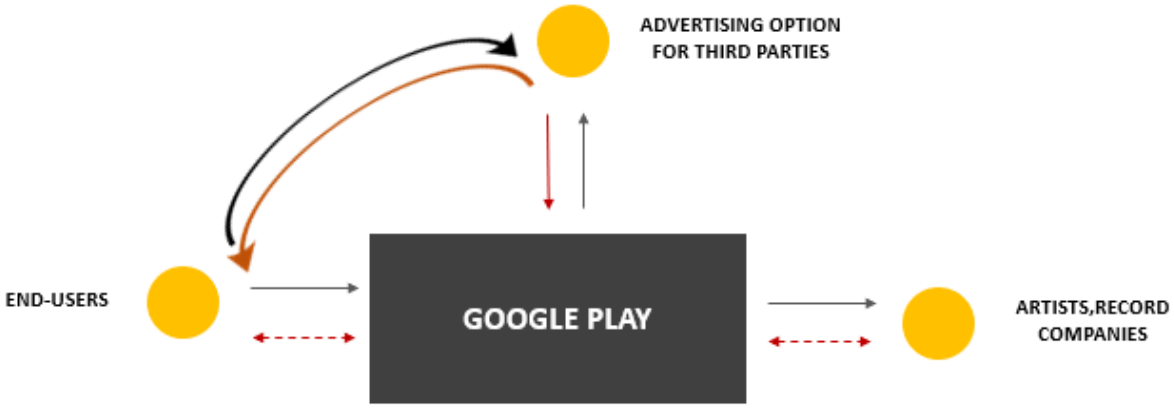
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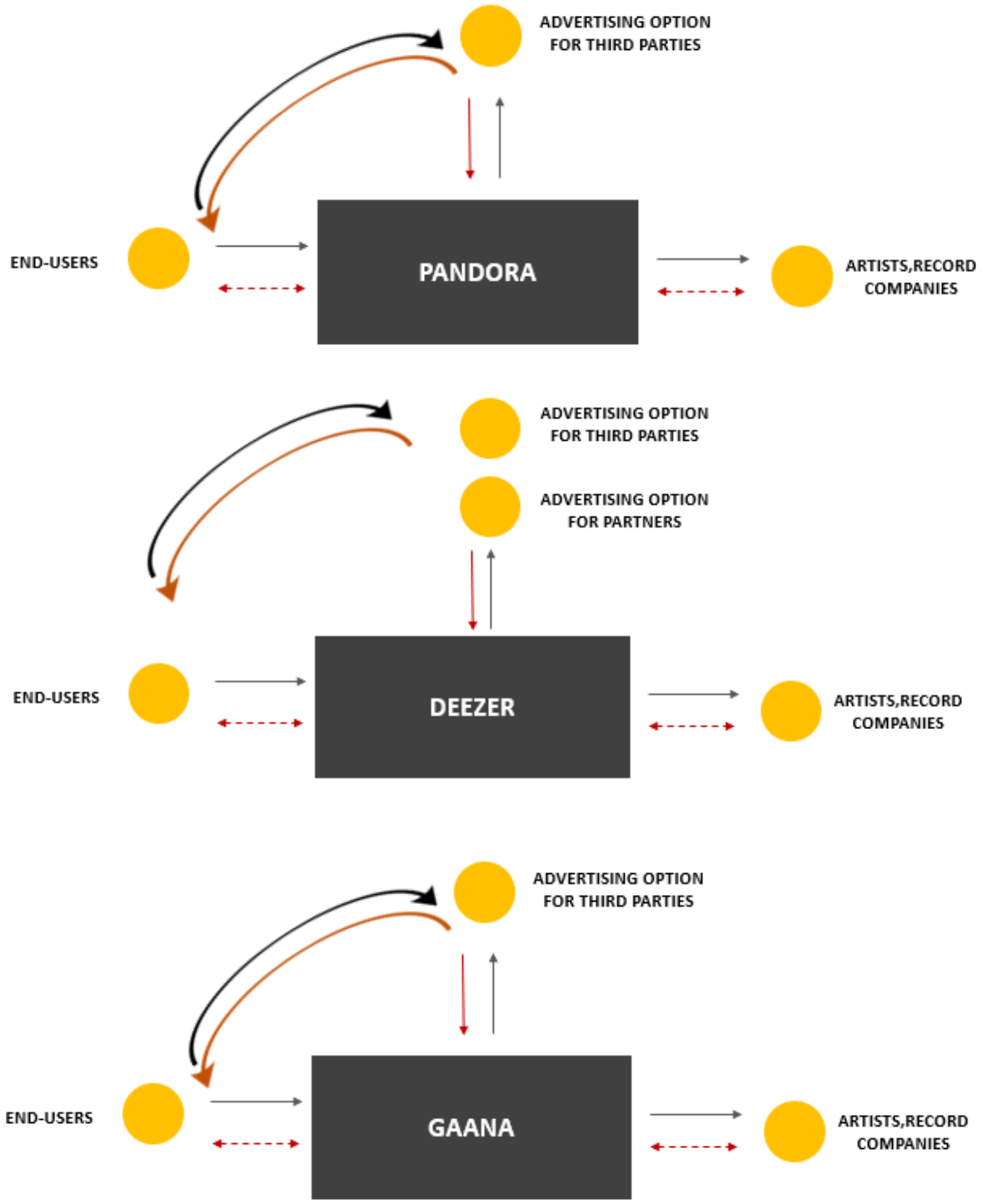
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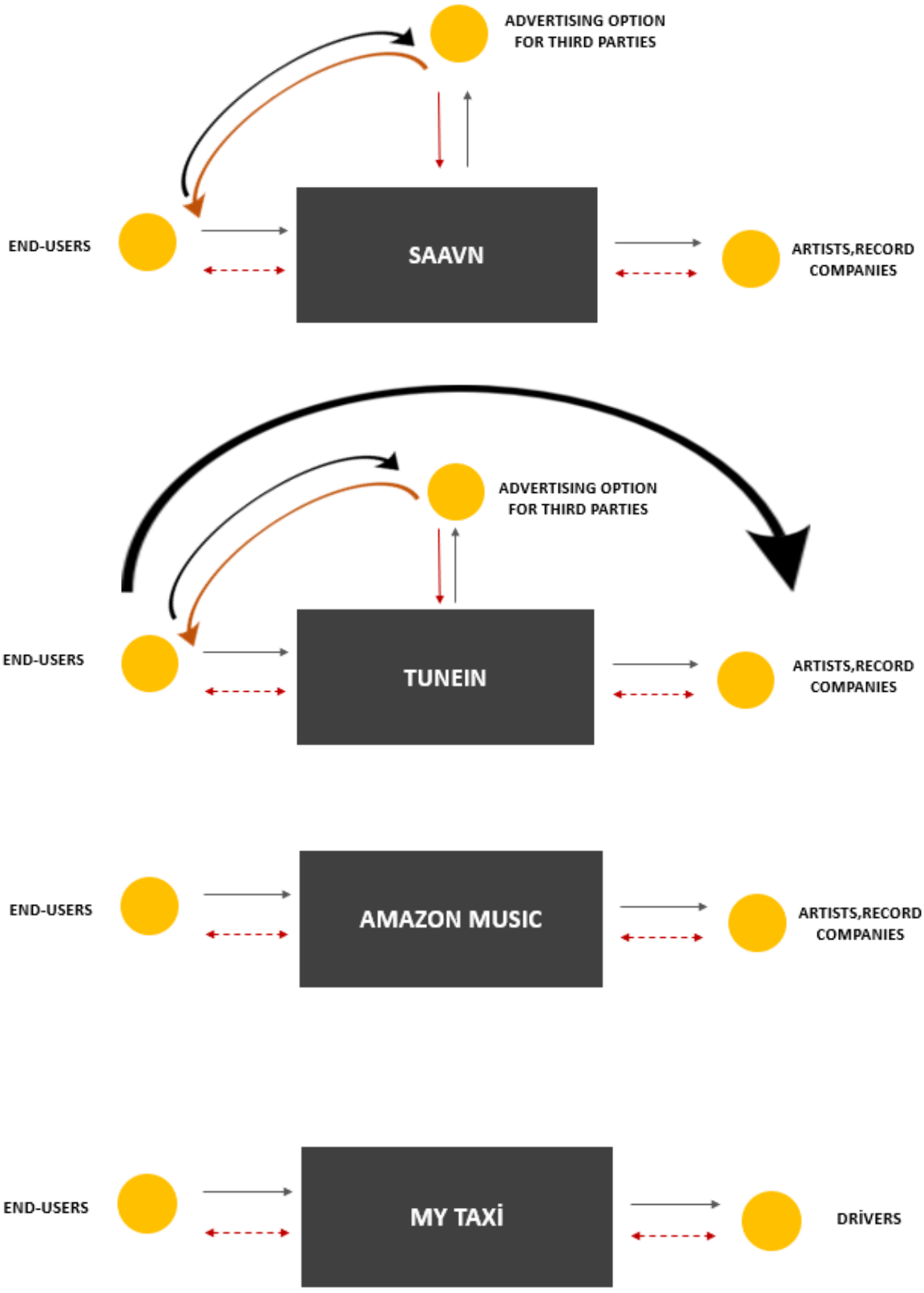
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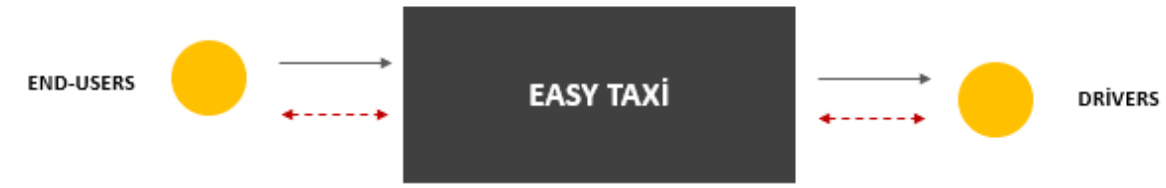
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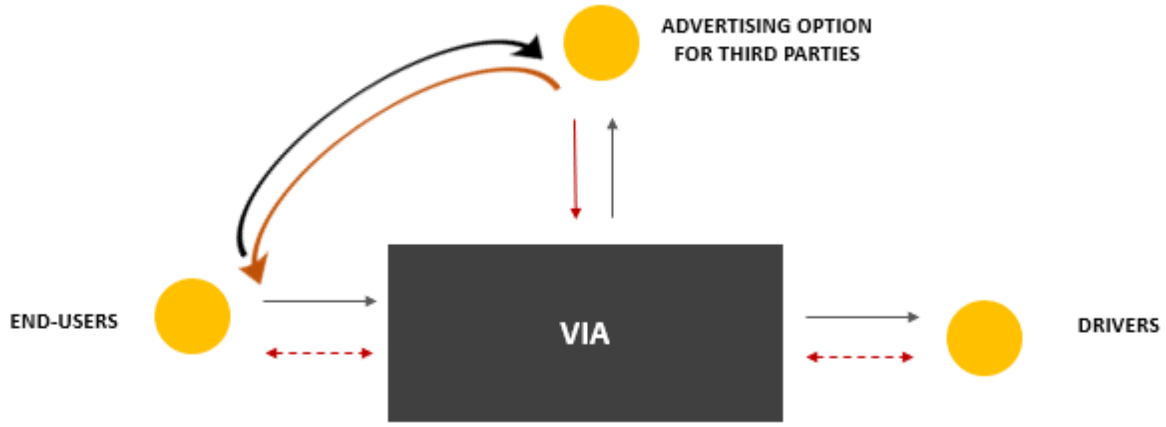
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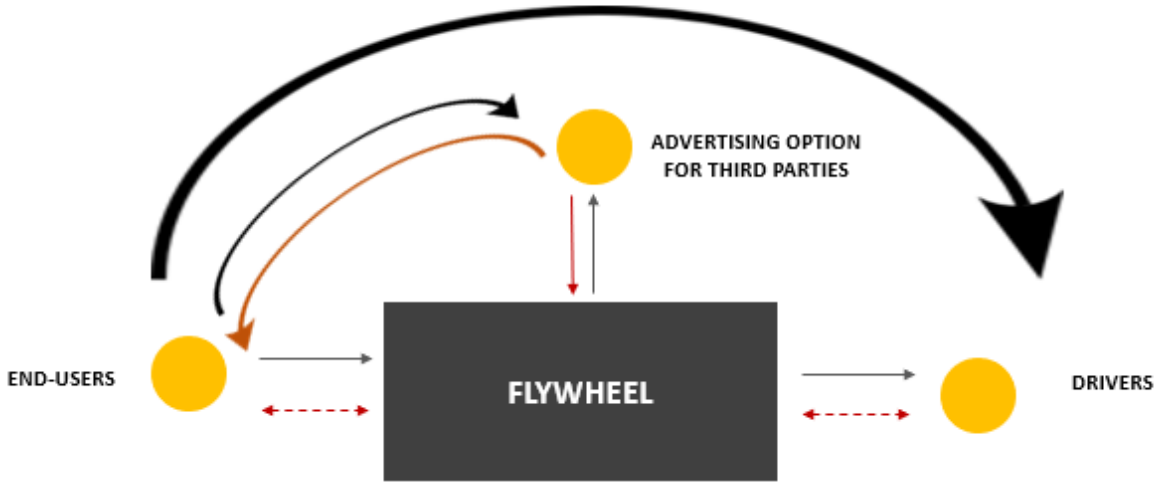
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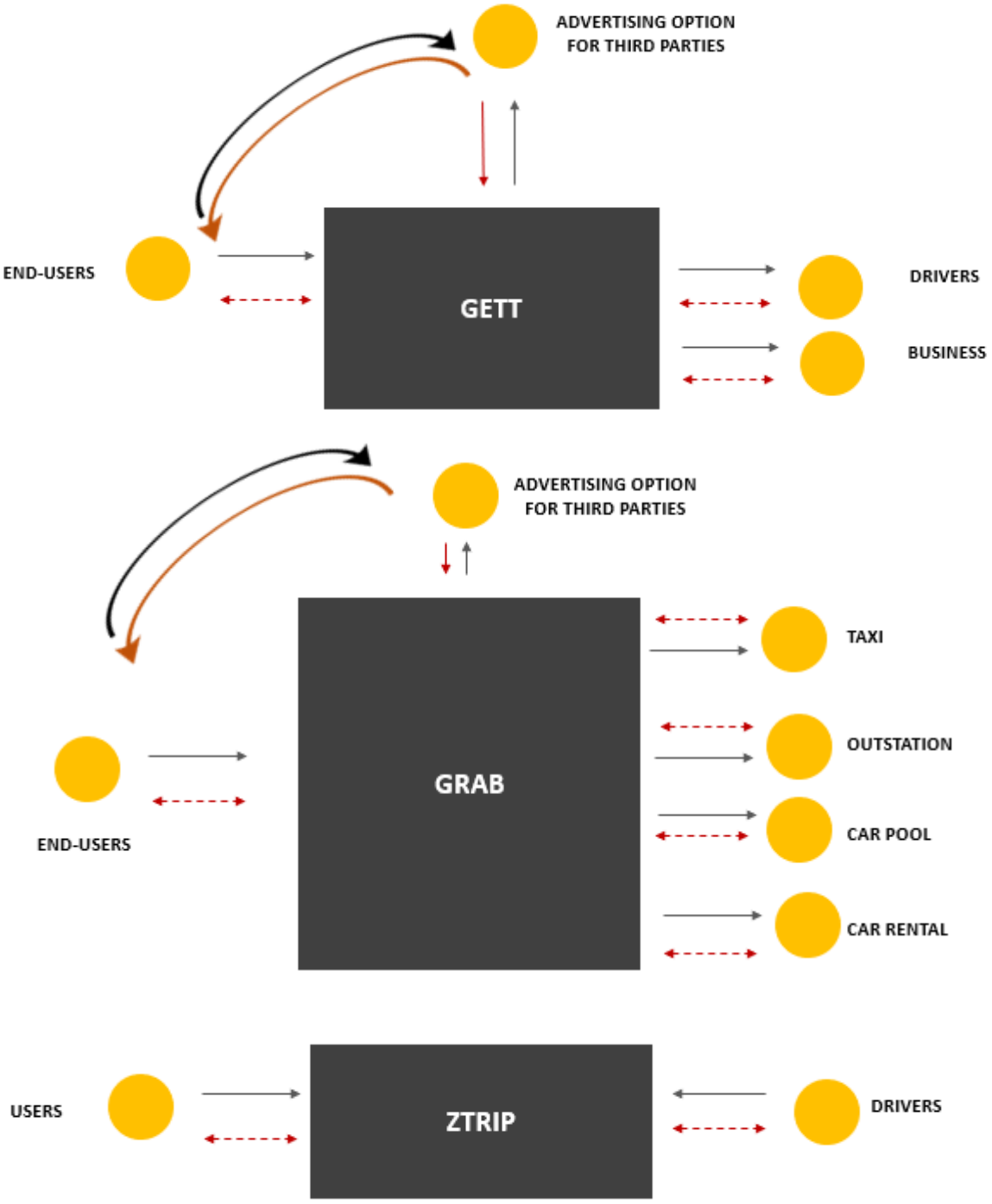
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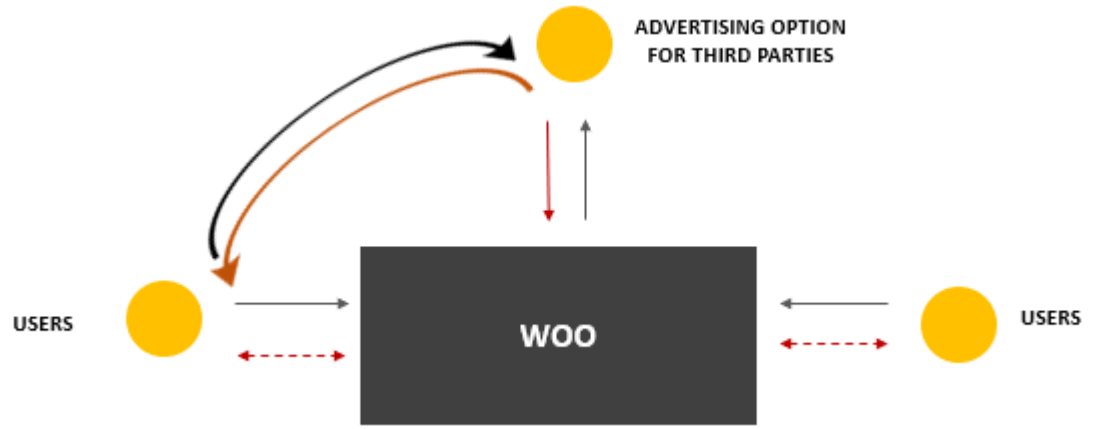
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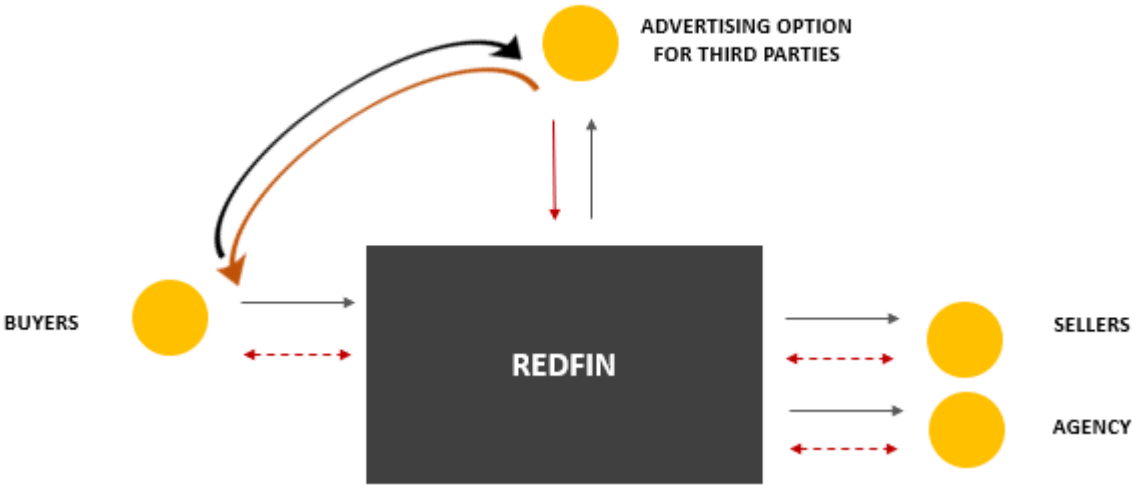
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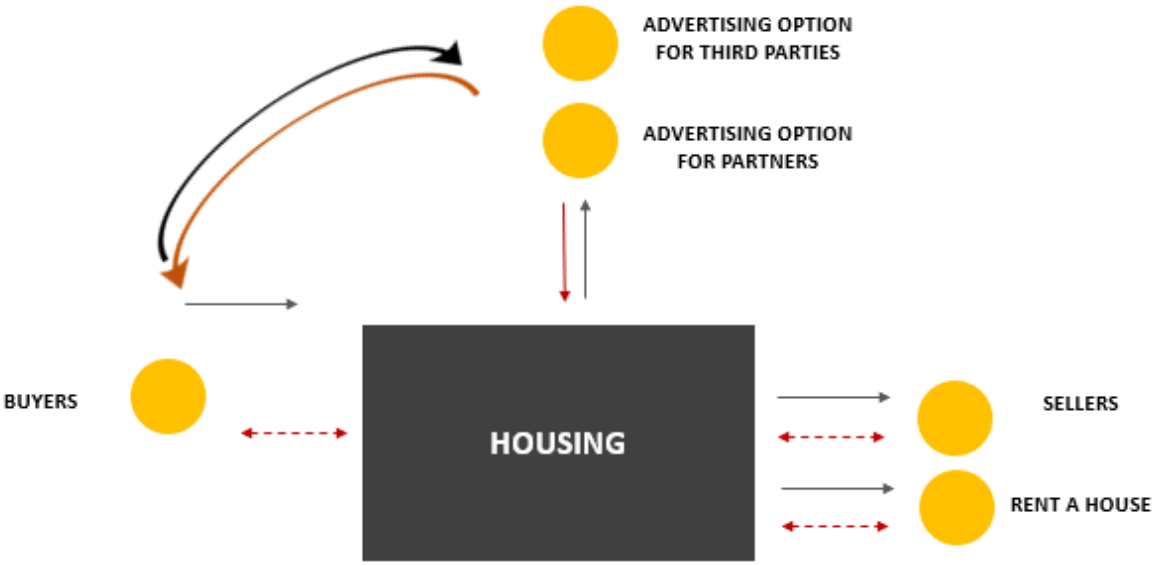
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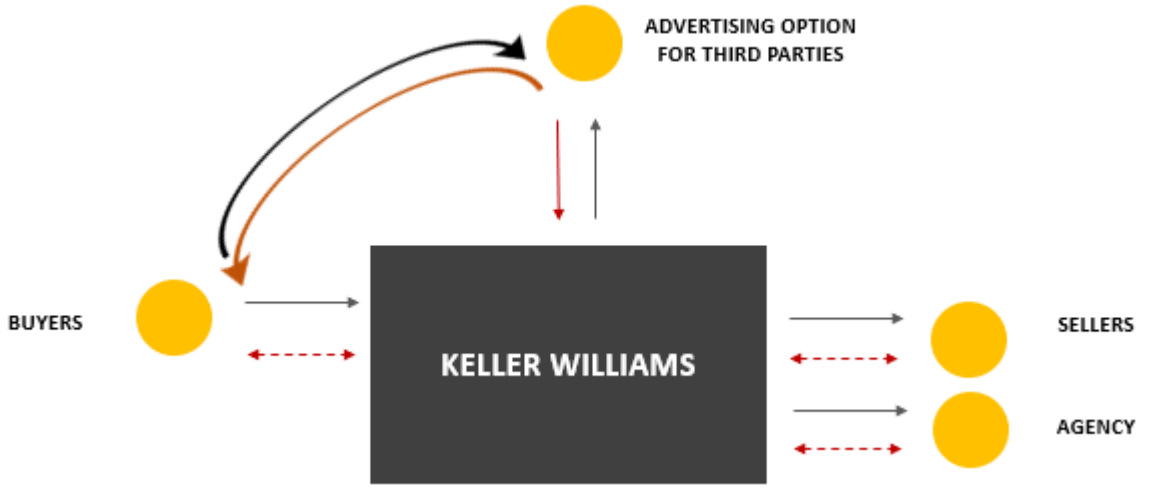
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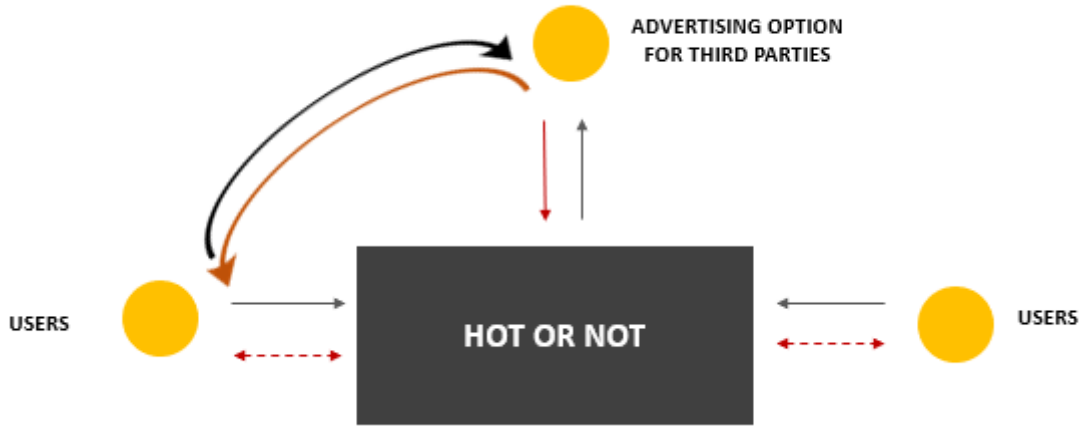
FOR THIRD PARTIES
BUYERS
KELLER WILLIAMS
SELLERS
AGENCY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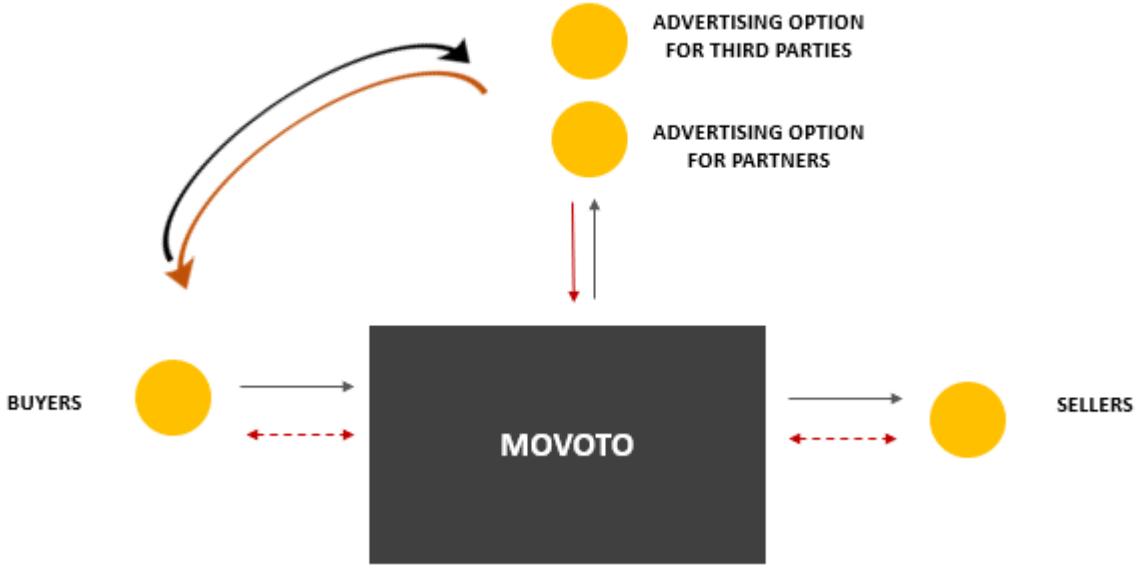
USERS
HOT OR NOT
USERS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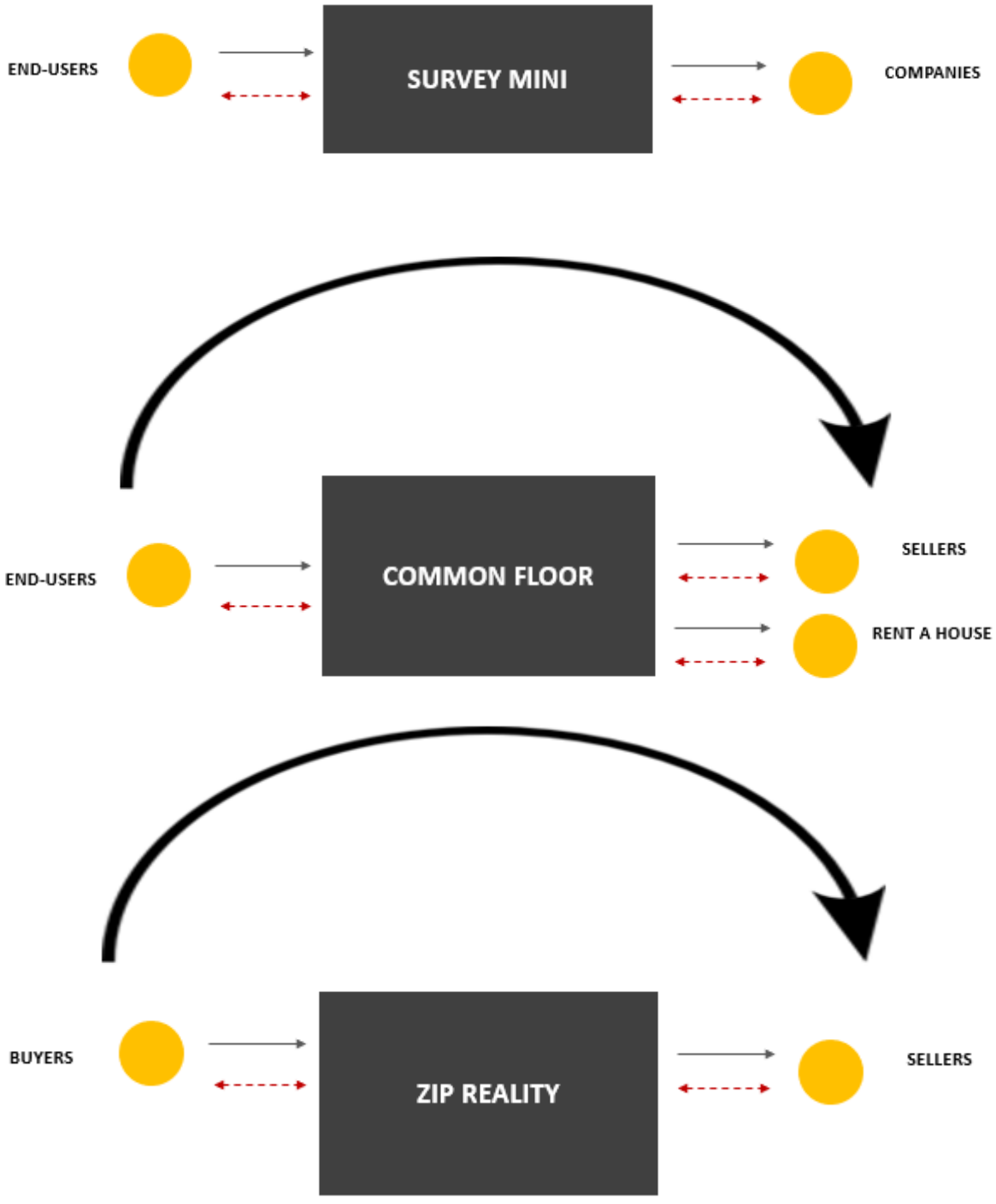
ADVERTISING OPTION
FOR PARTNERS
BUYERS
MOVOTO
SELLERS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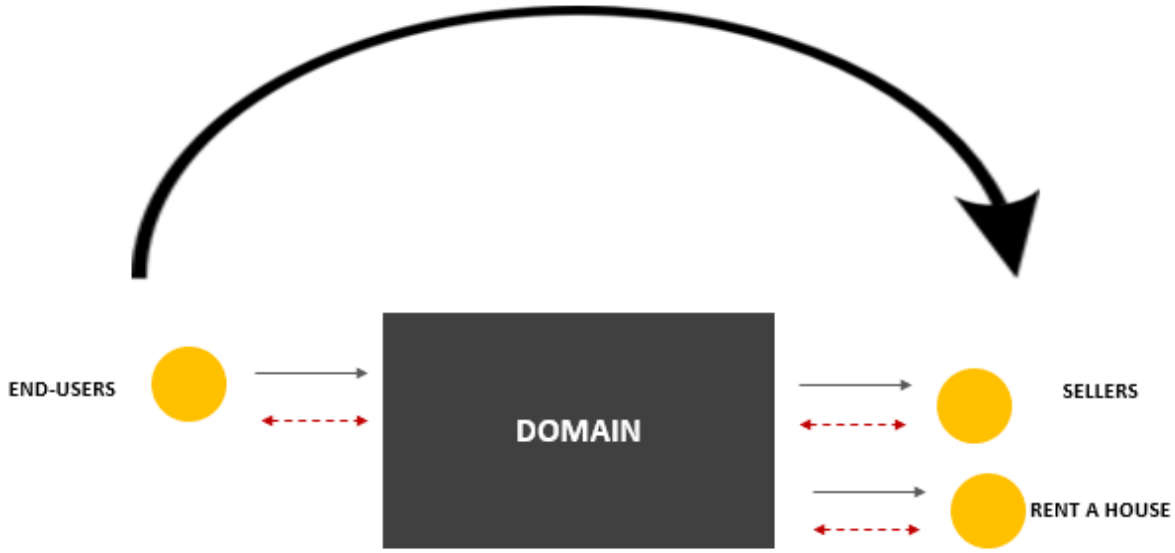
COMMON FLOOR
SELLERS
RENT A HOUSE
BUYERS
ZIP REALITY
SELLERS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DOMAIN
SELLERS
RENT A HOUSE


END-USERS
SURVEY MINI
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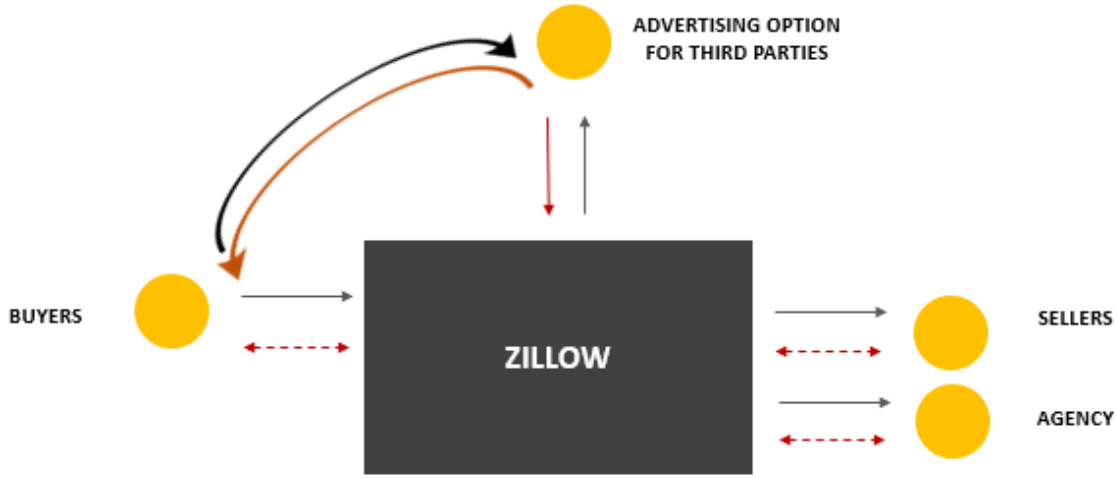
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FOR THIRD PARTIES
BUYERS
ZILLOW
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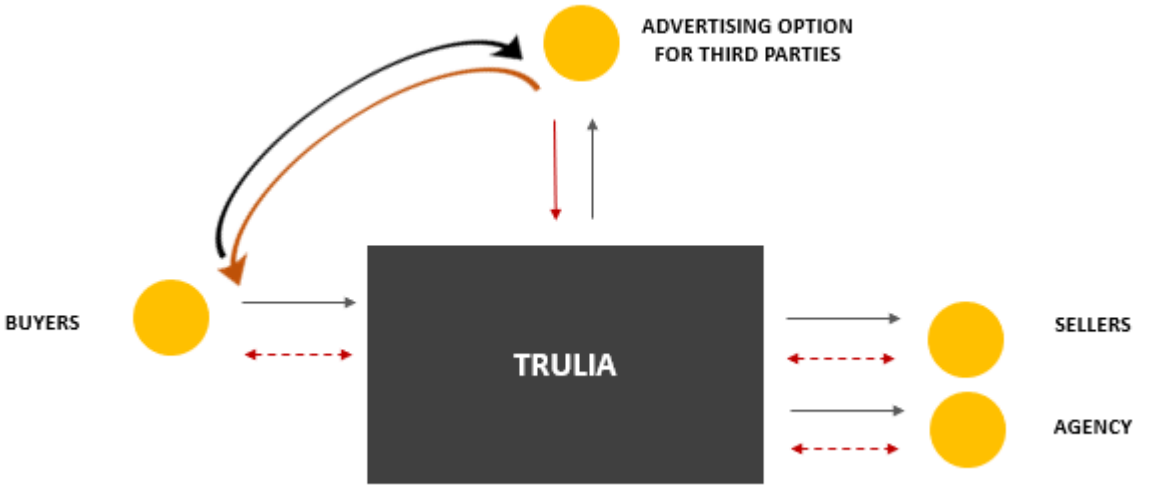
AGENCY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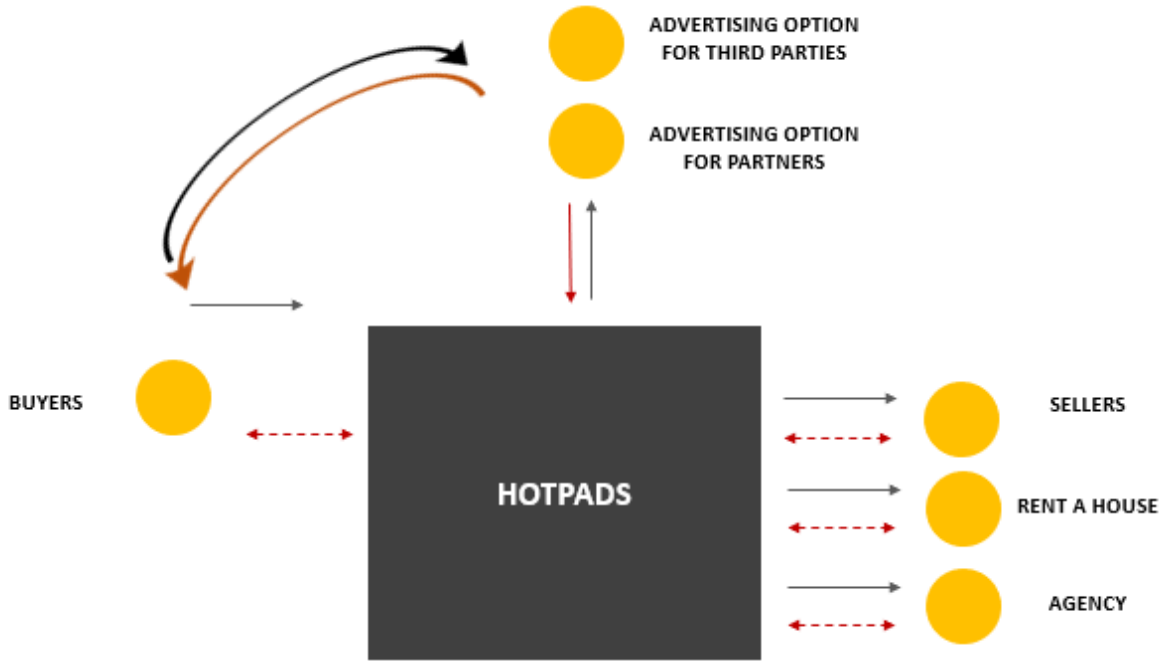
FOR THIRD PARTIES
BUYERS
TRULIA
SELLERS
AGENCY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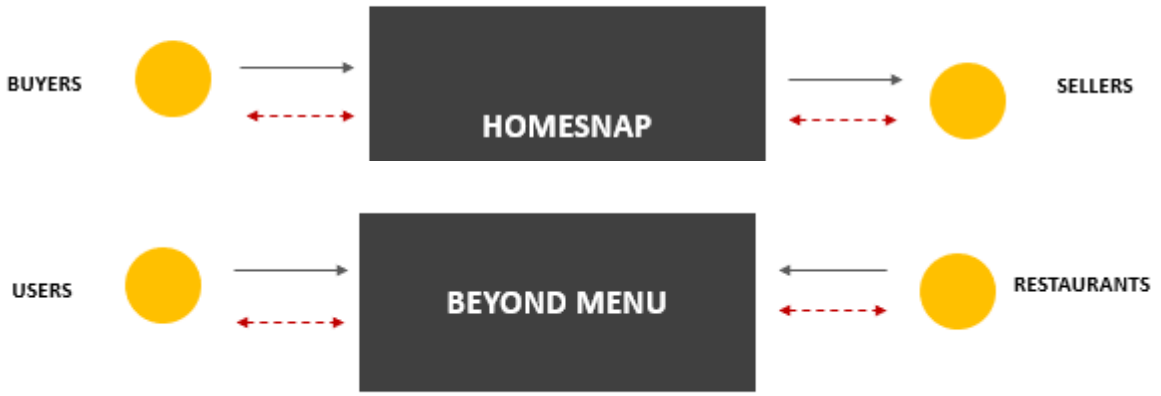
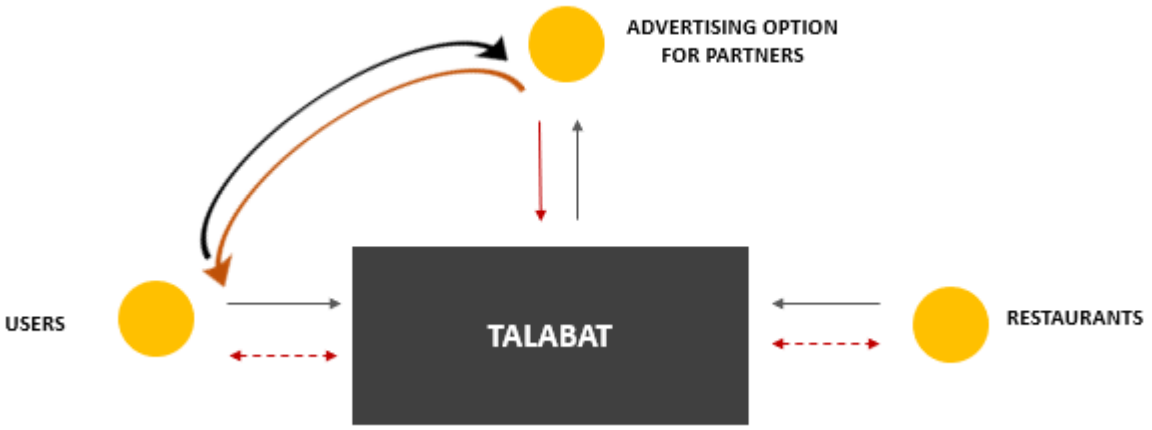
ADVERTISING OPTION
FOR PARTNERS
BUYERS
HOTPADS
SELLERS
RENT A HOUSE
AGENCY


BUYERS
HOMESNAP
SELLERS
USERS
BEYOND MENU
RESTAURANTS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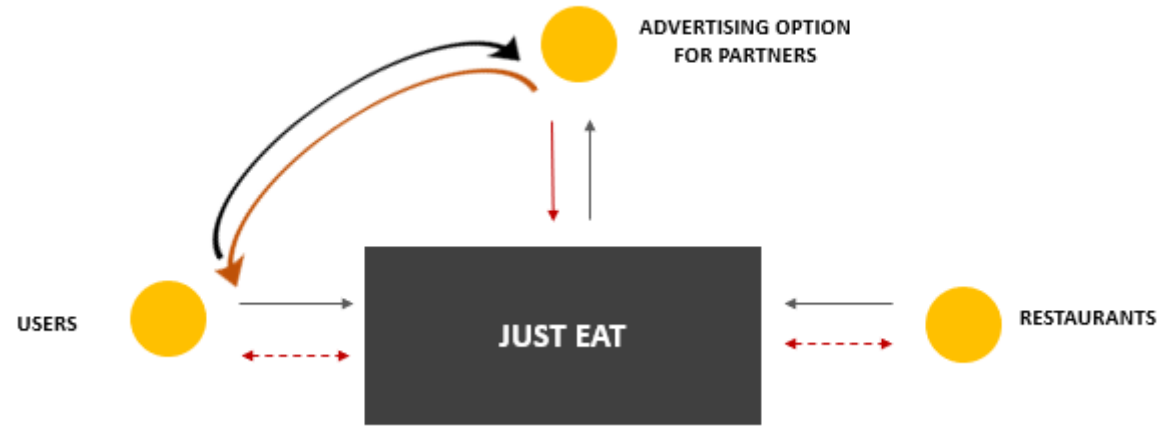
FOR PARTNERS
USERS
TALABAT
RESTAURANTS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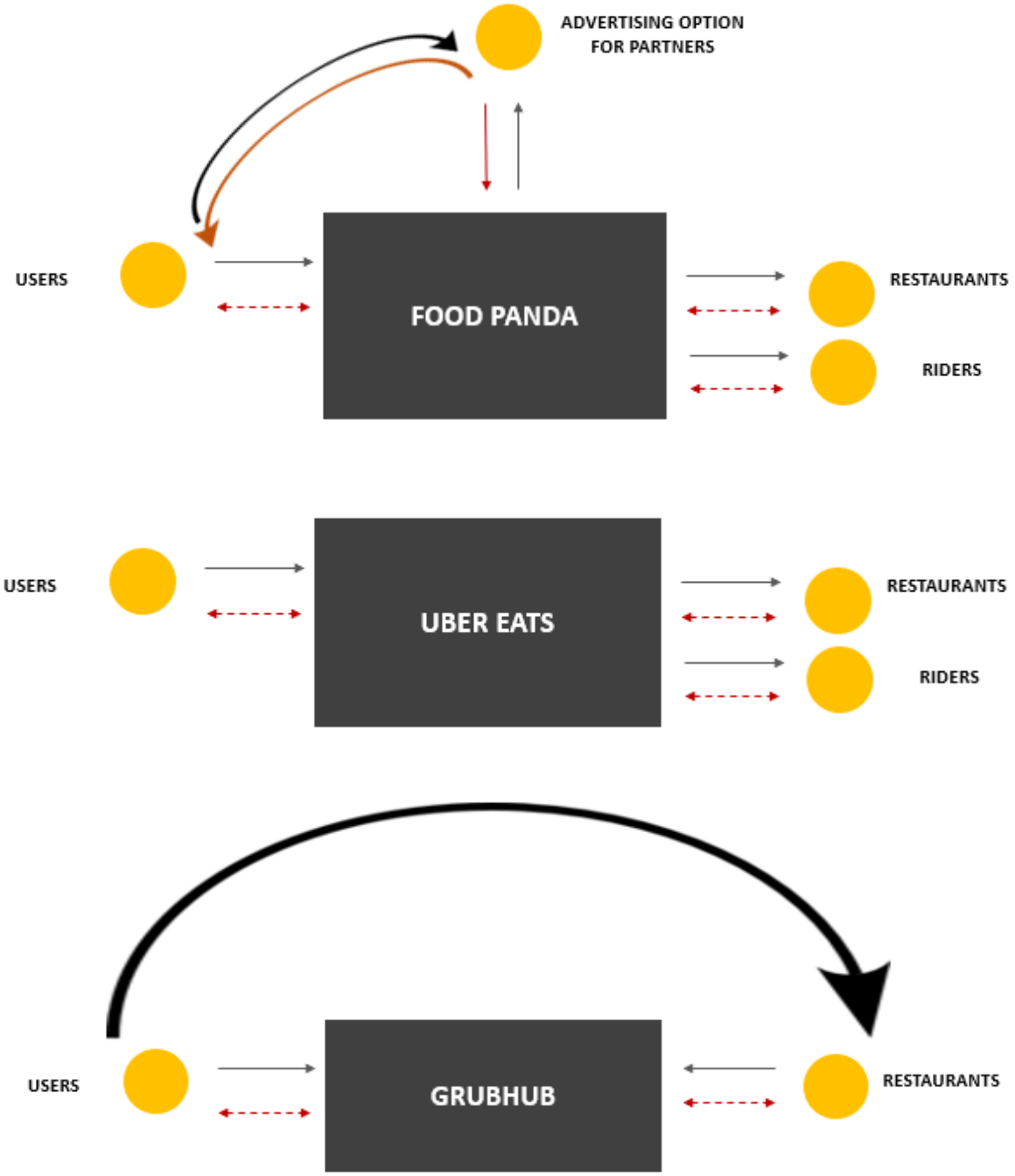
FOR PARTNERS
USERS
JUST EAT
RESTAURANTS


USERS
EAT24
RESTAURANTS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FOR PARTNERS
USERS
FOOD PANDA
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RIDERS
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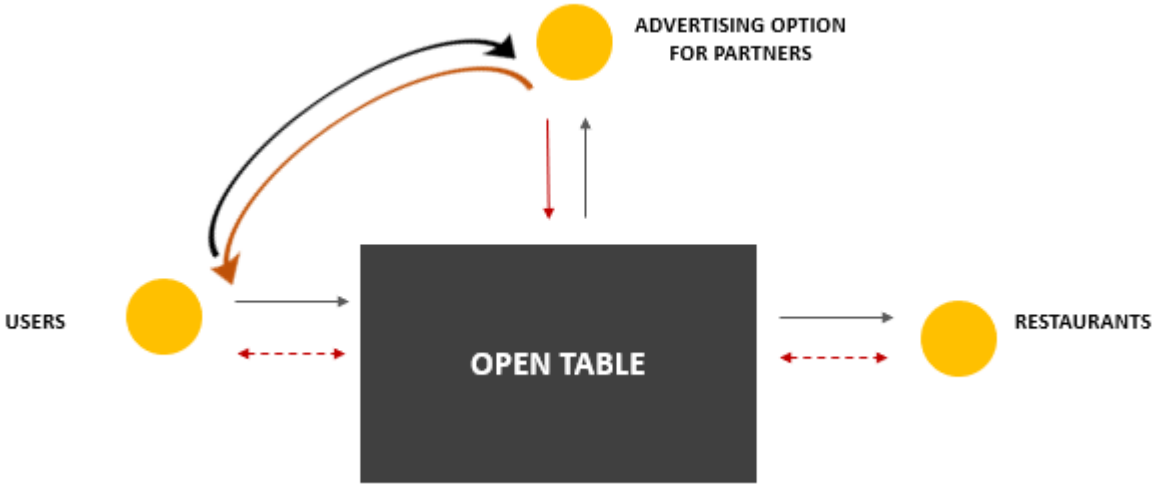
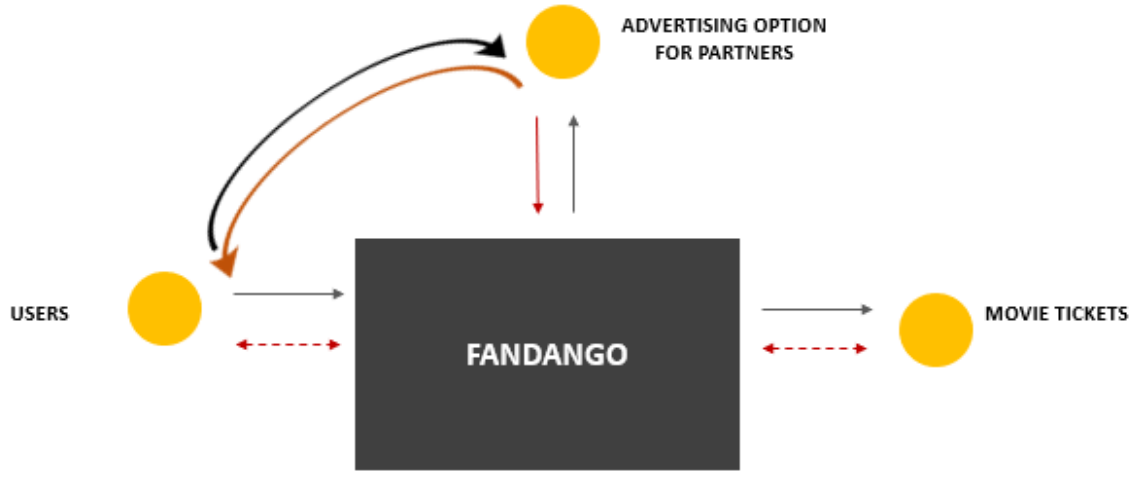
RESTAURANTS


ADVERTISING OPTION
FOR PARTNERS
USERS
OPEN TABLE
RESTAURANTS


USERS
GOOGLE PLAY MOVIES
MOVIES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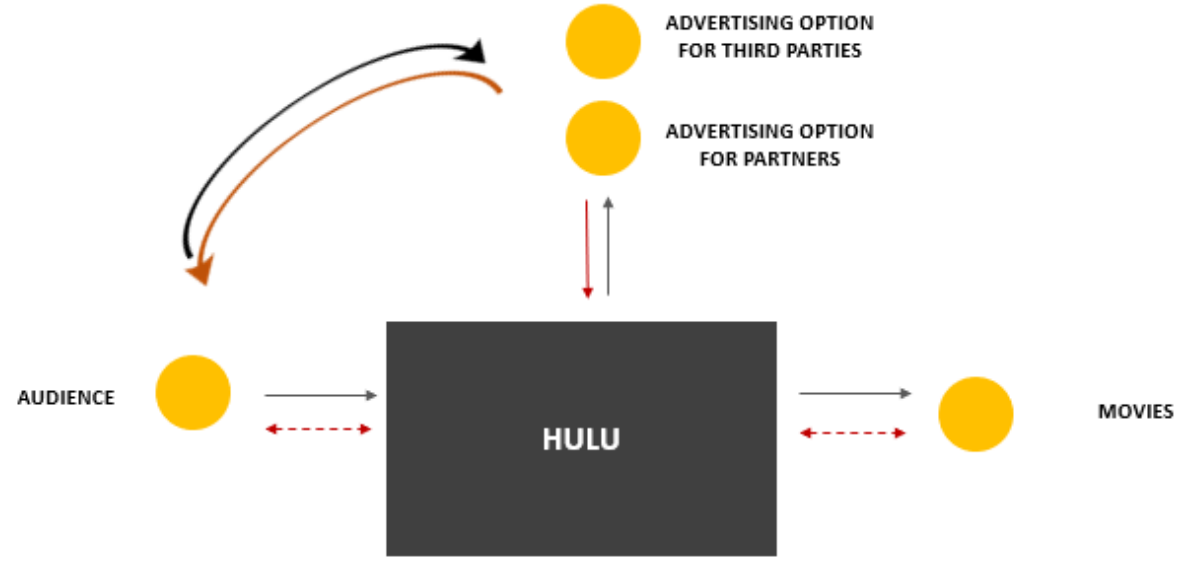
FOR PARTNERS
USERS
FANDANGO
MOVIE TICKETS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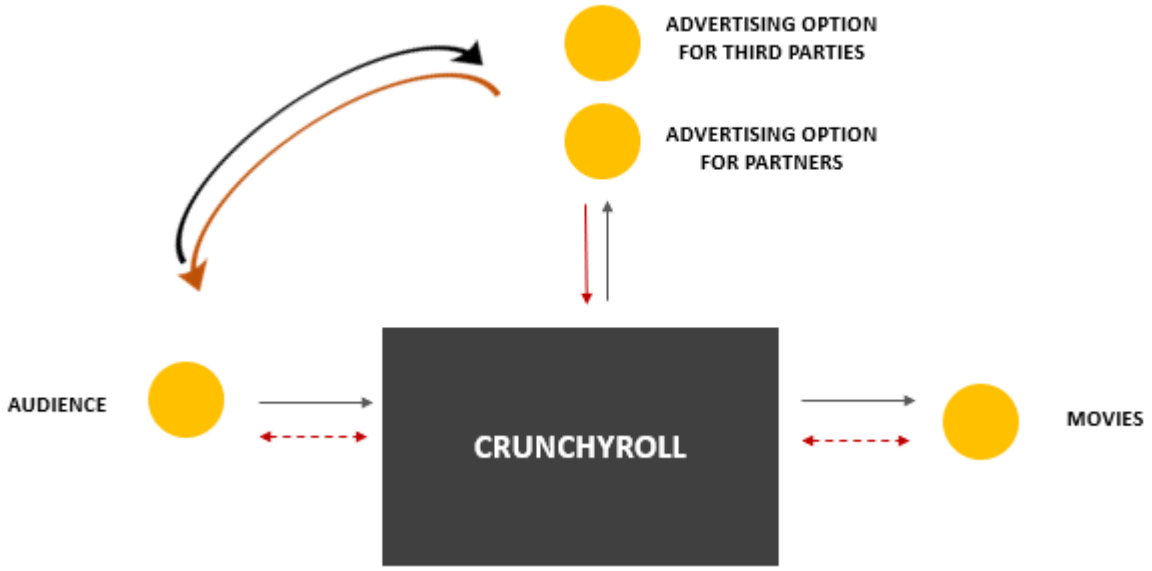
FOR THIRD PARTIES
ADVERTISING OPTION
FOR PARTNERS
AUDIENCE
HULU
MOVIES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FOR PARTNERS
AUDIENCE
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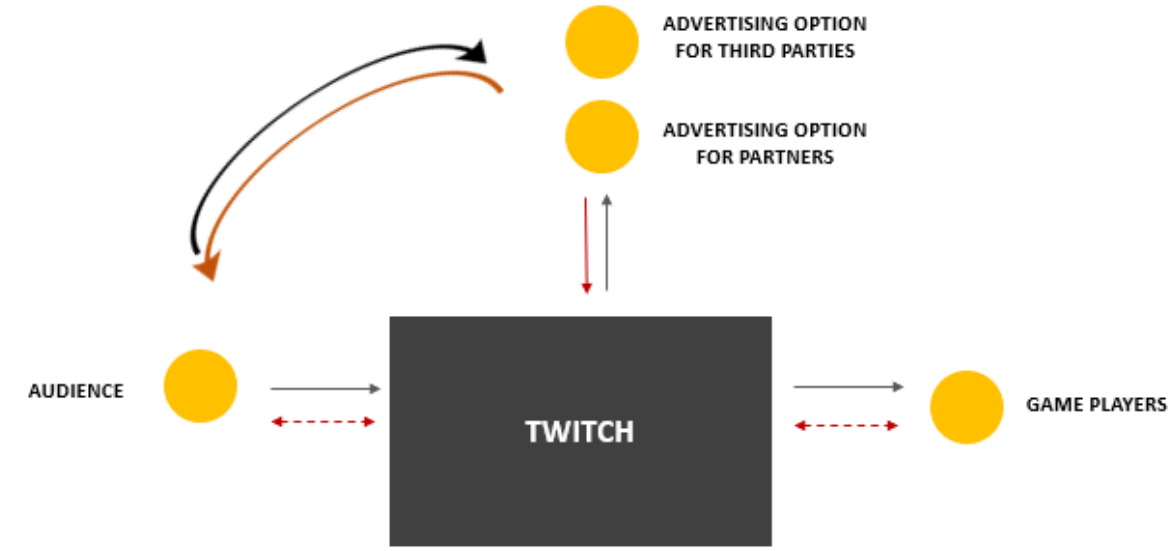
MOVIES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FOR THIRD PARTIES
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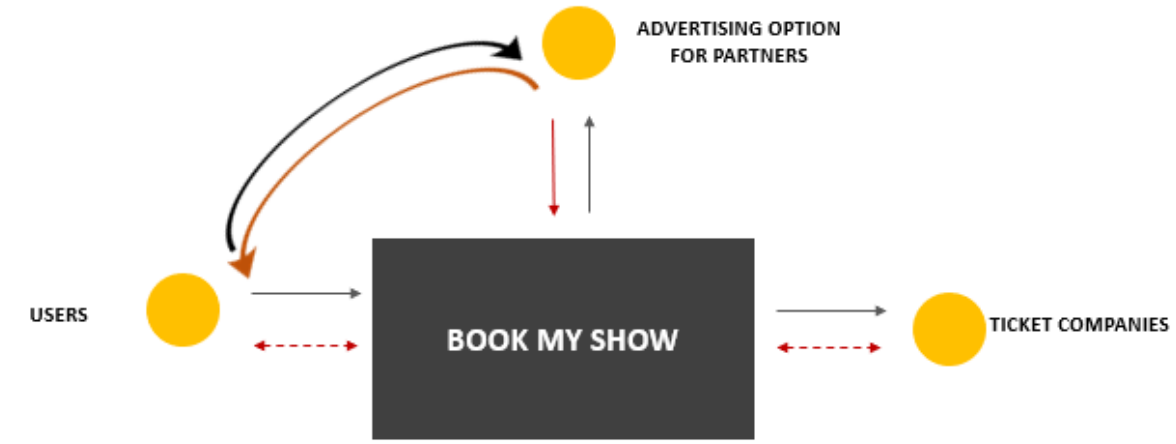
FOR PARTNERS
AUDIENCE
TWITCH
GAME PLAYERS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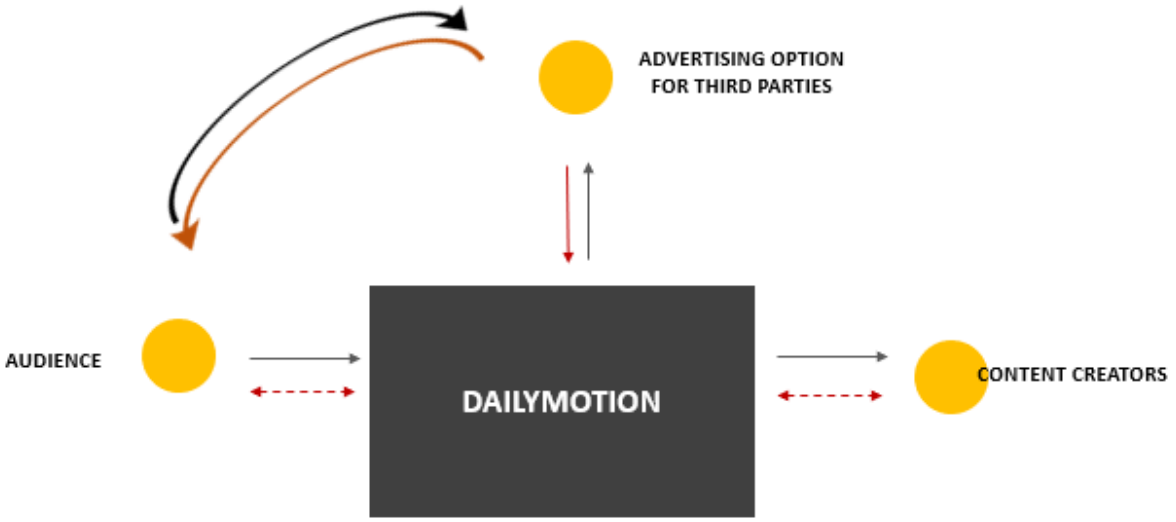
FOR PARTNERS
USERS
BOOK MY SHOW
TICKET COMPANIES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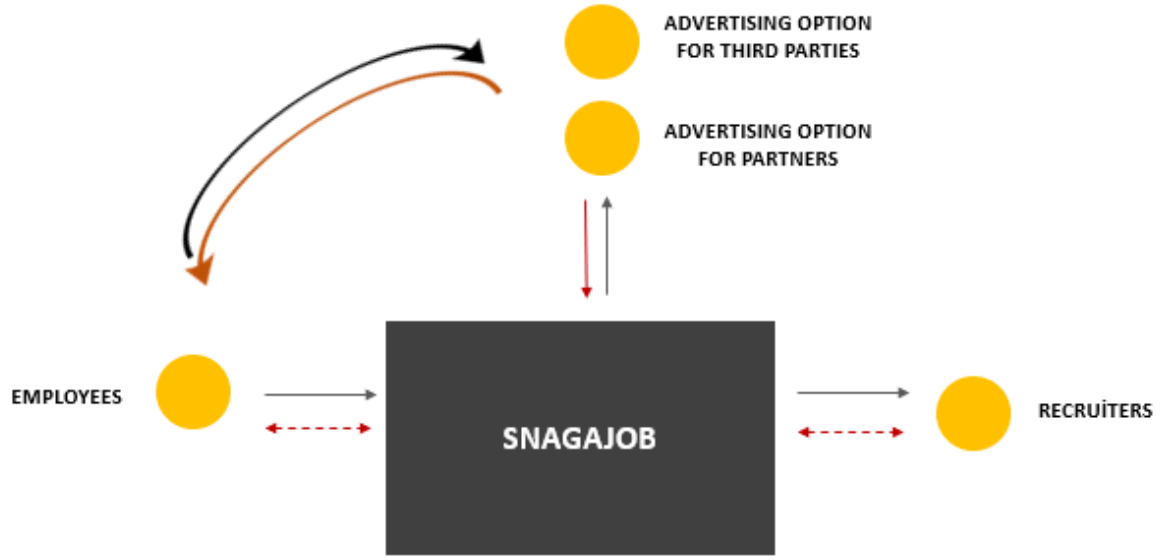
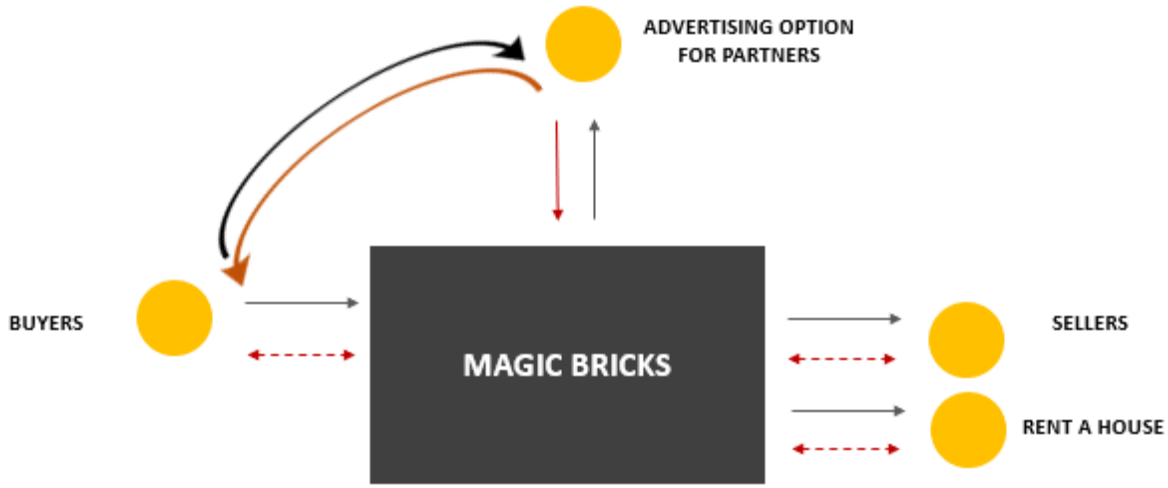
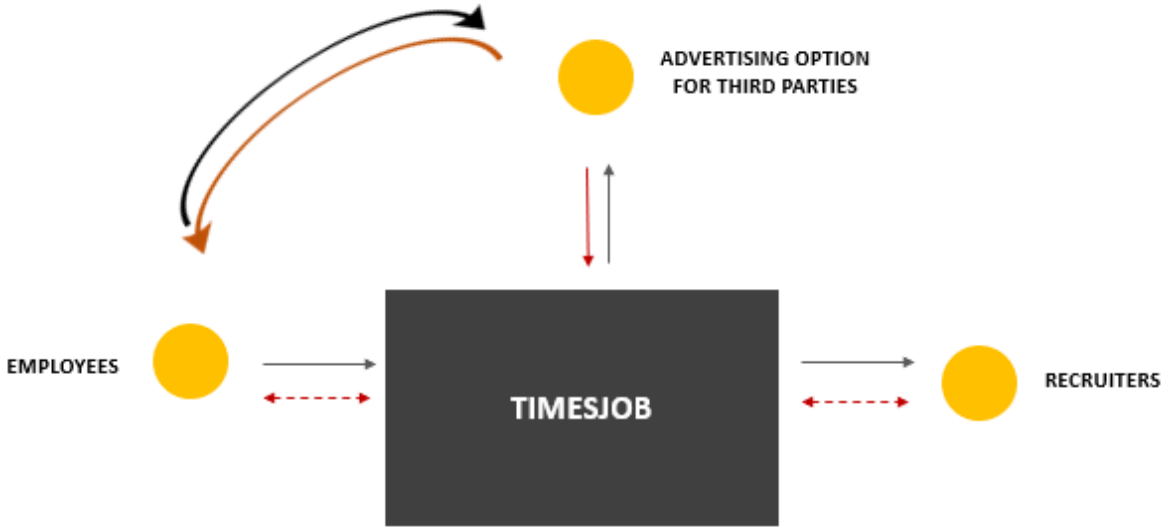
FOR THIRD PARTIES
AUDIENCE
DAILYMOTION
CONTENT CREATORS


ADVERTISING OPTION
FOR THIRD PARTIES
ADVERTISING OPTION
FOR PARTNERS
EMPLOYEES
SNAGAJOB
RECRUITERS


ADVERTISING OPTION
FOR PARTNERS
BUYERS
MAGIC BRICKS
SELLERS
RENT A HOUSE


EMPLOYEES
YAMMER
EMPLOYEES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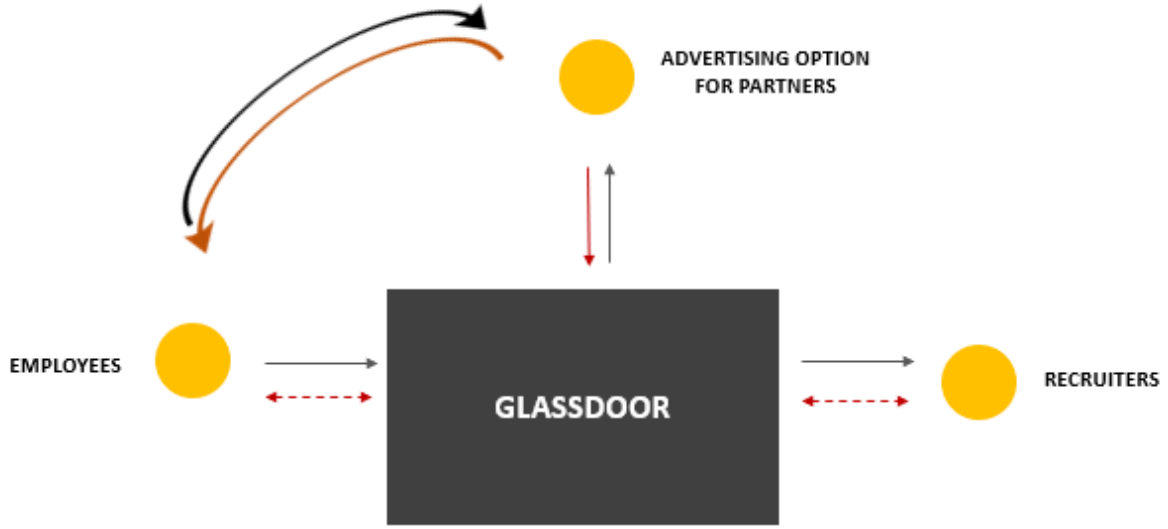
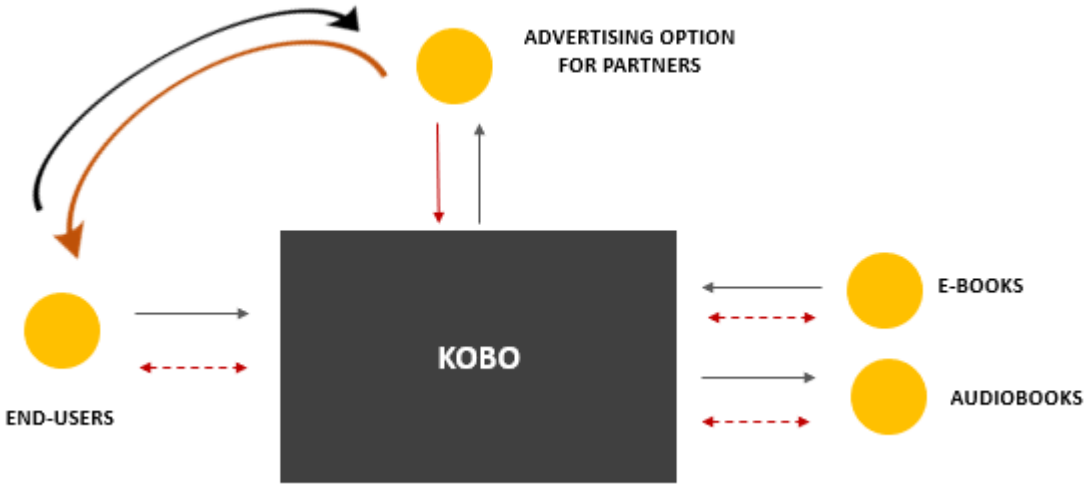
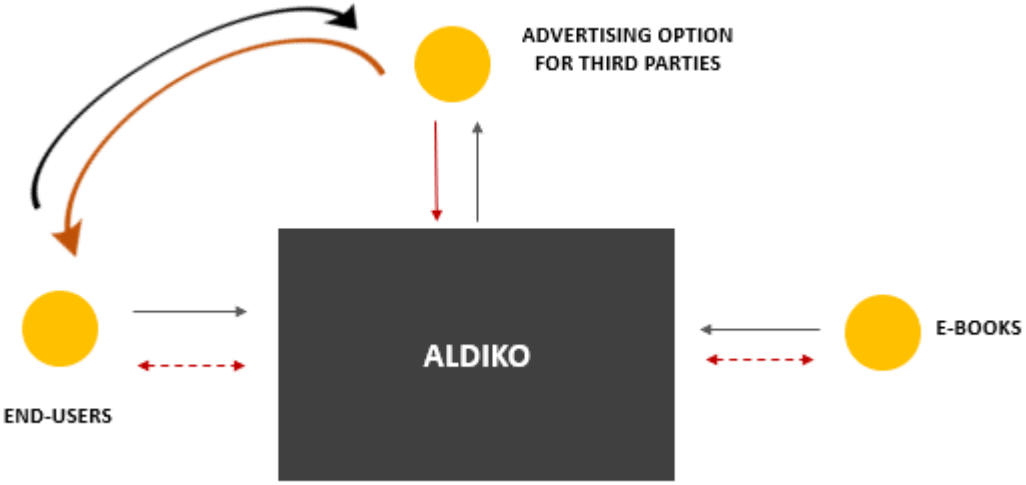
FOR THIRD PARTIES
EMPLOYEES
TIMESJOB
RECRUITERS


ADVERTISING OPTION
FOR PARTNERS
EMPLOYEES
GLASSDOOR
RECRUITERS


ADVERTISING OPTION
FOR PARTNERS
END-USERS
KOBO
E-BOOKS
AUDIOBOOKS


READERS
LIBRIVOX
AUDIOBOOKS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FOR THIRD PARTIES
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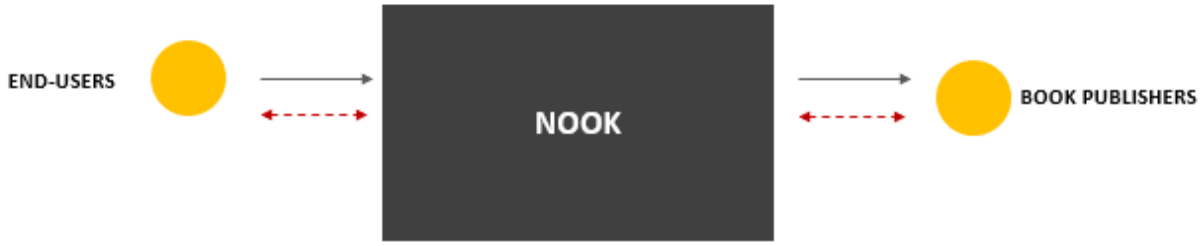
END-USERS
E-BOOKS


END-USERS
NOOK
BOOK PUBLISHERS


END-USERS
OVERDRIVE
LIBRARIES
PUBLISHERS
SCHOOLS


END-USERS
AUDIOBOOKS
AUDIOBOOK
PUBLISHERS