

Bachelor's Thesis

Business Administration

6/2021

Pinbos 16

1603367

Ngan (Thi Kim) Dao

MAIN BUSINESS MODELS OF HOME-SERVICES ONLINE-MARKETPLACE

– A multiple-case study from America and Finland



BACHELOR'S THESIS | ABSTRACT

TURKU UNIVERSITY OF APPLIED SCIENCES

Degree programme in International Business

2021 | 57 pages

Ngan Dao

MAIN BUSINESS MODELS OF HOME-SERVICES ONLINE-MARKETPLACE

- A multiple-case study from America and Finland

Home-services Online-marketplace (HS OMP) is a business grounded in a digital platform. It enables the independent users of the Demand and Supply sides to match and interact directly with each other for Home Services (HS) trading. OMPs nailed in the HS market are found in a growing number, thanks to the developments in the Internet, digital technologies, smartphone diffusion, the millennial generation, and the sole trader era. HS OMPs in America are mature and competitive, while Finland has few players in the game regardless of its attractive market. Creating a new HS OMP in Finland requires finding viable HS OMP's business models fitting the market. Moreover, diverse business models of HS OMP from a holistic perspective have been missing from studies. In order to fill this gap, this paper presents the main business models of HS OMPs from 5 successful case companies in America and 2 existing ones in Finland. The exploration of HS OMP's main business models is based on the theoretical framework and a multiple case study. On the one hand, the business model analysis of 7 case companies can be used to design viable business models as well as strategies for a new HS OMP in Finland. On the other hand, it can be used to uncover the subtle and innovative designs of the HS OMP business model in satisfying demand and supply sides simultaneously.

KEYWORDS:

Online (digital) Marketplace; Multisided Platform; Home services; Household services; Business model.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS (OR) SYMBOLS.....	6
1 INTRODUCTION.....	7
1.1 The phenomenon.....	7
1.2 Research purposes.....	14
1.3 Research questions.....	16
1.4 Personal motivation.....	17
2 THEORETICAL BACKGROUND.....	19
2.1 Approach to business model of Online Marketplace.....	19
2.2 The Business Model Canvas (hereinafter the Canvas).....	20
2.3 Business model framework to characterize digital Multisided Platform (hereinafter Marco framework).....	24
2.4 Conclusion on adopted business model blueprint: The Canvas vs. the Marco framework.....	30
3 METHODOLOGY.....	33
3.1 Methodological choice - The use of a qualitative method.....	33
3.2 Strategy – A multiple-case study.....	33
3.3 Case companies.....	34
3.4 Data collection.....	35
3.5 Data analysis.....	36
3.6 Research purpose.....	37
3.7 Credibility.....	38
4 EMPIRICAL FINDINGS AND DISCUSSION.....	39
4.1 The table of business models in seven case studies.....	39

4.2	Discussion of the X-axis: Configurations of seven areas of the blueprint	45
5	CONCLUSION.....	50
	REFERENCES	52

FIGURES

Figure 1: Functions of an Online Marketplace (Bakos, 1998)	8
Figure 2: Simplicity of Home Service Online Marketplace (Dao, 2021)	11
Figure 3: Funnel of research purpose (Dao, 2021)	15
Figure 4: Scope of the study (Dao, 2021)	16
Figure 5: Business Model Pattern of OMP	23
Figure 6: Platform Value Proposition Components (Ardolino, et al., 2020)	25
Figure 7: Platform Sides Components (Ardolino, et al., 2020)	26
Figure 8: Platform Revenue Model Components (Ardolino, et al., 2020)	27
Figure 9: Platform Control Components (Ardolino, et al., 2020)	28
Figure 10: Platform Competition Components (Ardolino, et al., 2020)	29
Figure 11: Platform Architecture Components (Ardolino, et al., 2020)	30
Figure 12: Summary of the blueprint (Dao, 2021)	32
Figure 13: Data analysis template (Dao, 2021)	37
Figure 14: Platform Sides in seven case studies (Dao, 2021)	43
Figure 15: Platform Revenue Models in seven case studies (Dao, 2021)	44

PICTURES

Picture 1: Diffusion of online marketplaces by markets (Tran, et al., 2020)	9
Picture 2: Digital platform businesses of home services (CB Insights, 2016)	10

TABLES

Table 1: Exploratory case study: company descriptions (Dao, 2021)	35
Table 2: Data collection outline (Dao, 2021)	36
Table 3: Vital & suggested configurations for an HS OMP business model (Dao, 2021)	51

LIST OF ABBREVIATIONS (OR) SYMBOLS

HS	Home Services
HS OMPs	Online Marketplace(s) of Home Services
MSP	Multisided platform
OMP	Online Marketplace(s)
US	United States
\$	Dollar
€	Euro

1 INTRODUCTION

1.1 The phenomenon

Online Marketplace (OMP) – A business grounded in digital platform

The Internet revolution and technological advances have made the pavement for novel digital platform-grounded businesses and one of them is Online Marketplace (OMP). OMP is a transaction platform that makes the transaction possible between different individuals and organizations (Evans & Gawer, 2016). Because OMP allows people to buy and sell goods or services on a website, it is considered a type of e-commerce website (Tran, et al., 2020), precisely an e-commerce marketplace website. Simultaneously, OMP is an example of a digital Multisided Platform (MSP) (Hagiu & Wright, 2015) that enables and escalates the demand matching between two or more distinct but interdependent groups of customers (Hagiu & Wright, 2015). Interestingly, scholars often used these terms interchangeably: OMP, MSPs, multisided markets, platform-based markets and platform ecosystems (Ardolino, et al., 2020). Generally, Bakos (Bakos, 1998) concluded three focal functions of an internet-based electronic marketplace, summarized in figure 1: matching buyer preferences and seller offerings include the determination of product features, searching for buyers/sellers and how the price is decided figured out for the trade to occur; facilitating the trade of good, services, payments and trust for a transaction to happen; and providing rules and regulations that keep the market functioning and transacting efficiently.

<p>Matching buyers and sellers</p> <ul style="list-style-type: none"> • Determination of product offerings <ul style="list-style-type: none"> - Product features offered by sellers - Aggregation of different products • Search (of buyers for sellers and of sellers for buyers) <ul style="list-style-type: none"> - Price and product information - Matching seller offerings with buyer preferences • Price discovery <ul style="list-style-type: none"> - Process and outcome in determination of prices <p>Facilitation of transactions</p> <ul style="list-style-type: none"> • Logistics <ul style="list-style-type: none"> - Delivery of information, good, or service to buyer • Settlement <ul style="list-style-type: none"> - Transfer of payment to seller • Trust <ul style="list-style-type: none"> - Credit system, reputations, rating agencies like Consumer Reports and Better Business Bureaus <p>Institutional infrastructure</p> <ul style="list-style-type: none"> • Legal <ul style="list-style-type: none"> - Commercial code, contract law, dispute resolution, intellectual property protection • Regulatory <ul style="list-style-type: none"> - Rules and regulations, monitoring, enforcement
--

Table 1. Functions of a market

Figure 1: Functions of an Online Marketplace (Bakos, 1998)

The business model characteristic of OMP is extraordinary in the sense that it enables the network effect and ecosystem of independent participation to cocreate values and innovation. A network effect is the unique characteristic of a platform when it means "more users beget more users" (Evans & Gawer, 2016). It is a feedback loop of more users on one side attracted by more users from the other side. OMP cannot operate with just either the demand/buy-side or supply/sell-side. OMP users gain more benefits when a new participant joins the network. Benefits are often in the form of more transactions, competitive offering prices, various choices, and reviews (Tran, et al., 2020). As a result of the network effect, the increasing number of users enhances the platform values (Parker & Alstyne, 2005).

Digitalization and the disruptive success of OMP such as eBay (used item), Amazon (new products), Uber (transportation), and Airbnb (accommodation) have made this digital platform model remarkably popular. OMP leverages the internet and digital technology development to reinforce its technological quality in advanced search, better matching mechanisms, efficient transaction security, and trust establishment (Evans & Schmalensee, 2016). The technological possibilities and the rapid diffusion of smartphones empowered the OMP model to build peculiar connections between internet users in almost any kind of market (Täuscher & M.Laudien, 2018). Picture 1 displayed the invasive existence of OMP platforms in unprecedented markets. Based on the data

from Digital Commerce 360 (Ali, 2020), 57% of global online web sales came from OMP sales, when "\$1.97 trillion spend globally on the top 100 online marketplaces in 2019". OMP has transformed competitions in industries and connected previously unmatched markets (Hagiu & Wright, 2015).



Picture 1: Diffusion of online marketplaces by markets (Tran, et al., 2020)

Home Services (HS) – An emerging and lucrative market

For the purpose of this study, Home Services (HS) will be understood as: Home Services encompass various intangible assets that businesses provide for residential homes and premises (Verified Market Research, 2020). HS span covers many business sectors categorized by repairs and maintenance and by home improvement. This study will focus

on these areas of HS. The former consists of electricity, plumbing, gas, HVAC, non-HVAC home appliances, handyman, roofing, landscaping, pest control, and other services. The latter relates to construction and interior design services. Many analogies of Home Services include those listed services, such as Personal and Household Services (European Commission, 2012) and Home Improvement Services (Maryland Department Of Labor, 2018) or On-demand Home Services.

HS market is growing noticeably, thanks to the advancement of the internet and technology. Online solutions with instant searching and booking services virtually on wireless devices offer consumers a more convenient way to acquire an HS provider. The easier connection between HS consumers and HS do-ers boosts demands and supplies for the HS market. HS is a lucrative market. From 2019 to 2026, the global HS market is estimated to increase by 18.91% and reach \$1130.40 billion (Verified Market Research, 2019).

Many types of companies nailed and succeeded in the HS market. One prominent example is OMP. The following graphic (picture 2) highlighted over 60 successful global start-ups subcategorized under the HS market and raised approximately 1.5 billion USD in investment (CB Insights, 2016). Over half of those listed platform businesses are OMP platforms.



Picture 2: Digital platform businesses of home services (CB Insights, 2016)

Home Service Online Marketplaces (HS OMPs) - scope of the concept

The e-commerce websites that connect directly dwelling owners with home service providers could get many labels. This thesis will refer Online Marketplace for Home Services to Home Services Online Marketplace (HS OMP) for this paper. Why is this label? Because it is the pragmatic name on the Internet, and simply key words reveal a name that works:

Home Service Online Marketplace: Online Marketplace + Home Service

This research addresses HS OMPs as a business enabled by digital technology. It proposes that a firm can be classified as an HS OMP if it achieves the qualification of being an OMP and facilitates trade in HS. Put differently, in this paper, HS OMP as a business model must fulfil the following criteria:

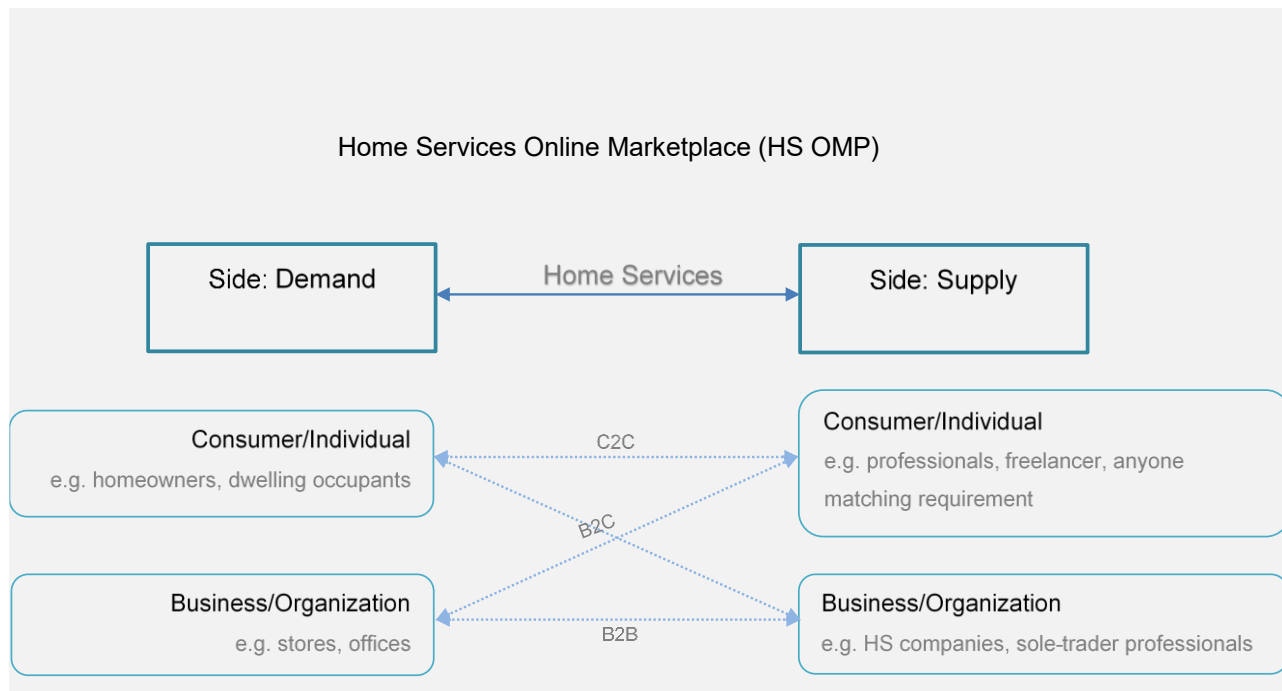


Figure 2: Simplicity of Home Service Online Marketplace (Dao, 2021)

- It allows direct interactions via a digital platform between a demand side and a supply side. In other words, both sides are in control of whether or not they want to initiate and realize their trading possibility of HS (Hagiu & Wright, 2015). Broadly, demand sides are consumers of HS (e.g. homeowners, businesses). Supply sides are providers of HS (e.g. professionals, self-employed or companies).

- It connects independent participants including individuals or organizations from the demand and supply sides (Bakos, 1998). However, the independence of platform users is becoming a grey area. OMP of service, in general, are observed to take a more managed approach toward how freely and directly sides connect (Tran, et al., 2020). Regardless of this contradiction, this condition requires two sides to maintain independent relationships with each other and the platform. Additionally, the platform users have freedom of choosing and deciding whom they want to trade with among the options obtained after their search and match. These criteria differentiate HS OMP to the contractor platform that builds the independent contract with service providers and decides for consumer one specific provider.
- It requires both sides to take specific actions on the platform to interact directly with each other (Hagiu & Wright, 2015). This criterion is sequential from condition that OMP provides users with the institutional and regulatory framework to commit in order to create some level of trusts and efficient functioning of the market transaction (Bakos, 1998).
- It does not supply HS itself. That makes the business model of an HS OMP different from services provider and reseller that permit other companies to offer HS in its digital platform or website (Hagiu & Wright, 2015).

Picture of Home Service Online Marketplace - the ambiguous diversity

HS OMP has been the subject of many discussions over the internet, but the universal understanding of HS OMP remains fragmented. Web developers are interested in explaining the platform building aspect (Jain, 2020; Vdovychenko, 2019; EngineerBabu, n.d.). Meanwhile, marketers like (Kile, n.d.) analysed the pros and cons of several well-known HS OMPs for homeowners (demand-side) and contractors (supply-side). Other existing blogs focused mainly on the price model (Jain, 2020) and perceived utilities (Brown, 2020; EngineerBabu, n.d.). Governors and economists have also attempted to monitor their growing impacts and correlate them with gig economy platform (Schwellnus, et al., 2019), digital labour platform (Brancati, et al., 2019), on-demand high/low-skilled labour platform (Collier, et al., 2017). According to the summary of six business model types for marketplaces (Täuscher & M.Laudien, 2018), the closest classification of HS OMPs is with On-demand Offline Services Marketplace because of the time-sensitive and local-offline-transactional symptoms of HS.

HS OMP has disrupted competition in the HS industry. For instance, a HS service professional nowadays could employ themselves and connect directly to customers via a digital platform to offer service. Its attraction is evidenced by the \$ 1.3B value of the HS OMP Thumbtack (Clark, 2019). Given these high valuations, it is not surprising that Facebook (Perez, 2018), Amazon and Google (Taylor, 2015) also put their feet into this multibillion-dollar HS market and competed with other well-funded HS OMP start-ups. An increasing number of new ventures also claimed to provide “Uber for home services” (CB Insights, 2016). OMP in the HS market mushrooms in favour of the Internet, technology, mobile phone diffusion, the millennial generation, and the growing self-employment era. HS OMP picture correspondingly becomes diverse in which companies have distinct business models and strategies to sustain them from competitors.

HS OMP landscape in Finland vs America: Attractive vs Competitive

Even though HS OMP has received notice from Finnish entrepreneurs who wanted to develop businesses grounded on digital platform and shared economy, Finland's HS OMP business landscape is relatively young and non-competitive compared to the American market. The internet search while this thesis was being written resulted in a handful of HS OMP platforms in Finland. In contrast, the United States is the home of some of the biggest OMPs worldwide but also matured and competitive HS OMPs (Digital Commerce 360, 2021; technavio, 2020). There were around 70 platforms listed to operate in the America HS market (Perplies, 2020). Noticeably, HS plays a crucial role in the American economy. HomeAdvisor, one of the dominant HS OMPs in America, underscored this in its 2020 Home Service Market Report: “Home services is a \$506 billion-dollar market in the United States; this market supports approximately 5 million direct individual jobs, across over two dozen broad categories of skilled tradespeople” (Homeadvisor, 2020).

HS OMP clearly has certain positive impacts on an economy. The high internet penetration daily to 92.5% of Finland's population (Nordea, 2021) and the increasing online purchases (Finnish Commerce Federation, 2020) present the potential market for online marketplace businesses. Finnish communication and information technology are among leading countries (Heikki Ailisto (ed.), 2015); the technological aspect of an HS OMP platform should not be an obstacle. Finland has an attractive environment for more HS OMP, but only a few players are currently in the game. The viable business models of HS OMP in Finland remain mysterious.

1.2 Research purposes

This empirical study aims to conduct the first step to unravel some of the curiosities surrounding what business models for an HS OMP would work successfully in Finland. During 2020 I was actively attending many start-up events when I was working on my start-up idea. That's how I am acknowledged of HS OMP situation in Finland that have not yet addressed over the Internet. HS OMP is an ambitious business idea in Finland, although not because of tough competitors or the competitive market of HS OMP. The bottom line is that "a viable business model will get you in the game," and yet finding the fit business model is puzzling. Plus, a workable business model of an OMP must fulfil the needs of two Customer Segments that are the demand/buy-side and the supply/sell-side (Osterwalder & Pigneur, 2010). Thus, it is logical to shine new light on this challenge by undertaking the fundamental step: explore the main business models of successful HS OMPs in America and existing HS OMPs in Finland.

Barbara Spencer (Spencer, 2013) layered a viable business model through three levels: foundation, differentiated and adaptive. Before adapting learnings from customers, a business model needs to acquire its logic with a basic level that could work and then a differentiated one that could compete. Ash Maya (Maurya, 2012) recommends that the foremost step to design a successful business model is to document different business models and then interview customers. Approaches of Barbara and Ash to a viable

business model make sense of why this study aims explore the main business models of successful HS OMPs in America and existing HS OMPs in Finland.

Due to the research scale of a bachelor thesis, this study ends with accomplishing the first stage of the research funnel (figure 3) as its objective. The second stage is welcome to be a topic for future research.

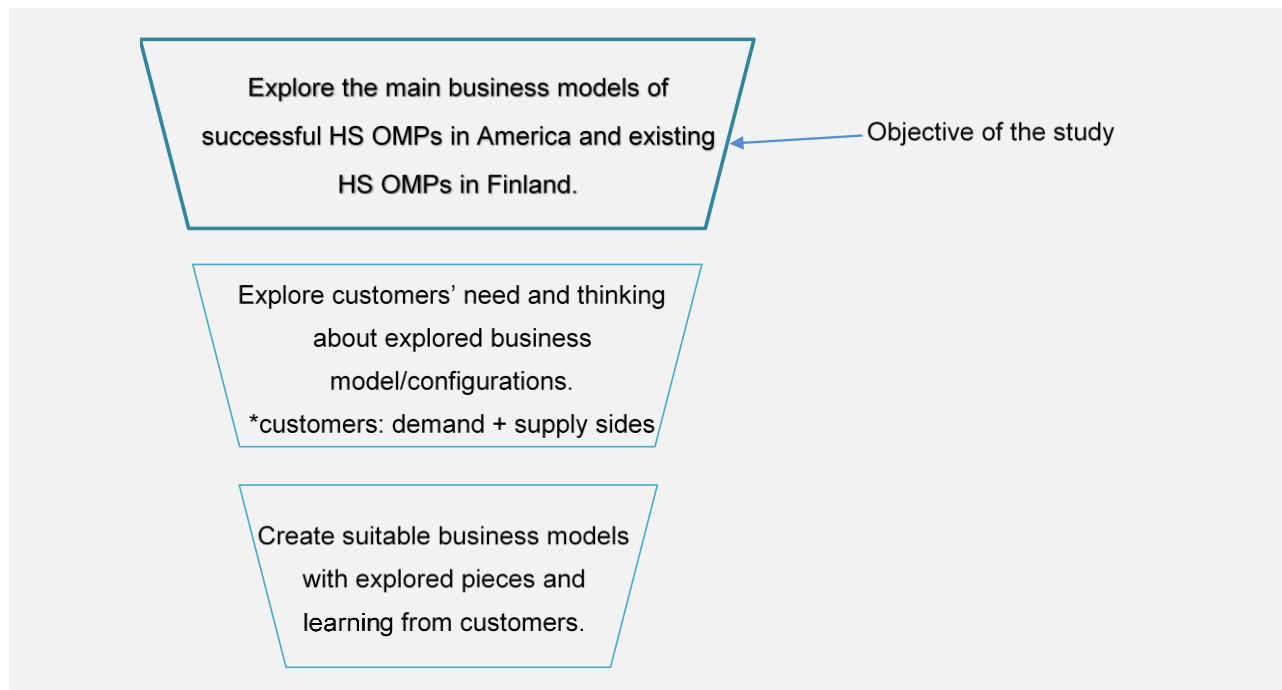


Figure 3: Funnel of research purpose (Dao, 2021)

Acquiring this thesis objective contributes directly to:

- lay the groundwork for the funnel to move down;
- reflect the gap of HS OMP landscape in Finland and America;
- realize the diversity and innovation of HS OMP in a more holistic approach;
- reveal different business strategies of HS OMPs: business model reflects strategy which company employs to compete or differentiate itself from others (Teece, 2010);
- uncover the subtle design of the OMP business model in satisfying demand and supply sides simultaneously: two business models in one.

Finally, three converging circles compose the study scope (figure 4): Online Marketplace for transacting Home Services in the American and Finnish market. Furthermore, the so-

called Home Services Online Marketplace (i.e., Online Marketplace for transacting Home Services) has its scope defined in the earlier section “scope of the concept”.



Figure 4: Scope of the study (Dao, 2021)

1.3 Research questions

*your product is not the “product”,
your “business model” is the product*

Running Lean by Ash Maurya (Maurya, 2012)

Ash enlightens start-ups and entrepreneurs around the world about how to practise Lean principles into building a viable business. His guidance highlights that building a successful company does not just mean developing the best product, “but owning the entire business model and making all the pieces fit”. A fit business model conveying three-stage of a start-up: problem/solution fit, product/market fit, and scale will allow a viable company. Interpreting in the study context is that a fit business model will get HS OMP in the game. This need kicks off the objective of this study. Discovering the business model of successful HS OMPs in America and existing alternatives in Finland is not to model but collect pieces to create further a fit business model in Finland (figure 3). This, therefore, lead to the major research question:

RQ: What are the main business models of successful HS OMPs in America and existing HS OMPs in Finland?

Findings to the research question cannot undertake without first being clear about what business model framework to deploy for this task. Moreover, by using the same framework to scrutinize the business model of multiple case OMPs, the outcome could expect to be more organized. Therefore, resolving the research question entails the sub-question:

SQ: What are the suitable business model frameworks to analyse OMP or MSP?

The study dedicates the literature section to review the business model frameworks capable of analysing OMP or MSP. A critical evaluation helps to specify the blueprint to use in the main study.

Findings for the research question are based on literature analysis and on a multiple case study. Answers will be collected mainly through information from open sources and direct observations at the multiple case companies. By doing so, the empirical study explores the business model in an organisational environment of an HS OMP and sketches out the main different business models and configurations.

1.4 Personal motivation

With my background in the business administration field and my entrepreneurial mindset, I am amazed by how e-commerce marketplaces match previously unconnected markets and facilitate independent actors in a global network to realize the commercial transaction. It enables demand-side and supply-side to meet for nearly any kind of needs regardless of time and space.

From my perspective, I enjoy purchasing goods and services on online marketplace platforms. For example, I always use Booking.com or Airbnb to compare and reserve the most suitable accommodations in my travelling budget and preferences. Another emerging market facilitated by OMP is home services which are delivered offline. HS OMP enables service providers and customers to connect and make the transaction of home services. Since HS OMPs in the America are diverse and competitive, I am intrigued to discover how HS OMPs as platform-grounded firms do it and still stay different from competitors through their innovative business models. In opposite to HS

OMPs in the America, HS OMPs in Finland have not yet matured. Thus, I am also interested in figuring out the possibly suitable business models of HS OMPs in Finland.

2 THEORETICAL BACKGROUND

2.1 Approach to business model of Online Marketplace

Discovering the business models of HS OMPs further requires an understanding of the business model (BM) as a unit of analysis. To answer what business model is, this research will follow the business model concept defined by Teece (Teece, 2010) who described the business model as “the design or architecture of the value creation, delivery and capture mechanisms employed. The essence of a business model is that it crystallizes customer needs and ability to pay, defines the manner by which the business enterprise responds to and delivers value to customers, entices customers to pay for value, and converts those payments to profit through the proper design and operation of the various elements of the value chain.” In addition to the Teece concept, what makes the business model of OMP different from normal ones should be taken into account. Both demand and supply sides with a sufficient number of participants have to coexist in one business model of OMP.

Under this approach, business model frameworks with these capabilities will be considered

- Explain how all activities come and work together in a system that produces the values that customers love, delivers to them and how OMP company obtains revenues and values by doing so.
- Explain the interaction and interdependent relationship happening between the demand and supply sides.

Therefore, the literature would be looking into the research of the two theories: The Business Model Canvas and Business model framework to characterize digital Multisided Platform. Only those relevant elements in the realm of the marketplace will be analysed. Then, the literature would conclude with the comparisons of the two frameworks to inform the blueprint which the finding to the main research question adopts to investigate the business models of case OMPs. By this mean, the sub-question *What are the suitable business model frameworks to analyse OMP or MSP?* is answered.

2.2 The Business Model Canvas (hereinafter the Canvas)

By Alexander Osterwalder and Yves Pigneur

“A business model describes the rationale of how an organization creates, delivers, and captures value” is the approach of Alexander Osterwalder and Yves Pigneur when they designed the Business model Canvas (Osterwalder & Pigneur, 2010). They co-created the Canvas with 470 practitioners from 45 countries to purposely make their design more like a practical guide. The Business model Canvas consists of nine building blocks, namely (1) Customer Segments, (2) Value Proposition, (3) Channels, (4) Customer Relationships, (5) Revenue Streams, (6) Key Resources, (7) Key Activities, (8) Key partnerships and (9) Cost Structure. The nine building blocks explain the most crucial activities of a business which are arranged logically in one template called The Business Model Canvas. The Canvas help to explain quickly and simply how all the parts work together to create, deliver and capture value. It also means that the Canvas is deployed to design or reinvent business models or thoroughly explore the business model of any organization.

Alexander Osterwalder and Yves Pigneur used the Canvas to produce the business model patterns of MSPs. This proved the possibility of applying the Canvas for analysing the business model of HS OMPs. How can the business model of an OMP be described in a standardized format of the business model Canvas? How to use Business Model Canvas to understand a business model of OMPs? The explanations in each building block with the visual aid (figure 5) will clarify how.

- ❖ (1) Customer Segments (CS) block: describes the targeting groups of individuals or organizations that a company wants to reach and serve. Customers could be segmented into groups based on different criteria and company strategy, such as similar needs, behaviours, geography. A company aims to satisfy one or many customer segments. Mainly, an OMP company serves two or more interdependent Customer Segments. A workable business model of OMPs requires both Customer Segments that are demand/buy-side and supply/sell-side.
- ❖ (2) Value Proposition (VP) block: describes the bundle of benefits that a company offers customers to solve their problems and satisfy their needs. The causal

factor associated with customers' choice of one company over another is the perceived value from Value Proposition. One Value Proposition creates value for specific Customer Segments. In the case of an OMP with a minimum of two Customer Segments, OMP offers distinct Value Propositions to each Customer Segment. The Value Proposition pattern of OMPs is that the value is usually generated from attracting Customer Segments, matchmaking between them, and cutting the costs by platform transaction. Generally, Value Propositions may be innovative or similar to existing market offers with extra attributes. Examples of elements contributing to customer value creation are newness, performance, customization, "getting the job done", design, price (low-price for price-sensitive customer-segment), brand/status, cost reduction, risk reduction, accessibility, convenience/usability.

- ❖ (3) Channels (CH) block: describes how a company reaches and interfaces with its Customer Segments to deliver a corresponding Value Proposition through communication, distribution, and sales channels. Channels are essential customer touchpoints that impact on customer experience through 5 phrases: raising customers' awareness about products and services of a company; supporting customers to evaluate a company's Value Proposition; enabling customers to purchase a company's products and services; distributing Value Propositions to customers; offering customers post-purchase support. A company could reach its customers through its Channels or partner Channels directly or indirectly, or a mix of both. The popular Channels type that OMPs reach and communicate to customers are their own Channels directly, such as in-house sales force or a Web site.

- ❖ (4) Customer Relationships (CR) block: describes the type of relationship a company wants to establish and maintain with a particular Customer Segment. The Customer Relationships are categorized into: personal assistance (i.e., human interaction); dedicated personal assistance (i.e., the dedication of a specific customer representative to a specific customer); self-service (i.e., indirect relationship with all provided means for self-serving); automated relationship (i.e., the advanced mix of self-service and automated process that could individualize support); communities (i.e., knowledge exchange and problem-solving for and by customers); co-creation (i.e., value co-creation with customers). As we

mentioned in the introduction of OMPs, involving independent participants to co-create value is indispensable to the existence and value creation of an OMP. Thus, a company may simultaneously establish several types of Customer Relationships with a specific Customer Segment, but co-creation is a minimum must-have type for an OMP. Co-creation happens on the OMP platform when, for example, customers are invited to provide reviews of their prior transactions on the platform. The content of text feedback on an OMP has a significant role in creating a buyer's trust in a seller's credibility as well as differentiating among sellers (Paul A. Pavlou, 2006).

- ❖ (5) Revenue Streams (RS) block: describes different pricing mechanisms to generate cash from each Customer Segment of a company. Notably, an OMP has two main Customer Segments with its own Value Proposition and linked Revenue Stream. The Revenue Streams pattern of OMPs is that one or more segments receive free offers subsidized by revenue from other segments.
- ❖ (6) Key Resources (KR) block: describes the most important resources a company must have to make a workable business model. Key Resources differ depending on the types of business model and creation of Value Proposition. Some common categories of Key Resources are physical (e.g., factory, vehicle, distribution network); financial (e.g., cash, credit, stock); intellectual (e.g., brand, knowledge, pattern); human (i.e., people). The platform is one of the Key Resources required for the business model of an OMP.
- ❖ (7) Key Activities (KA) block: describes the most critical actions required to make a company operate successfully. Key Activities vary in business model type and Value Proposition creation. Some categories of Key Activities are production, problem-solving, and platform/network which dominates the business model of OMPs. Key Activities in this platform/network category are normally platform management, service provisioning, and platform promotion.
- ❖ (8) Key Partnerships (KP) block: describes the network of partners that a company is motivated to allies with to optimize its business model, reduce uncertainty or acquire resources.

- ❖ (9) Cost Structure (CS) block: describes all necessary costs a company incurs while operating under its business model. A business model could be either cost-driven, value-driven, or in the middle. Cost Structure could be fixed and variable kind. The typical costs incurred to operate OMPs spin around the platform maintenance and development.

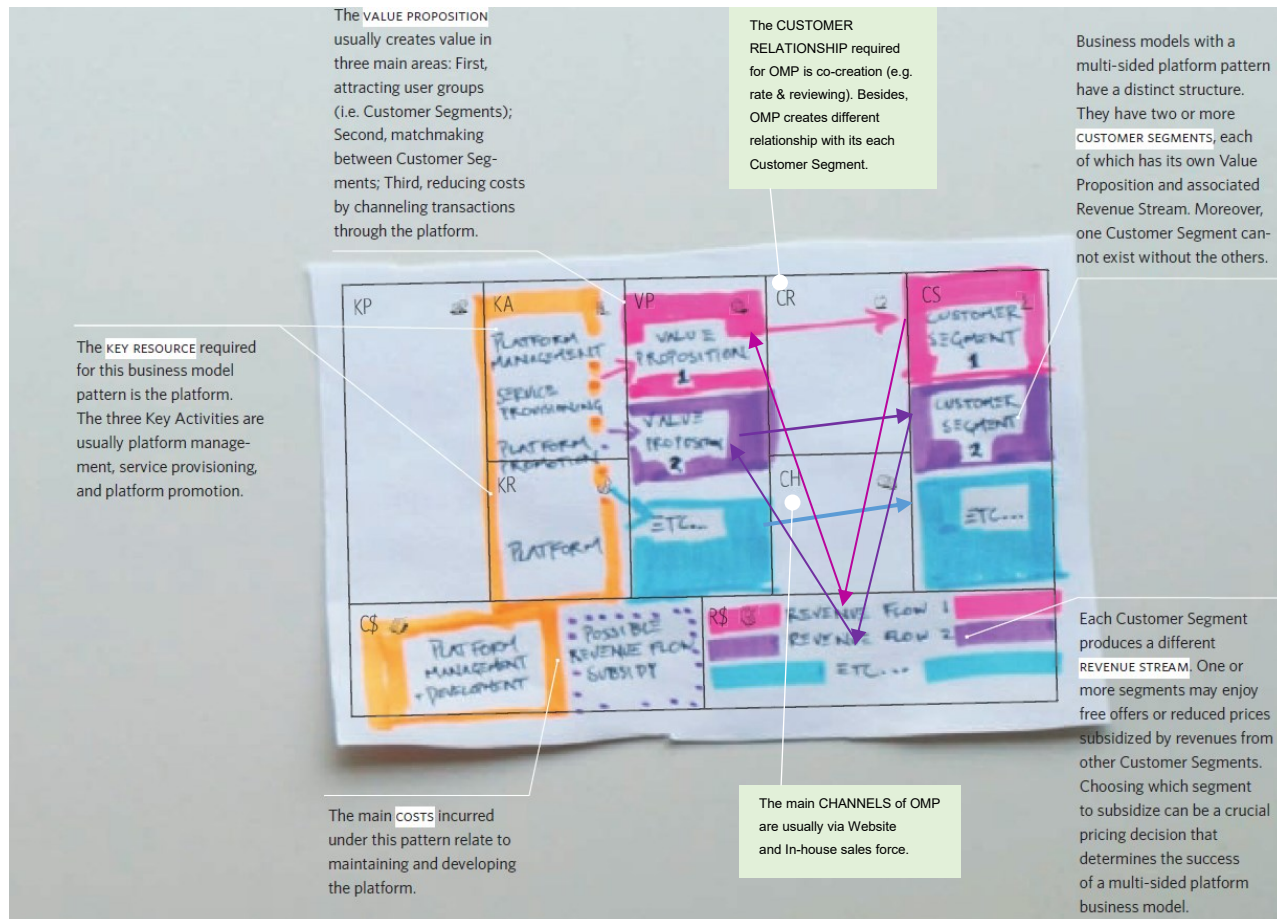


Figure 5: Business Model Pattern of OMP

Business Model Pattern of OMP is adapted from Business Model Pattern of Multi-Sided Platforms / Multi-Sided Markets of The Business Model Canvas (Osterwalder & Pigneur, 2010)

In summary, figure 5 identified the pattern of OMP in each building block of the Canvas, except for the Key Partners block. The Demand and Supply sides of OMP are regarded as two Customer Segments that differentiate themselves by colouring in pink and purple. Moreover, the pink and purple triangle help to manifest the interrelation of Demand and Supply sides with its own Value Proposition and associated Revenue Stream. Ash

recommended a way to navigate OMP in the Canvas by placing everything on the same canvas at first in order to visualise everything on a single page. Building the business model of OMP means creating canvases for both sides of demand and supply. In a way, two business models are built inside one.

2.3 Business model framework to characterize digital Multisided Platform (hereinafter Marco framework)

By Marco Ardolino, Nicola Sacconi, Federico Adrodegari, and Marco Perona

In an attempt to characterize the MSP holistically, researchers at the University of Brescia (Ardolino, et al., 2020) developed a business model framework based on literature analysis and preliminary study of a multiple-case study of 26 digital MSPs. Their literature research investigated and listed seven decisive areas of MSPs, including Network Effects, Pricing, Integration and Control, Engagement, Competition, Advertisement, and Regulation and Antitrust. Six of them are covered in the framework, except for "Regulation and Antitrust," which are concerned chiefly with the conformation of novel business models of MSPs to existing regulatory policies. The exploratory case study selected for developing and refining their framework comprises 26 digital MSPs facilitating interactions between demand and supply groups in various markets like car sharing, food delivery, crowdfunding, household services, and more. In the same article (Ardolino, et al., 2020), they also illustrated the application of the complement framework via three case studies which are representative of three distinctive pattern groups from 26 case MSPs. Because OMP is considered a form of MSP in their study their complement framework is highly relevant for studying business models of HS OMPs in this thesis.

The framework consists of three levels in hierarchical order, Dimensions, Variables, and Items, respectively. The first level consists of six dimensions presenting the main aspects of MSPs. Each dimension is characterized by a set of identified variables in the second level. Each variable is operationalized with a set of items in the third level. Each item is further measured by one of three types: binary item, configuration item, and open item. Binary item type measures if a specific feature of the investigated platform is present or not. Configuration item type can obtain a value among the predefined ones listed in configuration options. Open item type allows taking open values.

The following sections illustrate the six Dimensions with respective Variables, Items, Item Type, and Options.

❖ (1) Platform Value Proposition Dimension

Two sides of MSPs are interdependent and affect each other recursively by the number of participants on each side. In other words, the value for one side is increased by the growth in usage of the other side, which creates network effects. Therefore, to make network effect arise, the platform needs to have a value proposition that could induce participants to join the platform. Value Proposition and Function are variables to describe this dimension.

a. Value Proposition: is open to value because it is dependent enormously on the platform's operation and offering services;

b. Function: may perform more than one of three functions, including matchmaking, transaction, and maker. The matchmaking function refers to matching capacity between the demand and supply sides. The transaction function regards the possibility to make a payment through the platform between demand and supply. The maker function indicates the provision of instruments that enable platform users to generate tradable content.

Variables	Items	Item Type	Options
Value proposition Function	Value proposition Function	Open Configuration	Matchmaking; Transaction; maker

Figure 6: Platform Value Proposition Components (Ardolino, et al., 2020)

❖ (2) Platform Sides Dimension

The platform sides dimension aims to inspect which sides are involved in the platform and their characteristics. Four variables describing this dimension denotes:

a. Sides: the number of sides and their roles;

b. Segmentation: the presence of different types of users within each side;

c. Engagement incentives: the presence of means that motivate platform users to engage others to join;

d. Direct externalities: the presence of means that make a side more valuable when a potential user joins that side.

Variables	Items	Item Type	Options
Sides	Number of sides	Configuration	From 2 to N sides
	Sides type	Configuration	Supply; Demand; Peer; Maker; Advertisement
Segmentation	Presence	Binary	Yes; No
	Segment participation criteria	Configuration	Payment of a fixed fee; Payment of an interaction extra-fee; Achievement of a specific objective; Platform registration
	Benefits	Configuration	Enhanced services and/or functions; Enhanced visibility
	Benefit standardization	Configuration	Standard; Customized
	Reward	Binary	Yes; No
Engagement incentives	Reward type	Configuration	Amount of money to be spent in the platform (for both users); Amount of money to be spent in the platform (only for the user already present to the platform); Amount of money to be spent in the platform (only for the user invited to join the platform); Reward different from an amount of money to be spent in the platform
	Reward setting	Open	
	Presence	Binary	Yes; No
Direct externalities	Direct externalities characteristics	Open	-

Figure 7: Platform Sides Components (Ardolino, et al., 2020)

❖ (3) Platform Revenue Model Dimension

The revenue model explains the economic flows between the sides in an MSP. Variables used to describe this dimension include:

a. Affiliation fees: users pay this fee to the platform controller to participate in the platform;

b. Interaction fees: users pay this fee to the platform controller to interact with the platform;

c. Financial flows between sides: the financial flow is present when users of two different sides make a transaction payment for exchanging goods or services;

d. *Referral fees*: users receive this fee as a reward for their particular actions.

Variables	Items	Item Type	Options
Affiliation fees	Presence	Binary	Yes; No
	Payer	Configuration	[All the sides involved in the platform]
	Standardization	Configuration	Standard; Customized
	Frequency	Configuration	Una tantum; Regular frequency [specify]
	Amount	Open	
Interaction fees	Presence	Binary	Yes; No
	Payer	Configuration	[All the sides involved in the platform]
	Standardization	Configuration	Standard; Customized
	Interaction charged	Open	
	Calculation	Configuration	Fixed fee per each interaction; Percentage of an economic flow related to the interaction
Financial flows between sides	Amount	Open	
	Presence	Binary	Yes; No
Referral fees	Transaction object	Open	
	Presence	Binary	Yes; No
	Recipients	Configuration	Sides involved in the platform
	Amount	Open	

Figure 8: Platform Revenue Model Components (Ardolino, et al., 2020)

❖ (4) Platform Control Dimension

An MSP installs a control mechanism to ensure that various platform users have appropriate behaviours and actions toward each other and the platform, carry out efficient interaction and enhance trust. The following variables describe this dimension:

- a. *Control mechanisms*: the presence of control mechanisms aim at managing behaviour, activities, and interaction of platform users;
- b. *Rating and review system*: the R&R system aid users in selecting their best matches and the platform controller in identifying possibly improper conducts;
- c. *Exclusive agreements and contents*: users join a platform forcefully because the platform controller provides users exclusive services or products.

Variables	Items	Item Type	Options
Control mechanisms	Presence	Binary	Yes; No
	Type	Configuration	Identity check; User requirements; Contents (products/services) quality; Respect of the rules of the platform
	Timing	Configuration	Ex-ante; ex-post
Rating and review system (R&R)	Presence	Binary	Yes; No
	Sides involved	Configuration	[All the sides involved in the platform]
	R&R direction	Configuration	Unilateral; Bilateral
	R&R privacy	Configuration	Public; Partially public; Private
Exclusive agreements and contents	Presence	Binary	Yes; No
	Side(s) involved	Configuration	[All the sides involved in the platform]
	Benefits characteristics	Open	

Figure 9: Platform Control Components (Ardolino, et al., 2020)

❖ (5) Platform Competition Dimension

This dimension intends to examine the presence of inside and outside competition. Variables identified to describe platform competition as following:

- a. Inside competition:* the presence of inside competition detects the competition within one side, which is commonly the supply side;
- b. Outside competition:* this regards MSP's competitors: either MSPs or traditional businesses have similar value propositions;
- c. Multihoming:* multihoming measures how an MSP makes it easy or difficult for its platform users to use more than one platform for their purposes.

Variables	Items	Item Type	Options
Inside competition	Presence	Binary	Yes; No
	Sides involved	Configuration	[All the sides involved in the platform]
	Platform manager influence presence	Binary	Yes; No
	Platform manager influence type	Configuration	Enhanced visibility respect others users; Showing ratings results; Specific recognitions by the platform manager
Outside competition	Main competitors organization model	Configuration	Platform business; Traditional business
	Main competitors value proposition	Configuration	Similar value proposition; Partial overlapping value proposition
	Main competitors geographical market	Configuration	Same geographical market; Different geographical market
Multihoming	Multihoming	Configuration	Allowed; Partially allowed; Forbidden

Figure 10: Platform Competition Components (Ardolino, et al., 2020)

❖ (6) Platform Architecture Dimension

The platform architecture scrutinizes the technical and interface infrastructure of the digital platform with the users. This dimension includes the following variables:

- a. *User registration*: users might need or not need to register in the platform to join or interact;
- b. *Boundaries between sides*: the sides for supply and demand users in the platform may have clear distinctions or similar looks;
- c. *Versioning and update*: this variable reveals which way platform managers update the versions;
- d. *Platform access*: platform access aims to understand what users must adopt if they want to access the platform and interact with others;
- e. *Openness*: the openness of the platform concerns whether the platform allows its users to co-innovate through the freedom to modify and access the platform code source and its data collected.

Variables	Items	Item Type	Options
User registration	User registration	Configuration	Registration necessary to access; Registration necessary to interact; No registration needed but it allows to benefit from customized services; No registration envisaged in the platform
Boundaries between sides	Boundaries between sides	Configuration	Clear distinction between sides; No distinction between sides
Versioning and update	Versioning and update	Configuration	Platform versions automatically updated with no charge; Platform versions automatically updated with charge; Platform versions "updatable" with charge; Platform versions "updatable" with no charge
Platform access	Web portal implementation	Binary	Yes; No
	Dedicated application implementation	Binary	Yes; No
	Operating system (app)	Configuration	iOS; Android
Openness	Platform openness	Configuration	Closed; Open

Figure 11: Platform Architecture Components (Ardolino, et al., 2020)

2.4 Conclusion on adopted business model blueprint: The Canvas vs. the Marco framework

Business model Canvas (BM Canvas) has been co-created by a worldwide community of business practitioners and researchers. In comparison, the business model framework of MSPs characterization (Marco framework) is designed recently and supported by many exploratory case studies and extensive literature research. The frameworks have demonstrated well their qualification and high application in exploring business models of MSPs/OMPs from holistic and practical perspectives. In the technical view, both frameworks examine different vital parts of a business but equal attention to Value Proposition, Demand and Supply sides as Customer Segments and Revenue Model.

The pros (+) and cons (-) of the Canvas and Marco framework when deploying them in scrutinising OMP are bellowing:

- The Canvas:
 - + Objective of BM Canvas is to "describe, challenge, design and invent business models more systematically" (Osterwalder, n.d.).

- + The Canvas has broad application to any size or kind of company.
 - + Nine elements of the framework give an overview understanding of the logic of how a company creates, delivers and captures value.
 - + Nine elements (building blocks) are placed rationally in one template. The elements are grouped into the efficiency side (left side) and value side (right side) when Value Proposition is placed centrally.
 - It is hard to illustrate the interaction and interdependent relationship among Demand, Supply sides and the platform.
- Marco framework:
 - + Objective of the Marco framework is to characterize digital MSPs more holistically.
 - + It has sole application to any companies classified as MSPs.
 - + Six elements of the framework manifest key characteristics of a digital MSP and interactions between different sides of the platform.
 - + Six elements (Dimensions) are composed separately. Each Dimension comprises hierarchical components: Variables, Items, Item Type, and Options.
 - Some core activities of a business are not covered. They are Channels, Customer Relationships, Key Partnerships, Cost Structure, Key Activities and Key Resources.
 - The hierarchical approach to the separate Dimension from Macro framework helps to analyse an OMP business model more specifically and traceably. In a mean, readers could detect, compare and compile with ease the different business models and configurations of case companies.

To sum up, integrating the Canvas into the Marco framework will make the greatest contribution to answering the main research question and achieving the study's objective. Therefore, the study will ground on the blueprint described in figure 12 to explore the business models of case HS OMP companies. Here are several notices:

- The predefined values in the Options are suggestive but not mandatory because they are not an exclusive list. It means the values explored from case studies will be taken if none of the predefined values matches.

- Key Resources, Key Activities, and Cost Structure are not added to the blueprint because the patterns for these elements are pretty well-defined for OMP. They are mainly concerned with platform development and platform promotion.
- Platform Side will consider the presence and type of Key Partnership in its Dimension.

The blueprint in figure 12 is the answer to the sub-question of the study: *What are the suitable business model frameworks to analyse OMP or MSP?*

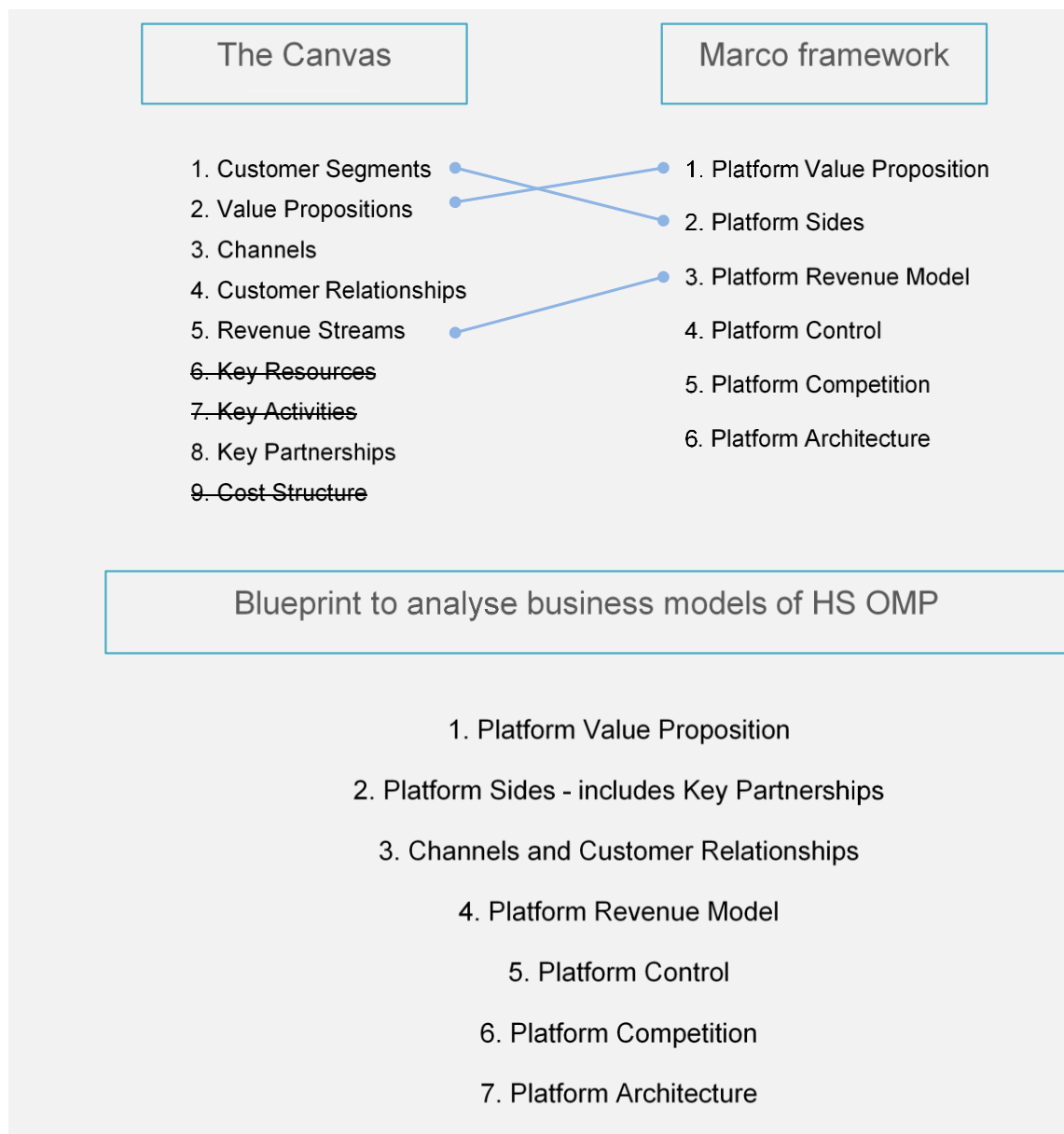


Figure 12: Summary of the blueprint (Dao, 2021)

3 METHODOLOGY

3.1 Methodological choice - The use of a qualitative method

This study addresses the main research question: *what are the main business models of successful HS OMP in America and existing HS OMP in Finland?* This methodology chapter informs what particular methods and why they got chosen for resolving this research question. There are many methods to do research, and the adopted method affects the result. Methods describe the actions to be taken to do research and rationale for specific techniques used to collect the required information and analyse them to fulfil this research question. On the flip side, the type of data expected to obtain and bring values for the study determines the methodological approach.

Since the research question sought explorative answers that emphasised on describing different business models of HS OMP companies. In a way, collecting qualitative data was to the purpose of this study rather than quantitative data. Therefore, this study approached the qualitative method. Explanation of qualitative method is that “the word qualitative implies an emphasis on the qualities of entities and on processes and meanings that are not experimentally examined or measured [if measured at all] in terms of quantity, amount, intensity, or frequency.” (Norman K. Denzin, 2005).

3.2 Strategy – A multiple-case study

Case study was the strategy for the researcher to go about answering her research question. The research question aimed to discover the main business models of American successful HS OMPs and Finnish existing HS OMPs. The investigation is guided by the business model blueprint of OMP selected in the literature.

Case study strategy intended to inquire rich and illuminative information to manifest the main business models of targeted interest. The "case" in the case study referred to an organization that was HS OMP business. A multiple-case study strategy incorporated with multiple cases meaning more than one case to be analysed.

Case study design narrowed down the broad field of successful HS OMPs in America and existing HS OMPs in Finland into few easily researchable examples. This approach was great at understanding different complex business models through detailed contextual analysis of a limited number of HS OMPs. On the one hand, it is a practical design to discover various configurations of 7 areas composed of the specified business model blueprint. On the other hand, it can give a holistic view of each HS OMP business model.

In conclusion, a multiple-case study design can explore detailed descriptions of specific cases. The adopted strategy to answer the research question were literature and a multiple-case study.

3.3 Case companies

"Choosing the case to be studied and determining the boundaries of the study is a key factor in defining a case study." (Mark N. K. Saunders, 2019)

The exploratory study sample consisted of seven HS OMPs, five locates in America, and two locates in Finland. The case selection was based on the following general and tailored criteria:

- General criteria: (a) adequate coverage of the scope of being an HS OMP proposed in section 1 – scope of the concept HS OMP; (b) multiple service activities; and (c) adequate availability of desired information to be gathered for the investigation.
- Tailored criteria for US successful HS OMPs: (c) founded in the US market; (d) adequate experienced level (companies which are at least ten years old); and (e) adequate leading level (companies which have at least either 5 million USD total funding or 10 million monthly visitors).
- Tailored criteria for Finnish existing HS OMPs: (f) founded in the Finnish market; and (g) adequate maturity level (companies which are at least two years old).

After pre-screening key players operating in the US home service market via open sources, such as clues from Pictures 1, 2, and (Research And Markets, 2018), five businesses described in the table 1 below met the criteria. For the cases in Finland, internet browsing released two businesses satisfied criteria. Lastly, the study expected

case companies to produce different business models. Therefore, the pre-screening process also involved a swift skim through the various options before finalising seven case companies to be analysed in the main study.

The basic statistic of five American HS OMPs and two Finnish HS OMPs are presented in the table 1 bellowing. The table 1 showed that these case companies matched the predefined general and tailored criteria. Those data were live data of case companies collected on the 29th May 2020 from crunchbase.com. CrunchBase is the leading platform provides updated daily, cleaned, verified data of businesses, including financial and technical data.

Table 1: Exploratory case study: company descriptions (Dao, 2021)

Company	Geographic coverage	Founded year	Monthly visits	Total funding amount (\$)	References
1. Houzz	United States	2009	24,829,259	613,6M	(crunchbase : Houzz, 2021)
2. HomeAdvisor	United States	1999	18,120,090	N/A	(crunchbase : HomeAdvisor, 2021)
3. Thumbtack	United States	2008	10,055,663	423,2M	(crunchbase : Thumbtack, 2021)
4. TaskRabbit	United States	2008	1,308,620	37,7M	(crunchbase : TaskRabbit, 2021)
5. Redbeacon (Pro Referral)	United States	1995	101,237	7,4M	(crunchbase : Redbeacon, 2021)
6. Urakkamaailma.fi	Finland	2011	266,870	15K	(crunchbase : Urakkamaailma.fi, 2021)
7. Talobee	Finland	2019	N/A	N/A	(talobee, 2021)

3.4 Data collection

The two techniques employed to collect data were observation and the use of secondary data. In the observation technique, the author obtained the data from her personal experience and engagement in directly contacting the platforms of investigated HS OMPs. Using the secondary data technique, the author derived the data from the

publications by case HS OMP companies and third parties for only websites' traffic analytic data. The publications of case companies were accessed through their web pages, terms of uses, and YouTube pages. Specifically, similarweb.com was the reliable third party that provided the traffic analytic data of websites.

Table 2: Data collection outline (Dao, 2021)

Data collection technique	Source of data	Data type	Description of data source	Timeline of Observation
Observation	Personal experience and engagement	Direct contact with the platforms under investigation	Houzz.com Homeadvisor.com Thumbtack.com	May - June 2021
Use of secondary data	Case company's material	-Web pages -Terms of Uses, Terms and Conditions -YouTube pages	Taskrabbit.com Proreferral.com Urakkamaailma.fi Talobee.com	May - June 2021
Use of secondary data	Publication by third parties	Traffic analysis of website	similarweb.com	May - June 2021

3.5 Data analysis

Figure 13 illustrated the template of how the collected data were displayed and suggested the approaches to data analysis. The table joining X and Y direction suited the exploration purpose of the study and opened the possibilities to see the contrary or alternative explanations for the findings.

The table (figure 13) exhibited the data well with the ability to make comparisons and categorise the data. Data were analysed in a holistic approach following either X-axis or Y-axis direction.

- X-axis: Configurations of 7 areas of each business model – presented horizontally;
- Y-axis: 7 distinct business models of each HS OMP case– presented vertically.

↑ Y
A business model
of a case study

HS OMP Blueprint	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
1 Value proposition							
2 Sides							
3 Channels & CR							
4 Revenue models							
5 Control							
6 Competition							
7 Architecture							

Configurations of an area
in the business model → X

Figure 13: Data analysis template (Dao, 2021)

Qualitative analysis of this thesis engaged several simultaneous activities:

- Collecting information from the case studies;
- Sorting the information into categories of X-axis and Y-axis;
- Formatting the information into the blueprint of the business model identified in the literature review;
- Writing the qualitative discussion.

3.6 Research purpose

The exploratory, descriptive, and possibly explanatory purposes of this research are attained through the consistent methodology:

- From the qualitative method as the methodological approach;
- To case study and literature as research strategy;
- To observation and secondary data as the techniques to derive qualitative data;

- And finally, to a table joining X and Y-directions as the techniques to analyse data qualitatively.

3.7 Credibility

The reliability and validity of the result were secured through the processes:

- Selecting case companies followed research objective, reliable sources coordinating with well-established criteria;
- Observing and handling secondary data from official websites of case companies and their publications;
- Exploring and describing the data like what they meant and should be. Therefore, it reduced the risk of subjective interpretation and observation that may disguise or bias the result;
- Lastly, investigating the data and framing the result based on the qualified business model blueprint discovered in the literature review.

Having said that, some limitations of the study were not probably to dodge and should be taken into account for the credibility of the study:

- Vulnerability to errors in judgment by researcher;
- The scope of the study is subjected to the digital age and the internet. In a mean, Home Services, Online Marketplace, Home-services Online Marketplace as a digital business may be susceptible to the development of technology, internet, and future generation. What we have known and explained so far about those phenomena in this study today could be different in the future;
- Observing the business models and their configurations of the same case companies at other times might result in inconsistent data collected by this study;
- For the research related to live data, it is important to mark the date when data were observed.

4 EMPIRICAL FINDINGS AND DISCUSSION

4.1 The table of business models in seven case studies

In accordance with how data was collected (table 2) and how they were analysed (figure 13), business models and their configurations of seven HS OMPs cases were explored and placed in the table below. Furthermore, how the sides interacted with each other and with the platform was visualised in Figures 14 and 15 through the platform side and platform revenue model angles.

To clarify, Nil in the table bellowing means that no relevant information could be found by the author.

1. VALUE PROPOSITION	Matchmaking	Matchmaking Transaction (*)	Matchmaking	Matchmaking Transaction	Matchmaking	Matchmaking	Matchmaking
2. SIDES	Supply; Demand; Peer	Supply; Demand;	Supply; Demand	Supply; Demand	Supply; Demand;	Supply; Demand; Advertisement	Supply; Demand
PARTNERSHIPS	Nil	Nil	Nil	Ikea	Home Depot	Nil	Nil
SEGMENTATION	-Registered/no account -Premium account (starter/essential/ultimate) get better project management tools, marketing tools, leads	Registered/no account	-Registered/no account -Active and quality suppliers get better rank in search result	-Registered/no account -Active and quality suppliers (called Elite tasker) get better rank in search result	Registered/no account	-Registered/no account -Premium account get better visibility, leads and site	Registered/no account
ENGAGEMENT INCENTIVES	Nil	-Referral program: refer a person to be supplier and receive a \$25 Amazon gift card	-Referral program: refer a person to be supplier and receive credit	-Referral program: refer a person to be either demander or supplier and everyone receives reward	Nil	Nil	Nil
3. CHANNELS	-Houzz.com -Pinterest, Facebook -Organic & paid keyword search, Ads	-Homeadvisor.com -Facebook, YouTube -Organic & paid keywords search, Ads	-Thumbtack.com -Facebook, YouTube -Organic & paid keywords search, Ads	-Taskrabbit.com -Facebook, YouTube -Ikea.com -Organic & paid keywords search, Ads	-Profferal.com -Pinterest -Homedepot.com -Organic keywords search	-Urakkamaailma.fi -Facebook -Organic & paid keywords search	-Talobee.com
CUSTOMER RELATIONSHIPS	-Automated relationship -Community (ideas, blogs, discussions) -Dedicated personal assistance and phone support for premium	-Self-service -Personal assistance (email, free call, send request)	-Automated relationship -Personal assistance (email, live chat)	-Automated relationship -Personal assistance (call, live chat, send request)	-Self-service -Personal assistance (email, call, live chat)	-Self-service -Personal assistance (email)	-Self-service -Personal assistance (email, call)

	account						
	-Personal assistance (email, send request, call to sales)						
4. REVENUE MODEL	-Demand: free -Supply: Affiliation fee (3 types of subscription package: \$55, \$99, \$199-999/month)	-Demand: free -Supply: Interaction fee (auto-pay match); Affiliation fee (monthly, quarterly, annually subscription) -Fees vary in locations and activities	-Demand: free -Supply: Interaction fee (auto-pay once customer responds) -Fees vary in locations and activities	-Demand: Commission fee (of final price: 15% service fee + 15% Trust & Support) => Financial flows between the sides -Supply: Affiliation fee (one-time registration fee 25\$)	-Demand: free -Supply: Interaction fee (auto-pay match by coins: 1\$ shopped at Home Depot = 2 coins, 1 lead costs 40-80 coins); Affiliation fee (background check 41.99\$) -Fees vary in locations and activities	-Demand: free -Supply: Commission fee (5.8% for contract > 240€); Affiliation fee (monthly subscription 89€ for premium account) -Advertisement: Affiliation fee	-Demand: free -Supply: Interaction fee (auto-pay 5 to 30€ once customer responds)
5. CONTROL MECHANISMS	-User registration, Terms of Use consent -Supply: Professional Profile Policy consent (e.g., identity check, license requirement, content provision of service)	-User registration, Terms and Conditions consent -Supply: Screening process (e.g., criminal background check, license verification, background check) -Accept supplier with overall rating > 2/5 stars	-User registration, Terms of Use consent -Supply: Credential check (e.g., identity verification, background check, business verification, license requirement)	-User registration, Terms of Use consent -Supply: Tasker app, identity check and business verification (only California)	-User registration, Terms of Service consent -Supply: ID verification, background check, general liability insurance, state contractor licence	-User registration, Terms of Use consent -Supply: VAT register, trade register and prepayment register	-User registration, Terms of Use consent -Supply: interview process
RATING & REVIEWING (RR)	-Supply: receive and respond to RR to registered users or anyone with email verification => bilateral direction -Public view	-Supply: receive and respond to RR to registered users or anyone with phone number verification => bilateral direction -Public view	-Supply: receive and respond to RR to verified demander hiring supplier on Thumbtack, or anyone with review link from supplier => bilateral direction -Public view -Searchable review	-Supply: receive RR from verified demander hiring supplier on TaskRabbit => unilateral direction -Private view after request for services	-Supply: receive RR from verified demander hiring supplier on Proreferral, or from legitimate external site => unilateral direction -Private view after request for services	-Supply: receive RR from anyone with email verification =>unilateral direction -Public view	-Supply: receive unilateral RR by demand side =>unilateral direction -Private view after request for services

EXCLUSIVE AGREEMENTS & CONTENTS	-Leading platform for home remodelling and design	-Gigantic network of professionals skilled in >500 home-related services covering entire US -Estimate average local project cost for free	Nil	Nil	-Supply: pay for lead by collected points from shopping on Home Depot	Nil	Nil
6. INSIDE COMPETITION	-Supply: acquire recognitions from the platform via form of badges and add badges in profile. -Platform influence by showing RR, background check, badges and producing badges for specific performance recognitions.	Similar Houzz	Similar Houzz	-Platform influence by showing featured suppliers on homepage, RR and highlight specific performance recognition on Supply site.	-Platform influence by showing RR and informing if supplier is licensed or insured.	-Platform influence by showing RR and informing business registration check.	-Platform influence by showing RR
7. ARCHITECTURE	-Demand: no registration needed to browse Peer & suppliers until send request -Supply: user registration necessary to access and interact. -Platform access: web portal implementation, or mobile app (iOS, Android). Separate apps for each site.	-Demand: user registration necessary to send request -Supply: user registration necessary to access and interact -Platform access: web portal implementation, or mobile app (iOS, Android). Separate apps for each site.	-Demand: no registration needed to browse suppliers until send request -Supply: user registration necessary to access and interact - Platform access: web portal implementation, or mobile app (iOS, Android). Separate apps for each site.	-Demand: no registration needed to browse suppliers until send request -Supply: user registration necessary to access and interact -Platform access: web portal implementation (only for Demand), or mobile app (iOS, Android). Separate apps for each site.	-Demand: no registration needed to browse suppliers until send request -Supply: user registration necessary to access and interact -Platform access: web portal implementation, or mobile app for Supply (iOS, Android)	-Demand: user registration necessary to send request -Supply: user registration necessary to access and interact -Platform access: web portal implementation	-Demand: user registration necessary to send request -Supply: user registration necessary to access and interact -Platform access: web portal implementation

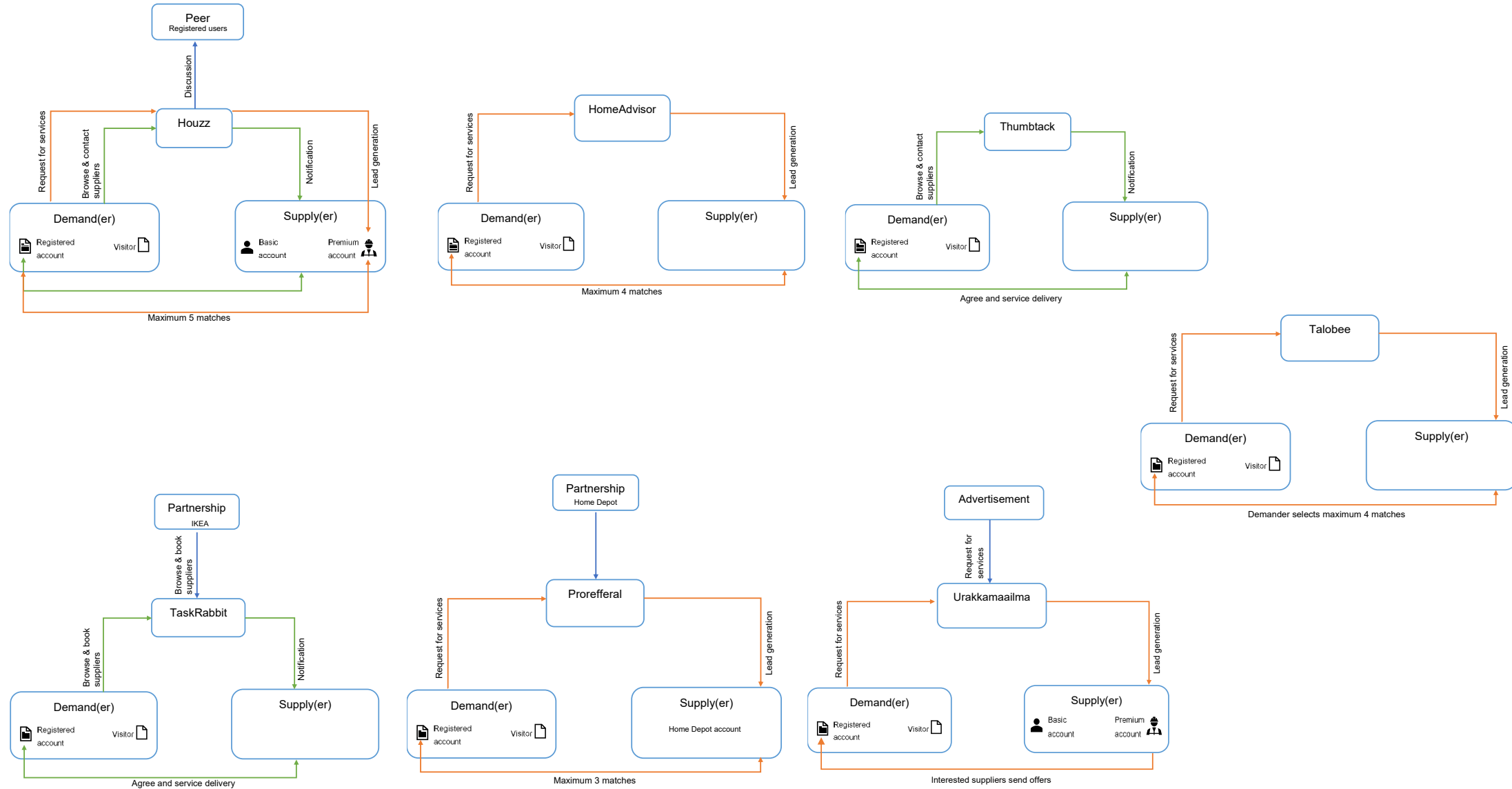


Figure 14: Platform Sides in seven case studies (Dao, 2021)

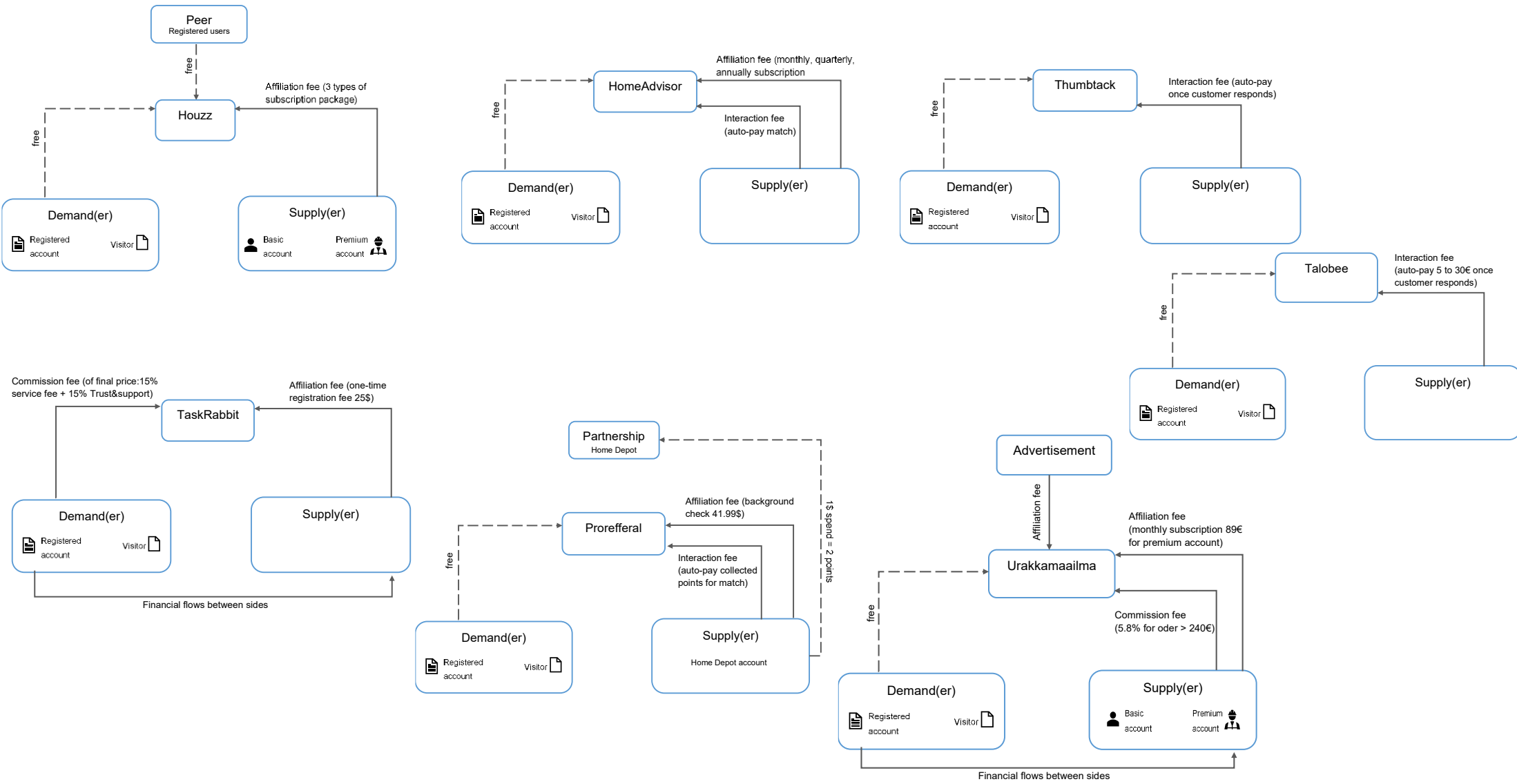


Figure 15: Platform Revenue Models in seven case studies (Dao, 2021)

4.2 Discussion of the X-axis: Configurations of seven areas of the blueprint

1. Platform value proposition

The value proposition that distinguished HS OMPs from each other and caught customers' attention was their own business model.

Matchmaking seemed to be a dominant function that all HS OMPs provide as part of their value proposition. It means that the chief expectation for HS OMP was helping the demand side interact directly with the suitable suppliers. Thus, they could realise their transaction possibility and way of payment through their own discussion. However, platforms encouraged both demand and supply users to inform the platform if they decided to close the deal. In this way, the platform could measure its effectiveness, collect data of the deal (e.g., project, prices) and record the hired number through its platform on the suppliers' profile to reinforce their credibility.

Among the case companies, Transaction appeared in HomeAdvisor and TaskRabbit, but it had different purposes. HomeAdvisor's Transaction was a separate offering for the users, while TaskRabbit one was a process from matching to transacting.

Although all cases performed matchmaking, the design of how the sides are matches are various.

2. Platform sides

Because matchmaking was the first and foremost function of HS OMP, the crucial type of sides involved in HS OMP are the Demand and Supply.

Figure 14 demonstrated the bond of sides and their characteristics in the matchmaking environment of the platforms. Demand and supply side are broken down into segmentations that are registered users versus non-registered visitors. User registration was compulsory for visitors to interact with the platform and so with each other. Especially, the registered users in supply side could be segmented into basic and premium accounts that gained different benefits. Therefore, the interaction between the two sides and the platform is affected by the side's segments.

Characteristics of the demand side reflected how the customers in this side discovered the prices and suppliers.

- **Browse and contact suppliers:** a visitor accessed a list of suppliers by simple search input of service kind and location. A further request to a specific supplier required the visitor to register a user account. In this way, the demander initiated to contact the supplier they want. The matchmaking job of the platform was to deliver and notify the demander's request to that specific supplier. For this characteristic, the demander discovered the price on the suppliers' profile or sent a request for a quote.
- **Request for services:** a visitor answered several questions to describe the task/project and registered an account before sending the request. In this way, the demander received a certain number of matched suppliers who would reach customers first with their price estimations. The matchmaking job of the platform was to generate the request of the demander and give it to a certain number of suppliers who had profile matched the demander's task. For this character, the demander discovered the price when their matched suppliers contact them.

Characteristics of the supply side reflected how the supplier reached its potential clients. In the HS OMP environment, the supply side was typically put in the passive position that depended on the actions from the platform.

- **Notification:** supplier was able to connect to the demander, who sent a direct request to them. This characteristic corresponded to "browse and contact suppliers" from the demand side.
- **Lead generation:** supplier automatically received a lead whenever there was a request for services for a task that matched their profile. This characteristic corresponded to "request for services" from the demand side. If the supply side included different paid accounts, the premium segment usually had the "lead generation" characteristic.

The sides involved in the platform and their characteristics synchronised with the matchmaking/transaction function and platform monetization.

3. Channels and Customer Relationships

The website, which is the digital platform of HS OMP, was the fundamental channel of every HS OMP to reach and interfaces with its customers. Communication, distribution, and sales channels are entirely integrated into the website. The website is the hub to deliver value to its customers.

HS OMPs had the tendency to establish automated relationships or self-service relationships with their customers. The website automated all the processes from registration to access and interaction. HS OMP provided customers all possible helpful information on its website for customers to serve themselves with the least personal assistance needed.

4. Platform revenue model

the connection of platform revenue and platform sides revealed the subtle design and diversity of HS OMP business models. Most of the HS OMP cases charged the supply side. TaskRabbit was exceptional for charging its demand side.

- The affiliation fee took forms of the subscription fee for different utilities, the subscription fee for different listing periods, and the one-time fee for background check or registration. The kind of subscription fee tended to divide the supply side into regular and premium accounts. Only the premium supplier received "lead generation" from "request for services" from the demand side.
- The Interaction fee is charged automatically to the suppliers every time they received a lead. Interaction fees are mainly related to "lead generation" and "request for services". The maximum number of matches the platform designed to match a request from the demand side with the supply side was an exciting mechanism of how the platform monetised from it. For example, HomeAdvisor charged one supplier \$20 for receiving one lead automatically. HomeAdvisor matched a consumer with four suppliers. It meant one "request for services" from the demand side; HomeAdvisor earned $20 \times 4 = \$80$ by granting that request to 4 suppliers. This mechanism applied similarly for Prereferral (3 matches) and Talobee (4 matches). It was a bit different for Houzz (5 matches), Houzz had revenue model of affiliation fee in form of subscription. In case of Houzz, up to 5 suppliers who has premium subscription account(\$199-999/month) get matched with one "request for service".

The Interaction fee also happened in the "browse and contact suppliers" and "notification" relationship, such as in the Thumbtack platform. The process was like the consumers browsed and sent the request directly to a specific supplier. The platform sent "notification" to that supplier. The supplier decided to respond or pass the request. If the supplier responded and got back from that consumer,

the supplier is charged an interaction fee automatically.

The interaction fee generally discriminated the types of services and locations.

- Financial flows between sides occurred in the platform that charged a commission fee. This revenue model could be linked with either "browse and contact services" or "request for services". The demand or supply sides could be subject to the commission fee. For instance, TaskRabbit charged a commission percentage (30%) of the total price to its demand side, while Urakkamaailma.fi collected it (5.8%) from the supply side.

5. Platform control

HS OMPs ensured efficient interaction through control mechanisms and the RR system. User's account registration and users' consent to the platform's terms of use were the primary control mechanism that all case companies implemented. Specifically, all HS OMPs took stricter management towards the supply side. The suppliers had to go through the screening process to certify their identities. Checking the supplier's qualification, licensing, or business registration was also significant for two reasons. The first one was to facilitate the demand side to make an informed decision of the supplier. Secondly, HS OMP had to consider the region's regulation of whether a supplier is obliged to earn sufficient licensing or business verification to offer its service and operate through the HS OMP platform. Among the case companies, Urakkamaailma.fi asked its suppliers to meet all the business registration and eligibility for working in their fields before they could become users of the platform. The rest of the case companies ensured this matter by notice in the supplier's profile whether the supplier fulfilled their qualification and licensing provided to the platform. In this way, Houzz, HomeAdvisor, and Thumbtack provided links to aid its users in figuring out what kind of requirement is needed for the specific service in the specific area. Service providers should initiate to check and submit to the platform. TaskRabbit only accepted suppliers who had business registration if they provide services in California state.

RR system in the supply side was an indispensable configuration of HS OMP in identifying improper behaviours and keeping all the users informed. RR direction was bilateral direction when the supplier was able to respond to its client's feedback. Some advanced RR systems enabled viewers to search or check reviews in various ways.

6. Platform competition

Platform competition focused on only inside competition because outside competition regards HS OMP competitors that are either MSPs or traditional businesses have similar value propositions.

Inside competition is detected commonly within the supply side. Understandably, the more popularity HS OMP had, the higher competition the supply side experienced. Some platforms influenced the supplier competition by rewarding badges to recognise their outstanding performance. Badges indicated different qualities and hung in the supplier's profile. This influence incentivised suppliers to maintain and improve their quality, activeness, and contribution to the platform to acquire more badges in order to highlight their profile and increase their visibility. Simultaneously, it assured the demander's trust in selecting suppliers. Besides badges awards, every HS OMP affected the competition basically through informing RR summary and supplier's background.

There was a connection between how demand and supply sides are matched and the inside competition. For example, Houzz matched the maximum five suppliers to one customer, so those five contested directly to win the customer.

7. Platform architecture

Website portal implementation was inevitable to access the HS OMP platform. HS OMP adopted the trend of smartphone diffusion to develop the HS OMP app for the demand and supply side. Mobile app (iOS, Android) definitely facilitated smartphone users to use the HS OMP app more handily. The majority of HS OMP architecture started with the website, but TaskRabbit requested its supply-side to acquire a mobile app in order to participate.

5 CONCLUSION

The study discovered the main business models of 5 successful HS OMPs in America and 2 existing HS OMPs in Finland. In a mean, the study's objective is accomplished by the explorative approach to the business models of multiple case HS OMPs companies. The studying process of the explorative topic was fascinating for the author to answer the main question and achieve the study objective. The introduction section defined different phenomenon into a concrete scope of the study. The literature aimed at opening the business model of OMP into systematic and easy-to-understand models. Indeed, the business model blueprint and case study strategy eased the process of obtaining and analysing the data to present the findings. Finally, the broad findings were framed into one table (section 4.1) that linked 7 case studies and 7 areas of the blueprint. Therefore, the table in section 4.1 was a great tool to present X and Y-axis holistic views into the data. X-axis described configurations of each area of the blueprint, and Y-axis described the business model as a whole of each case study. The data table in section 4.1 went beyond an essential exploration of the main business models of multiple case HS OMP businesses. It offered the possibility to compare between case HS OMPs or business areas and offer alternative explanations.

Based on the findings, table 3 bellowing suggested the key features that an HS OMP ought to or should have in its business model.

Table 3: Vital & suggested configurations for an HS OMP business model (Dao, 2021)

BUSINESS MODEL AREAS	VITAL CONFIGURATIONS	SUGGESTED CONFIGURATIONS
1. VP	Matchmaking <ul style="list-style-type: none"> “request for services”: one request from one customer matched by 3 to 5 suppliers “browse & contact suppliers”: one search (by location + service kind) matched by an indefinite number of suppliers 	Transaction
2. Sides	<ul style="list-style-type: none"> Demand: either “request for services” or “browse & contact suppliers” Supply: either receive “notification” or “lead generation” Segmentation: registered/no-account 	<ul style="list-style-type: none"> Partnership: advertiser, peer Referral program Better rank for active & quality suppliers
3. CH & CR	<ul style="list-style-type: none"> Website, social media Self service Emails / phone 	<ul style="list-style-type: none"> Keyword paid search, Ads Automated relationships Dedicated personal assistance
4. Revenue models	<ul style="list-style-type: none"> Affiliation fee (subscription) Interaction fee Financial flows (commission) 	<ul style="list-style-type: none"> Affiliation fee (advertisement, registration)
5. Control	<ul style="list-style-type: none"> User registration Terms of use consent Identity and profession screen for supply side RR: demand side rates and reviews supply side 	<ul style="list-style-type: none"> Updated screening of suppliers Review possible for both sides
6. Internal Competition	Platform shows RR & background check of supply side	Platform awards suppliers for specific performance recognition
7. Architecture	<ul style="list-style-type: none"> Demand: user registration required to send request Supply: user registration required to participate Web browser to access 	<ul style="list-style-type: none"> Mobile App

The first step to discover the suitable business model of HS OMP in Finland is completed. Thus, the recommendation for the following study would be to find out Finnish customers' opinions about business models and their configurations explored in this study. Besides moving down the funnel of research purpose (figure 3), the findings could be applied to further studies, such as:

- Define the gap of HS OMP landscape in Finland and America;
- Explain the diversity and innovation of HS OMP in a more holistic approach;
- Present different business strategies of HS OMPs;
- Explain the subtle design of the OMP business model in satisfying demand and supply sides simultaneously: two business models in one.

REFERENCES

Ali, F., 2020. *Charts & Data: What are the top online marketplaces?*. [Online]
Available at: <https://www.digitalcommerce360.com/article/infographic-top-online-marketplaces/>

[Accessed 8 January 2021].

Ardolino, M., Saccani, N., Adrodegari, F. & Perona, M., 2020. A Business Model Framework to Characterize Digital Multisided Platforms. *Journal of Open Innovation: Technology, Market, and Complexity*, Issue Second IT Revolution and Dynamic Open Innovation: From Smart City, Autonomous Car, Intelligent Robot, and Block Chain to Sharing Economy.

Bakos, Y., 1998. The emerging role of electronic marketplaces on the Internet. *Communications of the ACM*, August, 41(8), pp. 35-42.

Brancati, C. U., Pesole, A. & Fernández-Macías, E., 2019. *Digital Labour Platforms in Europe: Numbers, Profiles, and Employment Status of Platform Workers*, Luxembourg: Publications Office of the European Union.

Brown, E., 2020. *Blog: 34 Apps Like Thumbtack To Help You Pick Up More Work in Your Field*. [Online]

Available at: <https://www.housecallpro.com/learn/thumbtack-competitors/>

[Accessed 5 April 2021].

CB Insights, 2016. *Research Briefs: Uber for X, Home Edition: 60+ On-Demand Home Service Startups In One Market Map*. [Online]

Available at: <https://www.cbinsights.com/research/homes-on-demand-startups-infographic/>

[Accessed 21 January 2021].

Clark, K., 2019. *Thumbtack is raising up to \$120M on a flat valuation*. [Online]

Available at: <https://techcrunch.com/2019/06/06/thumbtack-series-h/>

[Accessed 6 March 2021].

Collier, R. B., Dubal, V. & Carter, C., 2017. *Labor Platforms and Gig Work: The Failure to Regulate*, s.l.: IRLE .

crunchbase : HomeAdvisor, 2021. *Organization: HomeAdvisor*. [Online]
Available at: <https://www.crunchbase.com/organization/homeadvisor-8783>
[Accessed 29 May 2021].

crunchbase : Houzz, 2021. *Organization: Houzz*. [Online]
Available at: <https://www.crunchbase.com/organization/houzz>
[Accessed 29 May 2021].

crunchbase : Redbeacon, 2021. *Organization: Redbeacon (Pro Referral)*. [Online]
Available at: <https://www.crunchbase.com/organization/redbeacon>
[Accessed 29 May 2021].

crunchbase : TaskRabbit, 2021. *Organization: TaskRabbit*. [Online]
Available at: <https://www.crunchbase.com/organization/taskrabbit>
[Accessed 29 May 2021].

crunchbase : Thumbtack, 2021. *Organization: Thumbtack*. [Online]
Available at: <https://www.crunchbase.com/organization/thumbtack>
[Accessed 29 May 2021].

crunchbase : Urakkamaailma.fi, 2021. *Organization: Urakkamaailma.fi*. [Online]
Available at: <https://www.crunchbase.com/organization/urakkamaailma-fi>
[Accessed 29 May 2021].

Digital Commerce 360, 2021. *Charts & Data: What are the top online marketplaces?*.
[Online]
Available at: <https://www.digitalcommerce360.com/article/infographic-top-online-marketplaces/>
[Accessed 6 April 2021].

EngineerBabu, n.d. *Blog: How to build an Online Service Marketplace like Urbanclap?*.
[Online]
Available at: <https://engineerbabu.com/blog/how-to-build-online-service-marketplace/>
[Accessed 5 April 2021].

European Commission, 2012. *European employment strategy: Employment package*.
[Online]

Available at: <https://ec.europa.eu/social/main.jsp?catId=1427&langId=en>
[Accessed 10 March 2021].

Evans, D. S. & Schmalensee, R., 2016. *Matchmakers: The New Economics of Multisided Platforms*. Boston, Massachusetts: Harvard Business Review Press.

Evans, P. C. & Gawer, A., 2016. *The rise of the platform enterprise: A global survey*, s.l.: The Center for Global Enterprise.

Finnish Commerce Federation, 2020. *Finnish e-commerce taking over a bigger share of the market*. [Online]
Available at: <https://kauppa.fi/en/uutishuone/2020/04/01/finnish-e-commerce-taking-over-a-bigger-share-of-the-market/>
[Accessed 1 March 2021].

Hagiu, A. & Wright, J., 2015. Marketplace or Reseller?. *Management Science*, 61(1), pp. 184-203.

Hagiu, A. & Wright, J., 2015. Multi-sided platforms. *International Journal of Industrial Organization*, Volume 43, pp. 162-174.

Heikki Ailisto (ed.), M. M. (. , T. S. (. J. C. M. H. J. J. M. J. R. K. H. K. M. S. A. T. T. U., 2015. *Finland—The Silicon Valley of Industrial Internet*, Finland: Government's analysis, assessment and research activities .

Homeadvisor, 2020. *Home Service Market Report*, s.l.: Homeadvisor.

Jain, A., 2020. *Blog: App development: Uber For Home Services: How to Develop an On-Demand Home Services App?*. [Online]
Available at: <https://oyelabs.com/on-demand-home-services-app-development/>
[Accessed 5 April 2021].

Jain, A., 2020. *Blog: Top 3 On-demand Home Services Business Models Explained*. [Online]
Available at: <https://oyelabs.com/on-demand-services-business-models/>
[Accessed 5 April 2021].

Kile, C., n.d. *Blog: HomeAdvisor vs Angie's List vs Houzz vs Porch vs Thumbtack vs Yelp vs Bark*. [Online]

Available at: <https://www.adaptdigitalsolutions.com/blog/homeadvisor-vs-angieslist-vs-houzz-vs-porch-vs-thumbtack-vs-yelp-vs-bark/>

[Accessed 5 April 2021].

Mark N. K. Saunders, P. L. A. T., 2019. *Research methods for business students*. 8th ed. New York: Pearson .

Maryland Department Of Labor, 2018. *What is Home Improvement? - Home Improvement Commission*. [Online]

Available at: <https://www.dllr.state.md.us/license/mhic/mhicwhatishi.shtml>

[Accessed 10 March 2021].

Maurya, A., 2012. *Running Lean: Iterate from Plan A to a Plan That Works*. 2nd ed. Sebastopol, CA: O'Reilly.

Nordea, 2021. *Country profile Finland*. [Online]

Available at: <https://www.nordeatrade.com/en/explore-new-market/finland/e-commerce>

[Accessed 18 January 2021].

Norman K. Denzin, Y. S. L., 2005. *The Sage Handbook of Qualitative Research*. 3rd ed. Thousand Oaks, CA: Sage.

Osterwalder, A., n.d. *How to design, test and build business models*, s.l.: s.n.

Osterwalder, A. & Pigneur, Y., 2010. *Business Model Generation*. New Jersey & Canada: John Wiley & Sons, Inc..

Parker, G. G. & Alstyne, M. W. V., 2005. Two-Sided Network Effects: A Theory of. *Management Science*, 51(10), pp. 1494-1504.

Paul A. Pavlou, A. D., 2006. The Nature and Role of Feedback Text Comments in Online Marketplaces: Implications for Trust Building, Price Premiums, and Seller Differentiation. *Information Systems Research*, 17(4), pp. 327-444.

Perez, S., 2018. *Facebook Marketplace expands into home services*. [Online]

Available at: <https://techcrunch.com/2018/05/23/facebook-marketplace-expands-into-home-services/>

[Accessed 6 March 2021].

Perplies, V., 2020. *Over 50 Websites Like Thumbtack To Help Service Pros Find More Work*. [Online]

Available at: <https://workiz.com/over-50-websites-like-thumbtack-to-help-you-find-more-work/>

[Accessed 12 January 2021].

Research And Markets, 2018. *The US Home Service Market (2018-2022 Edition)*. [Online]

Available at: <https://www.researchandmarkets.com/reports/4669154/the-us-home-service-market-2018-2022-edition#src-pos-4>

[Accessed 29 May 2021].

Rios, B. M. d. I., 2017. *Marketplace Liquidity*. [Online]

Available at: <https://techcrunch.com/2017/07/11/marketplace-liquidity/>

[Accessed 4 February 2021].

Schwellnus, C., Geva, A., Pak, M. & Veiel, R., 2019. *Gig economy platforms: Boon or Bane?*. [Online]

Available at: https://www.oecd-ilibrary.org/economics/gig-economy-platforms-boon-or-bane_fdb0570b-en#:~:text=The%20rapid%20emergence%20of%20gig,stock%20of%20the%20emerging%20evidence.

[Accessed 18 February 2021].

Spencer, B., 2013. *Business Model Design and Learning*. New York: Business Expert Press.

talobee, 2021. *About: Information about us*. [Online]

Available at: <https://talobee.com/about>

[Accessed 29 May 2021].

Täuscher, K. & M.Laudien, S., 2018. Understanding platform business models: A mixed methods study of marketplaces. *European Management Journal*, June, 36(3), pp. 319-329.

Taylor, H., 2015. *Tech: Amazon, Google move into on-demand home services*. [Online]

Available at: <https://www.cnn.com/2015/10/01/amazon-google-move-into-on-demand->

[home-services.html](#)

[Accessed 6 March 2021].

technavio, 2020. *Blog: The World's Leading Online On-Demand Home Services Platforms*. [Online]

Available at: <https://blog.technavio.com/blog/leading-on-demand-home-services-platforms>

[Accessed 6 April 2021].

Teece, D. J., 2010. Business Models, Business Strategy and Innovation. *Long Range Planning*, 43(2-3), pp. 172-194.

Tran, A., Webster, M. & Wertz, B., 2020. *A Guide to Marketplace*. [Online]

Available at: <https://versionone.vc/marketplaces-guide-ed3/>

Vdovychenko, H., 2019. *Business Growth: Online On-Demand Marketplace for Home Services: How To Develop a User-Centric Product*. [Online]

Available at: <https://apiko.com/blog/create-on-demand-marketplace-for-home-services/>

[Accessed 5 April 2021].

Verified Market Research, 2019. *Global Home Services Market*, s.l.: Verified Market Research.

Verified Market Research, 2020. *United States Home Services*, New York: Verified Market Research.