# Documenting and Validating the Business Model of a Startup

Case: Consolite

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                             Case: Consolite

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ABSTRACT

A new era has begun with the unprecedented number of startups and the soaring number of unicorns whose valuations reach $1 billion. Cost of entry for a startup is at an all-time low; startup incubators and accelerators expand in size and scope; and funding opportunities are made prevalent by angels, venture capitalists, and governments. The success stories and the accessible resources often obscure the fact that most startups fail within the first few years. The practice of writing a business plan and never updating it seems to be a major culprit. Business Model Canvas, Lean Canvas, and Lean Startup are invented to help startups avoid such practice and resolve the extreme uncertainty that always threaten the success of a startup.

Meanwhile, intending to solve the problems associated with financial consolidation in Excel, a project called Consolite is created by van Wunnik of Arsima Projects in Belgium. The author is assigned to help build a sustainable business around Consolite, hence the research on documentation and validation of Consolite business model.

The research is constructed on the theoretical framework of Business Model Canvas, Lean Canvas, and Lean Startup. Secondary data are collected from credible printed and electronic sources. Primary data are extracted internally from the Consolite team and externally from four companies in Belgium through three techniques: in-depth interviews, participant observation, and document analysis. The research is guided by case study and action research strategies and strictly qualitative research method.

The research is successful in documenting and validating most building blocks in Consolite business model. Problems, revenue streams, and cost structure are confirmed; customer segments, unique value proposition, and solutions are revised according to the latest evidence; and unfair advantage is discovered.

Key words: Arsima Projects, Business Model Canvas, Consolite, financial consolidation, Lean Canvas, Lean Startup, MVP, validated learning

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# 1    INTRODUCTION

The first chapter deciphers why seeking for a repeatable and scalable business model for a new product, Consolite, is a worthwhile journey. Afterward, it introduces the thesis objectives and research questions, scope and limitations, research methodology and data collection, and thesis structure to depict how the journey is guided, undertaken, and measured.

## 1.1    Research Background

A long time ago, in a galaxy not so far away, any new company wrote a business plan and the business plan became the company's Bible, in terms of both length and importance, in its early stage (Berry 2011). A business plan displays an exhaustive narrative of the diagnosis and prognosis of the firm's macro environment, strategy, and achievement (Rich & Gumpert 1985; Jha 2015). Its scope varies but usually encompasses a cover page, executive summary, company description, industry analysis, customer analysis, competitive analysis, marketing plan, operations plan, financial plan, management team, and appendix (Lavinsky 2013; Weklar 2013; Duermyer 2016). As the scope suggests, the business plan serves as a roadmap to success and provides multiple targets to measure against (Jha 2015; Duermyer 2016). More importantly, an outstanding business plan is often the entrepreneur's exclusive ticket to a fund-raising interview; and winning funds from loan lenders and equity investors is pivotal to the birth of a firm, especially if it is capital-intensive like most firms used to be (Rich & Gumpert 1985; Lavinsky 2013; Maurya 2016).

A business plan is typically written before a team and product are created (Mullins 2009; Blank 2013; Thelliez 2016). Therefore, it is intrinsically a colossal text containing a series of unverified hypotheses and secondary data (Mullins 2009; Maurya 2012, 4). Consequently, it needs to be regularly updated to remain the lodestar to success for the entrepreneur and his company (Duermyer 2016). It is dangerous to persist in executing a business plan full of guesses. However, it is such a nuisance to update a 40-page-or-longer business plan (Duermyer 2016). In fact, most

entrepreneurs do not enjoy writing a business plan to begin with, they rarely revise their business plans willingly, and most investors do not read past the executive summary (Mullins 2009; Maurya 2016). Thus, a business plan frequently stays wrong and useless, rendering the consumed time and energy a waste (Berry 2006; James 2016). Furthermore, although a business plan is still required in the application for loans, grants, and subsidies, most startups no longer need large amounts of capital thanks to the lower costs of servers, software rental, and office space (Lohr 2010; Maurya 2016; Thelliez 2016). As two holy purposes of a business plan are proven irrelevant, its gravity has slowly eroded in the past decades.

Nonetheless, it is unwise to discard every concept related to the business plan and build a business without any planning (Maurya 2016). The business plan's failure to encourage and materialize useful planning lies in its static and rigid format, which blurs the essence of the business and hinders the adaption to real-time changes (van der Meer 2015; Maurya 2016). That is where the business canvas comes into play. A business canvas is a one-page canvas that extracts the most essential business ideas from the business plan and organizes them into nine boxes that together found a business model. The business canvas covers nine fundamental elements of a business model: Business Model Canvas created by Alexander Osterwalder consists of customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure; and Lean Canvas proposed by Ash Maurya comprises of problem, customer segments, unique value proposition, solution, channels, revenue streams, cost structure, and key metrics (Osterwalder & Pigneur 2010, 16-17; Maurya 2012, 27). Business Model Canvas and Lean Canvas are constituted by slightly different building blocks, but both allow entrepreneurs to record the core assumptions about a business model swiftly and facilitate the switch to a different business model when one of the assumptions is proven incorrect (Maurya 2012, 5-6).

The inception of Business Model Canvas and Lean Canvas not only changes how entrepreneurs practice business planning but also questions the whole conventional sequence of events that begins with writing a business plan: write a business plan, pitch it to investors, assemble a team, build a product, and sell it (Blank 2013). Needless to say, there is always a chance that the product does not gain traction and the company does not become as lucrative as the business plan predicts. In fact, most startups fail. What is worse, if writing the business plan and building the product are completed insularly with little primary customer feedback, the failure is recognized only when the salesforce interacts with the customer: the team has wasted countless resources (i.e., time, energy, money) on a product that no one desires. (Ries 2011, 38; Blank 2013.)

The classic course of achieving failure and realizing it too late can be preempted by undertaking a new management philosophy: Lean Startup (Blank 2013; van der Meer 2015). Lean Startup argues that a startup's priority is not to complete an excellent product, but to learn how to build a sustainable business around the product (Ries 2011, 8-9). Therefore, startups should conduct frequent experiments using the Build-Measure-Learn feedback loop and a minimum viable product to test the assumptions and achieve validated learning (Ries 2011, 9-10; Maurya 2012, 11-12). The burgeoning management philosophy has been adopted by dozens of Silicon Valley startups and its related tactics have been discussed by entrepreneurs in meetings and conferences worldwide since the author, Eric Ries (Tam 2010), started blogging and speaking about it in 2008. Lean Startup has become a revolutionary movement in the startup world.

Somewhere amid the startup community's rush to embrace Business Model Canvas, Lean Canvas, and Lean Startup, Arsima Projects, a consultancy firm in Brussels, Belgium, initiated a project to build a better solution for financial consolidation. The company's managing director, Martin van Wunnik, proposes a tool called Consolite based on his career of financial consolidation in Europe for 30 years. Consolite aims to counteract the setbacks pertinent to the consolidation process executed in Excel. The

author is tasked with assisting in transforming the project into a sustainably profitable company, hence her mission to find a business model for Consolite.

## 1.2    Thesis Objective & Research Questions

Arsima Projects' goal is to build a sustainable business around the new product, Consolite. The company's goal is translated into the thesis objective: finding a repeatable and scalable business model for the product before running out of resources. To shed a light on what sort of conclusions should be drawn from the collected data to satisfy the stated objective, a central research question is formulated based on the objective (Saunders, Lewis, & Thornhill 2009, 32):

*What can be a repeatable and scalable business model for Consolite?*

To properly organize different aspects of the answer to the research question, three sub-questions are derived from the overarching research question:

*Q1: How can the main assumptions about Consolite business model be documented?*

*Q2: How can Consolite business model be validated?*

*Q3: What are the main characteristics of nine building blocks of Consolite business model based on the best available evidence?*

## 1.3    Scope and Limitations

There are four sources of limitations in the thesis, summarized in Figure 1.

| Theoretical Framework | Limited Interaction with Prospects | Scope of Canvas | Lean Startup |
|---|---|---|---|
| • For-profit organizations<br>• Tech industry | • Time constraint<br>• B2B<br>• Seriousness of financial consolidation<br>• Sensitivity of financial data | • No financial figures<br>• No treatment of a building block | • Validated learning<br>• MVP |

FIGURE 1. Thesis Limitations

First, the authors of Business Model Canvas, Lean Canvas, and Lean Startup claim that the canvases and the methodology can be applied to any types of organization and any industry. Nevertheless, the literature on the canvases is dedicated to business models that can be monetized and that on Lean Startup concentrates on finding paying customers as soon as possible (Ries 2011; Kraaijenbrink 2012). Furthermore, all the authors have strong technical profiles, hence the strategies and tactics that are most likely only straightforward and outstanding for Internet companies and the tech industry in gerneral (Pelling 2011). Fortunately, Consolite is a web application and is desired to be profitable. Therefore, the theoretical framework does not defeat the purpose of the thesis.

Second, the time constraint only allows the author to gather feedback from four parties before the contract with Arsima Projects ends, meaning that further validation of Consolite after May 18, 2017 is not explored in the thesis. Moreover, the inherent formality of the business-to-business (B2B) environment, the seriousness of financial consolidation, and the sensitivity of a company's financial data do not facilitate an easy admission to a business meeting.

Third, the author does not demonstrate the testing of the whole business model during the thesis project. Financial figures are omitted due to confidentiality and a building block is normally empty at the early stage of the startup.

Fourth, although the author fully embraces the Lean Startup philosophy, she does not deploy its full scope. She only exploits two concepts, validated learning and minimum viable product, as she thinks they are sufficient to find a sustainable business model for Consolite. Thus, the thesis is not the best illustration of the brilliance of Lean Startup.

## 1.4 Research Methodology

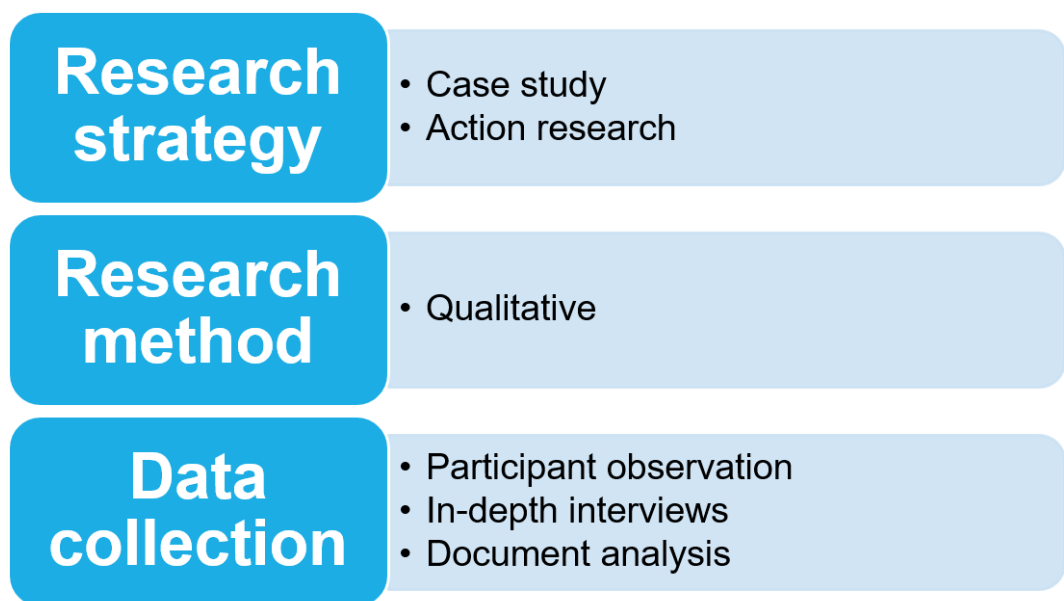The skeleton of the research methodology is depicted in Figure 2 below.

| Research strategy | • Case study<br>• Action research |
|---|---|
| Research method | • Qualitative |
| Data collection | • Participant observation<br>• In-depth interviews<br>• Document analysis |

FIGURE 2. Research Methodology

### 1.4.1 Research Strategy

The common research strategies are experiment, survey, case study, action research, grounded theory, ethnography, and archival theory, all of which are not mutually exclusive. The chosen research strategy is usually influenced by the research question and objectives, the extent of existing knowledge, the amount of resources, and the researcher's philosophical underpinnings. (Saunders, Lewis, & Thornhill 2009, 141.) The listed agents lead to the employment of two research strategies: case study and action research.

The first strategy involves an empirical investigation of a particular contemporary phenomenon which can be a specific event, situation, program, or activity, within its real-life context (Hancock & Algozzine 2006, 15; Saunders, Lewis, & Thornhill 2009, 145). More precisely, the case study in hand is characterized by the following features. First, it strives to explore the activity of building a business model for a startup with the aid of Business Model Canvas, Lean Canvas, and Lean Startup. Second, the activity is examined in its natural context, which is different than the highly controlled context in which the phenomenon occurs in an experiment, for instance (Hancock & Algozzine 2006, 15; Saunders, Lewis, & Thornhill 2009, 146). In addition, it is confined in terms of time and space, taking place only in the startup phase of the company Consolite. Third, the case study is intensely descriptive thanks to multiple sources of information which will be shortly canvassed in section [Data Collection](). (Hancock & Algozzine 2006, 15-16.)

Additionally, the case study strategy is further broken down based on two dimensions: single/multiple and holistic/embedded. Multiple cases are arguably preferable due to the potential for insight generalization across the cases. Nonetheless, single case is still used when the case is found critical, extreme, unique, or typical, etc. As the author is employed to work on the project full-time, Consolite is worthy of the status of a single case. Moreover, since Consolite is treated as a whole, or in other words, since it is not true that only a few units of the project units such as departments or work groups are studied, Consolite is a holistic case. (Saunders, Lewis, & Thornhill 2009, 146-147.)

The second research strategy, action research, is executed as the thesis is more about a research in action than a research about action. In other words, the research aims for a resolution of a practical matter in the project Consolite. Furthermore, the author serves as both a practitioner and a researcher in the project, actively developing Consolite as a member of the team. Indeed, she exhaustively iterates the cycle of diagnosing, planning, taking action, and evaluating; the diagnosis phase of a cycle takes into account the evaluations from the previous cycle. Lastly, the knowledge

earns from the action research informs the subsequent stages and thus, promote change in the project. (Saunders, Lewis, & Thornhill 2009, 147.)

### 1.4.2 Research Method

Qualitative research method features dominantly in the thesis. It is different than quantitative research method in terms of data collection techniques and data analysis procedures. While quantitative data collection techniques and data analysis procedures generate and use numeric data (e.g., numbers), qualitative data collection techniques and data analysis procedures generate and use non-numeric data (e.g., words, pictures, videos). (Saunders, Lewis, & Thornhill 2009, 151.) Qualitative method is preferred not because it is inherently superior but due to its practicality at the early stage of the project. There is hardly traffic and thus, insufficient quantitative data to analyze. Furthermore, quantitative metrics can imply what actions are taken by the sample but not why. (Maurya 2012, 78.) Without knowing why, the author cannot judge whether the business model is validated.

### 1.4.3 Data Collection

The thesis' content is built upon both secondary data and primary data.

Secondary data are data that have been collected previously for other researches. They can be in two forms: raw, which receives virtually no processing, or compiled, which has been selected or summarized. (Saunders, Lewis, & Thornhill 2009, 256-260.) The latter is the form of most of the data reanalyzed in the thesis. Moreover, the high heterogeneity of the secondary data requires the data to be broadly classified into at least three categories: documentary, survey-based, and multiple-source (Saunders, Lewis, & Thornhill 2009, 258). Documentary and multiple-source secondary data constitute the majority of the secondary data examined in the thesis. They are mostly obtained from credible books, journals, magazines, newspapers, government publications, company websites, and online

articles. A small proportion of the secondary data is survey-based data, assembled from ad hoc surveys conducted by independent researchers, organizations, and governments.

The primary data are collected from the interactions within the Consolite team and between the team and four companies in Belgium. The interactions with the four firms comprise of the emails transmitted between the two parties and four business meetings, in each of which a presentation about Consolite is introduced and followed up with questions, discussions, and sometimes demonstrations. All raw data are kept confidential; however, their summary and interpretation are selectively available in the thesis.

The interactions are investigated through three techniques: participant observation, in-depth interviews, and document analysis. The combination of the techniques, or in other words, triangulation, helps ensure the credibility of the final interpretation of the primary data (Saunders, Lewis, & Thornhill 2009, 146). The first technique, participant observation, originated from social anthropology, a field in which the researcher becomes a member of the studied group by experiencing fully the lives and activities of the subjects. As a participant observer, the author absorbs the primary data both rationally and intuitively, comprehending the contexts and the nuances of the data. Furthermore, in the role of a participant as observer, the author gains admission to confidential activities and documents and receives timely explanation to any perplexities. In addition, assuming the role of a participant as observer, the author reveals her purpose as a researcher and thus, avoids ethical problems to which a complete participant is susceptible. (Saunders, Lewis, & Thornhill 2009, 289-295.)

The second technique involves collecting primary data from in-depth interviews (the informally structured interviews with no prearranged list of questions) in two environments: external and internal (Saunders, Lewis, & Thornhill 2009, 320-321). The external in-depth interviews take place in four business meetings at four business premises in Belgium, each between two members of the Consolite team and the company' two to three senior

managers for one to three hours. The notes of what is discussed during each meeting are taken on paper by the author and the minutes are circulated among the whole team via email afterward. Though not organized officially as interviews, the business meetings facilitate open discussions about various aspects of Consolite, reflecting the format of an in-depth interview in which no identical set of specific questions is prepared and asked. Despite the lack of predetermined questions, each meeting strictly revolves around Consolite, providing crucial insights to answer the research questions. The internal in-depth interviews take the form of informal work conversations between the author and another member of the team, which are frequent and not scheduled, and formal team meetings with all four members scheduled once a month.

The last data collection technique concerns reviewing electronic documents that first, are composed and circulated internally such as memoranda, reports, emails and second, are transmitted between the team and an external party (exclusively emails). Appraising and synthesizing the data in such documents helps confirm whether the findings concluded from the previous techniques are corroborated (Bowen 2009).

1.5    Thesis Structure

The thesis is constructed out of the theory and practice of building a business model. It contains six chapters as illustrated in Figure 3.
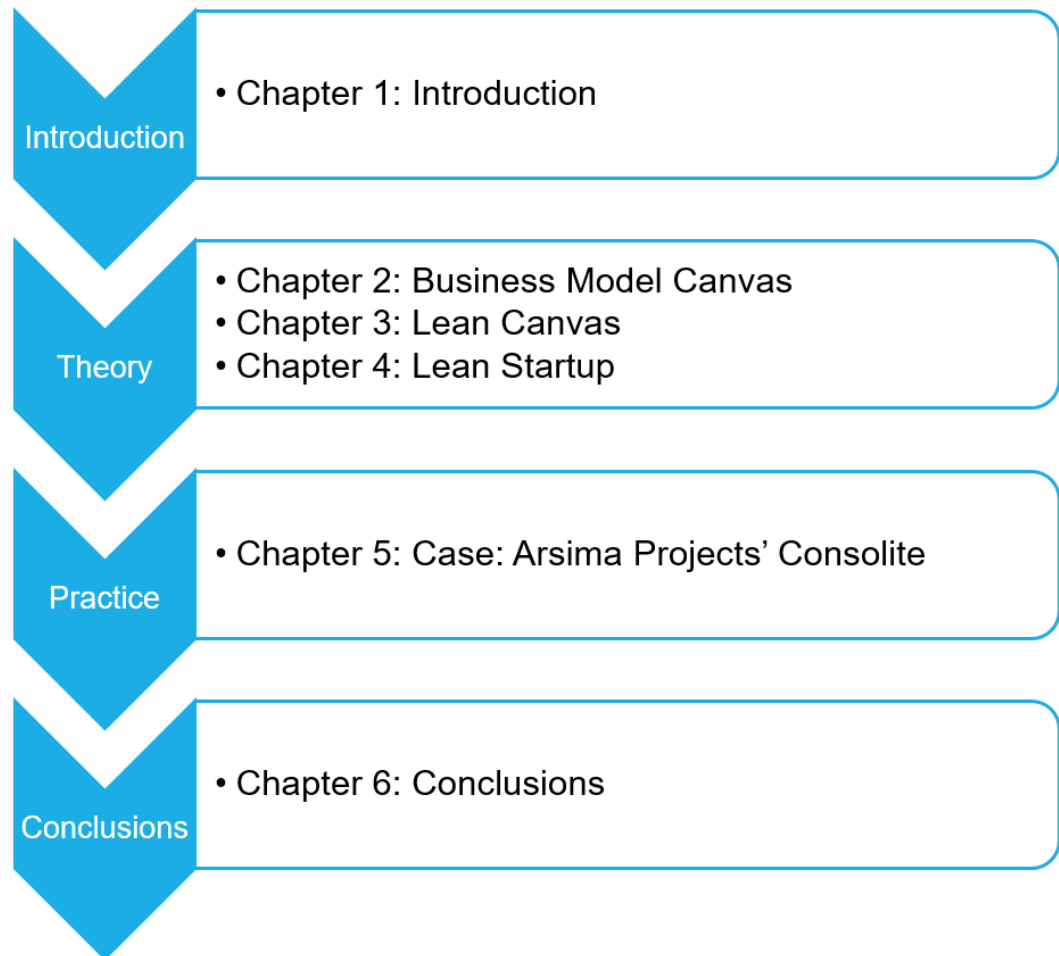
FIGURE 3. Thesis Structure

The first chapter provides a helicopter view of the thesis to familiarize the readers with the research background, objective and research questions, scope and limitations, research methodology, and thesis structure, respectively.

The next three chapters delve into the theoretical framework of the thesis. Chapter 2 and 3 scrutinize Business Model Canvas and Lean Canvas, ascertaining the guidance on how to document the vision of a business in a single compact canvas, answering sub-question 1. Chapter 4 briefly discusses the rising management philosophy Lean Startup, whose five principles immeasurably influence the actions in the research. The chapter especially explains two critical concepts, validated learning and minimum viable product, partially answering sub-question 2.

Chapter 5 applies the theoretical guidance to Consolite. The chapter introduces clerical information on the case project and more importantly, portrays in detail the early evolution of Consolite business model. Four rounds of validation and their corresponding findings are recorded, answering sub-question 2, sub-question 3, and the central research question.

The last chapter concludes the thesis by summarizing the answers to the research questions.

## 2      BUSINESS MODEL CANVAS

The second chapter introduces the definition of Business Model Canvas and a definition of business model. More importantly, it delves into various aspects of nine building blocks that compose the canvas.

### 2.1     Definition

Business Model Canvas is an innovative tool to draft a business model. It visualizes the hypotheses about nine components of a firm's business model: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure in one large page. (Osterwalder 2013.) The canvas captures the essence of a business plan but omits its rigidity, exploits the improvisation from a napkin sketch but avoids its informality (Cowan 2017). Figure 4 below illustrates a blank Business Model Canvas.
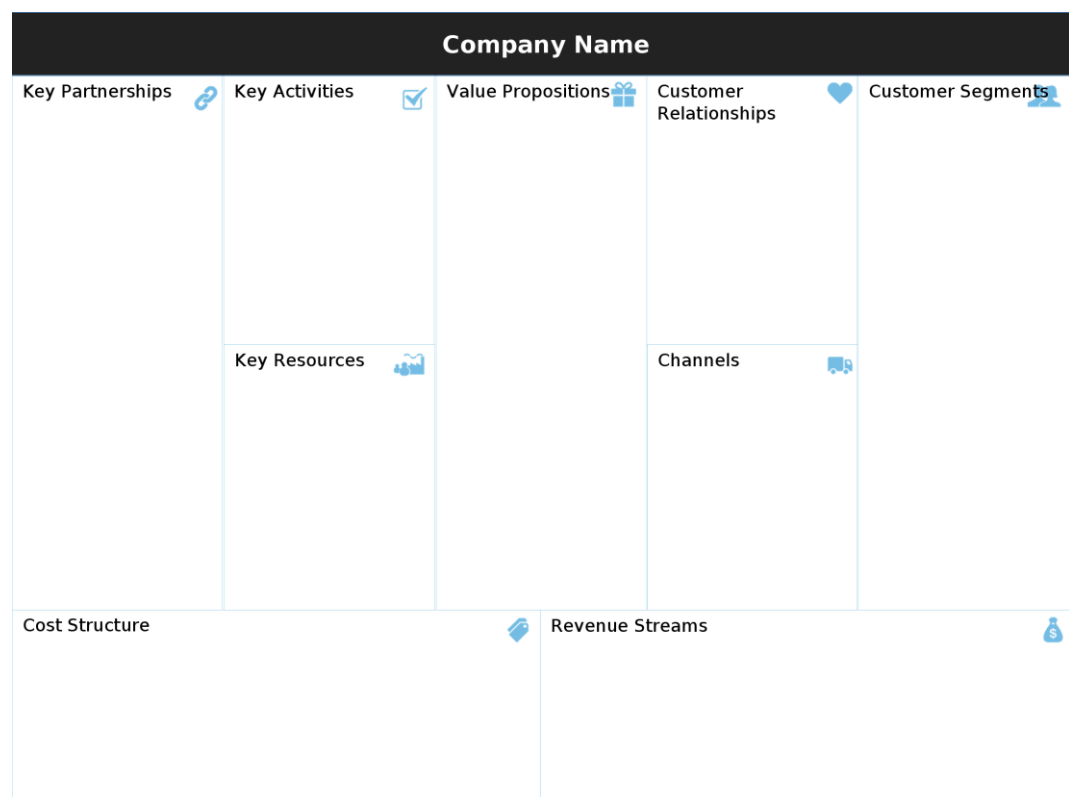


FIGURE 4. Business Model Canvas (Strategyzer AG 2017)

## 2.2    Business Model

There is a plethora of interpretations of what a business model is. A business model can be said to "describe the rationale of how an organization creates, delivers, and captures value" (Osterwalder & Pigneur 2010, 14). In other words, it illustrates how a firm intends to make money. Less frequently, it demonstrates how a non-profit organization intends to achieve its mission (Osterwalder & Pigneur 2010, 50). Nonetheless, the thesis only deals with for-profit business models, to which the majority of the instructions of how to fill in the canvas dedicates (Kraaijenbrink 2012). Viewpoints on the business model for non-profits, governmental organizations, and social enterprises are not discussed.

A Business Model Canvas is not meant to be used solely once. The distinct discrepancy between a business plan and a Business Model Canvas is that while the business plan is an elaborate plan waiting to be executed, the canvas a rough guidance on the search for a suitable business model. Documenting an existing business model is indeed one use of the canvas, but it is not the main use.  The canvas is meant to be updated regularly until the company finds its repeatable and scalable business model. (Foster 2013.)

## 2.3    Nine Building Blocks

It is strongly advisable to tackle the canvas not from left to right but in the following sequence, as shown in Figure 5:
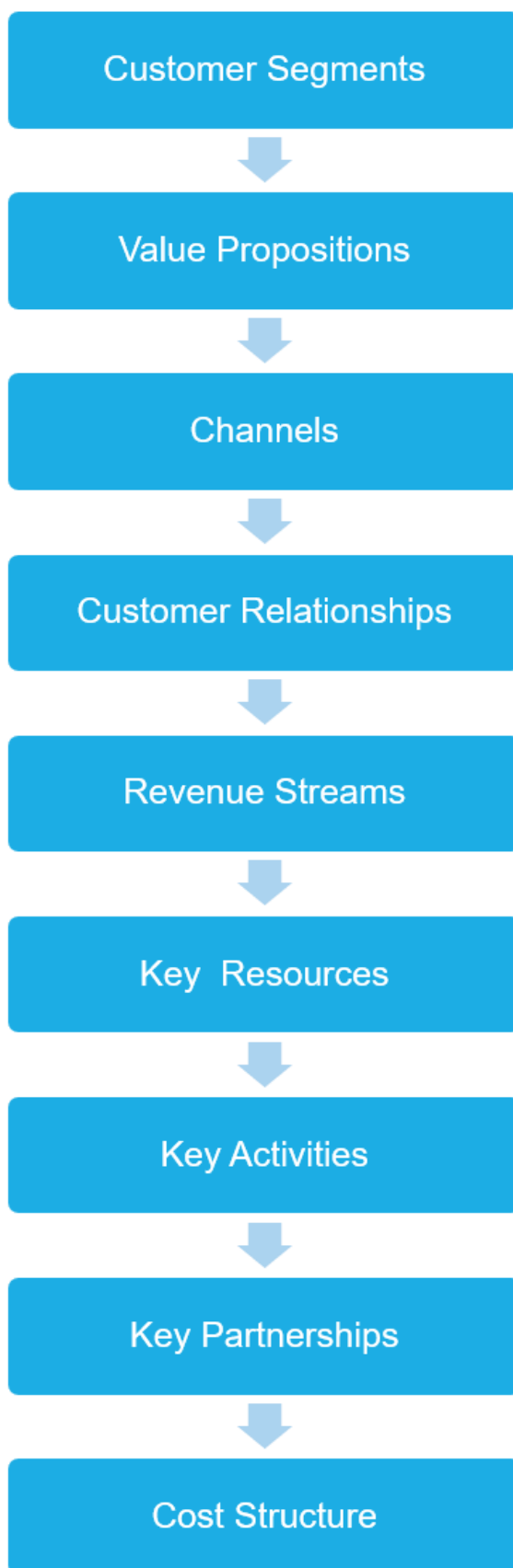
FIGURE 5. Sequence in Business Model Canvas (Osterwalder & Pigneur 2010, 16-17)

### 2.3.1 Customer Segments

The first building block clarifies the different groups of people the company intends to serve. It should provide answers to satisfy two following questions: "For whom are we creating value? Who are our most important customers?" (Osterwalder & Pigneur 2010, 21.)

Profitable customers are vital to a business model because without them, a company cannot survive for long (Osterwalder & Pigneur 2010, 21). This leads to the important task of dividing the market, the set of potential buyers of a product or service, into big or small segments and consciously choosing the most suitable customer segments. Building a business model without the practice of segmentation may seem attractive because more customers, more revenues. (Kotler & Armstrong 2006, 7-8.) What is more, Henry Ford successfully developed his Model T's business model without targeting any specific customer segments: "Any customer can have a car painted any color that he wants so long as it is black." (Ford & Crowther 1922, 72). Over 15 million Model T cars were sold in the 20$^{th}$ century despite the lack of market segmentation (The Ford Motor Company, 2012). However, today, when a company tries to serve all customers, it risks serving no one well. It is simply impossible for a firm to enchant all buyers in the same way. The marketplace is too large and varied in needs and buying patterns. Therefore, a company must identify the segments of the market that it will serve most profitably. (Kotler & Armstrong 2006, 194.)

There is more than one way to characterize a business model's customer segments. For example, a customer segment can be one of geographic (country, city, climate), demographic (age, gender, religion), psychographic (class, lifestyle, personality), or behavioral (occasion, benefit, loyalty) segments. Alternatively, a segment can be broadly a consumer market, a business market, or an international market. Moreover, the marketplace can be partitioned into three foregoing markets and each market is further partitioned based on geographic, demographic, psychographic, and behavioral variables, alone or combined. Apparently, there is a plethora of

methods to segment a market but not all are necessary. As long as the results of the market segments are measurable, accessible, substantial, differentiable, and actionable, the segmentation is regarded as effective. (Kotler & Armstrong 2006, 195-208.)

Below are examples of five common customer segments that companies usually serve:

a)      Mass Market

A business model that focuses on a mass market implies that the firm want to target a large and diverse pool of customers with heterogeneous ages, locations, and preferences (Bhasin 2017). Despite the clientele's differences, they must have at least one similar need or problem that the firm can satisfy. There are apparently a few customer segments in the mass market but they all are offered the same value propositions and reached by the same distribution channels. (Osterwalder & Pigneur 2010, 21.)

For instance, the business models of all fast-moving consumer goods (FMCG) giants such as Nestlé, Procter & Gamble, and PepsiCo revolve around mass markets because the consumers buy essential household items manufactured by those corporations regardless of their demographic discrepancies (Consultancy.uk 2015; The Telegraph 2017). Another example would be the main customer segment of Apple's business model for its iPod/iTunes combination (Figure 6) (Osterwalder & Pigneur 2010, 47).
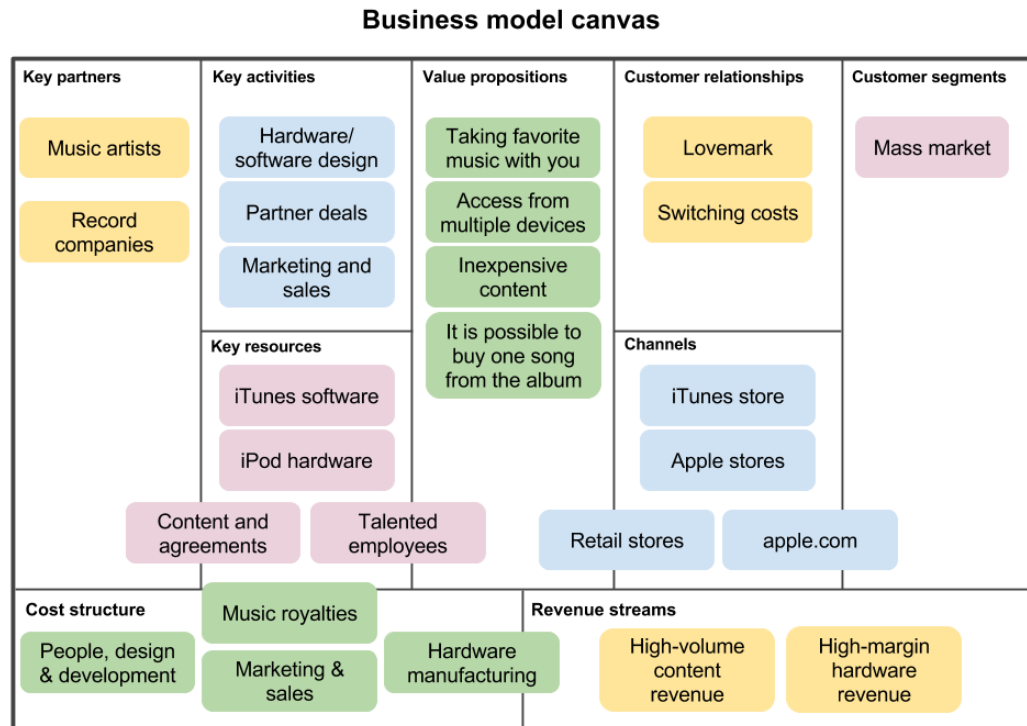
**Business model canvas**

| Key partners | Key activities | Value propositions | Customer relationships | Customer segments |
|---|---|---|---|---|
| Music artists | Hardware/ software design | Taking favorite music with you | Lovemark | Mass market |
| Record companies | Partner deals | Access from multiple devices | Switching costs | |
| | Marketing and sales | Inexpensive content | | |
| | **Key resources** | It is possible to buy one song from the album | **Channels** | |
| | iTunes software | | iTunes store | |
| | iPod hardware | | Apple stores | |
| | Content and agreements / Talented employees | | Retail stores / apple.com | |

| Cost structure | | Revenue streams | |
|---|---|---|---|
| Music royalties | | | |
| People, design & development / Marketing & sales / Hardware manufacturing | | High-volume content revenue | High-margin hardware revenue |

FIGURE 6. Apple iPod/iTunes Business Model Canvas (Stremetska 2016)

For another example, the Affordable Art Fair is accessible to all ordinary art lovers with various backgrounds (families with kids, students, blue-collar workers, etc.) instead of solely traditional elite collectors (Fiore 2012). They have organized over 230 fairs in more than 10 cities, showcasing wide range of contemporary paintings and live performances by both established artists and emerging talents (Affordable Art Fair 2017).

b)     Niche Market

A business model based on a niche market targets a specific segment of the population as potential customers (Osterwalder & Pigneur 2010, 21). The segment is distinguished from the rest of the population by its gender, age, ethnicity, occupation, hobby, etc. (von der Heydt 2014). Naturally, the business model's value propositions, distribution channels, and customer relationships are intimately tailored to the niche market (Osterwalder & Pigneur 2010, 21). As an example, the Private Banking business at Credit Suisse serves a niche market of only affluent private individuals. They stand out because they are individual clients, who are not the bank's customers

on behalf of certain organizations and their net worth must surpass a certain threshold. The business offers comprehensive advisory services and investment and lending products that distinctly suits each client's needs. (Credit Suisse 2017.) Furthermore, the division New Markets within the Private Banking business serves a smaller niche market of wealthy African-Americans. Their net worth is similar to that of other clients in the Private Banking business but their saving and investing habits are more conservative, hence the requirement of additional services. (Sullivan 2014.)

c)      Segmented

In a segmented business model, there are at least two groups of customers that have vastly similar but still slightly different needs and problems. As a result, the value propositions for the groups are basically but not entirely the same. (Osterwalder & Pigneur 2010, 21) To take one example, McDonald's Arabia serves only halal food, which does not contain pork, because Muslims do not consume pork; McDonald's restaurants in France exceptionally offer a wide selection of cheese (Chevre, Camembert, and Comté, etc.) due to the country's cheese heritage; McDonald's franchises in Thailand provide the country's signature sweet chili sauce. Clearly, McDonald's customer base is strikingly similar in their interest in fast-food consumption, but a group of customers in a specific region may adhere to a set of dietary customs and have a distinct culinary preference. Therefore, McDonald's tweaks its core products to adapt to the local taste. (Janofsky 2015.)

d)      Diversified

In contrast, the customer segments in a diversified business model are simply unrelated. They have different needs and problems, demand different solutions, are approached in different ways, and are charged in different pricing models. (Osterwalder & Pigneur 2010, 21.) Amazon.com business model is a case in point. First and foremost, the online retailer sells all sorts of merchandise like books, electronics, toys, and other stuff to a

mass market (Amazon.com, Inc. 2017). Parallelly, the company's Amazon Web Services (AWS) division offers cloud services to organizations: storage space to hold a huge database, bandwidth to host a website, and server capacity to run a complex application remotely, etc. (Hern 2017.) Amazon's IT infrastructure is so powerful that it conducted 39 years of computational chemistry in nine hours for Novartis in 2013 (Amazon Web Services, Inc. 2017). Similar to Novartis, AWS customers are sizable organizations such as Siemens, Netflix, and University of California Berkeley (Amazon Web Services, Inc. 2017). They have a completely different need and deploy an unrelated solution unlike the end consumers (Osterwalder & Pigneur 2010, 21).

e)      Multi-sided Platforms

Another noteworthy type of customer segment is a multi-sided platform or multi-sided market (Osterwalder & Pigneur 2010, 21). A multisided platform (MSP) is a technology, product, or service that generate value from direct interactions between two main customer or participant groups (Hagiu, 2013). A shopping mall is considered an MSP since it connects stores and consumers (Brokaw 2014). More successful examples are online platforms such as eBay (buyers and sellers), Airbnb (owners and renters), Uber (drivers and passengers), Facebook (users and advertisers), Apple's iOS (application developers and users), and American Express (merchants and consumers) (Osterwalder & Pigneur 2010, 78; Hagiu 2013). Two segments in an MSP interact interdependently and both are vital to the effectiveness of a multi-sided business model (Osterwalder & Pigneur 2010, 21).

2.3.2   Value Propositions

The second building block, value propositions, demonstrates the bundle of products or services that is supposed to create benefits or values for the customer segments in the first building block. The bundle solves a customer problem or satisfy a customer need. (Osterwalder & Pigneur 2010, 22.) The set of benefits or values promised and delivered to the customers

differentiates one company from another or one brand from the others owned by the same company (Kotler & Armstrong 2006, 9). For instance, Uber offers passengers, one of the company's customer segment, affordable, 24/7 available, and cashless rides and consequently positions itself superior to conventional taxi companies (Figure 7) (Oakley 2016). It distills the value proposition for the passenger segment into a statement: "Always the ride you want" (Uber Technologies Inc. 2017). Ultimately, the value proposition is the reason why customers choose a company's product instead of its competitors' (Kotler & Armstrong 2006, 9; Osterwalder & Pigneur 2010, 22).
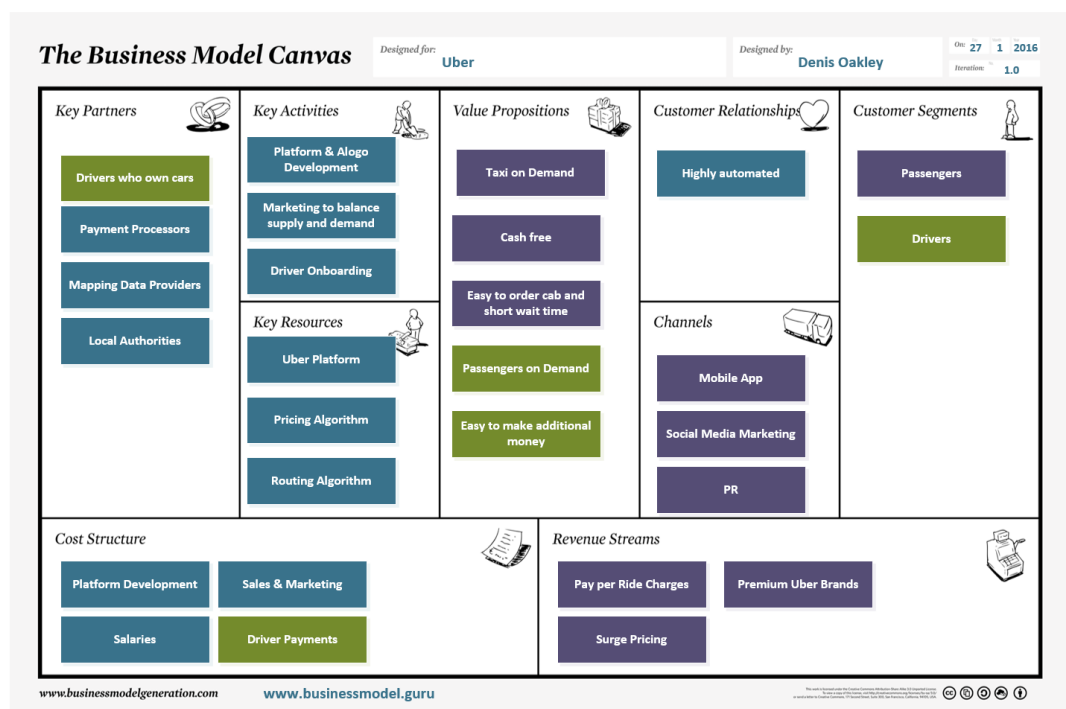


FIGURE 7. Uber Business Model Canvas (Oakley 2016)

A company can fill in the building block with the presumptive answers to four following questions:

"What value do we deliver to the customer?

Which one of our customers' problems are we helping to solve?

Which customer needs are we satisfying?

What bundles of products and services are we offering to each Customer Segment?" (Osterwalder & Pigneur 2010, 23).

There are countless elements that can become the core benefits or values to a company's customer segments. The following five examples are by no means exhaustive.

a)      Newness

Newness as a value proposition is usually related to technology. It satisfies a new set of needs that customer did not know to exist because there was no available offering. (Osterwalder & Pigneur 2010, 23.) For example, floppy disks paved the way for a more convenient data storage and later, the birth of the software industry, in 1967 (IBM 2017). With a floppy disk as a storage medium, people could transfer data from one machine to another for the first time (IBM 2017). More importantly, before the invention by IBM, paper punched cards were used for data entry and software programming and computer owners must write software applications by themselves. Thanks to the advent of floppies, individuals could purchase the disks containing the desired programs and load them to their personal computers. As a result, the floppy disks were ubiquitous for three decades. (IBM 2017.)

b)      Performance

For example, resolution can be perceived as an imperative performance indicator for digital cameras. Resolution implies the amount of details the camera can capture. It is measured in pixels. (Nice, Wilson, & Gurevich 2006.) The more pixels, the larger the unblurry picture (Mansurov 2015). In this sense, a 1994 Apple QuickTake 100 with resolution of 640x480 pixels would provide a stronger value proposition of performance than a 1975 Kodak Digital Camera, the world's first digital camera, with resolution of 100x100 pixels (Edwards 2011).

c)      Customization

A business model that is based on customization allows the customer segments to tailor the products or services to their specific needs and personal tastes (Osterwalder & Pigneur 2010, 23). For example, ShirtsMyWay business model enables potential customers to create a unique combination of fabric, collar, cuff, button, size, etc. for their shirts on the website (MyWay Group Limited 2017). Similarly, Finding Ferdinand business model does not rely on the mass production of lipsticks with a limited number of colors but a fun experience of mixing different tints, shades, and tones of different colors to create a perfectly personalized lipstick (Finding Ferdinand 2017).

d)    Design

One of a business model's value propositions can be product design but the element is difficult to define and quantify (Osterwalder & Pigneur 2010, 24). A good product design requires inputs from both science and art and frequently involves ethereal factors such as empathy, pragmatism, and passion (Rivalland 2013). The Coke contour bottle design can be classified as a value proposition in Coke business model because of its timeless sexiness and instant recognition (May 2014).

e)    Brand

Customers may derive value from a brand out of love, pride, or nostalgia, etc. Their feelings and perceptions are usually built upon the brand's fundamental story, brand experience, customer experience, and marketing (Cooperstein 2015.) For example, customers may associate the brand Nokia with indestructible products and derive a sense of security and assurance from the perception (Gibbs 2017).

### 2.3.3 Channels

The building block is on the right side of the canvas, below customer relationships and between value propositions and customer segments (Figure 8).
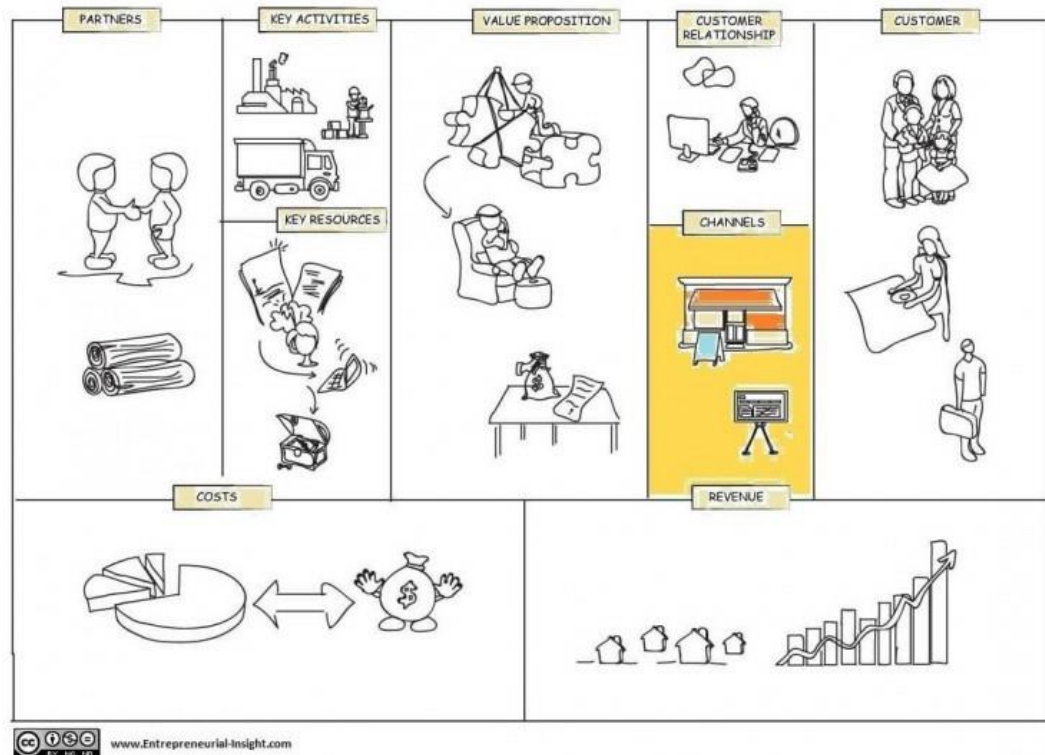


FIGURE 8. Channels in Business Model Canvas (Luenendonk 2015)

a)     Functions

A business model's channels comprise of communication, sales, and distribution channels (Osterwalder & Pigneur 2010, 26). They are the interface between the company and its customers (Lenaerts 2013). They serve five functions through five phases (Osterwalder & Pigneur 2010, 26-27):

Phase 1 – Awareness: The business model's channels help raise awareness about the company's bundle of products and/or services (Osterwalder & Pigneur 2010, 26-27). They help the company educate its target customer segments about the characteristics of the offered products

and/or services. In other words, they inform the customers of the company's promised value proposition. (Luenendonk 2015.)

Phase 2 – Evaluation: The channels help customers evaluate the company's products and/or services (Osterwalder & Pigneur 2010, 26-27). At this juncture, the customers will form an opinion about the bundle and compare it with other options from the company's competitors (Luenendonk 2015).

Phase 3 – Purchase: The channels specify where and how the customers can order the products and services (Osterwalder & Pigneur 2010, 26-27).

Phase 4 – Delivery: The channels clarify where and how the customers receive the promised value proposition (Osterwalder & Pigneur 2010, 26-27).

Phase 5 – After Sales: The channels facilitate post-purchase customer care and support (Osterwalder & Pigneur 2010, 26-27).

b)     Types

There are two sets of characteristics that define a channel: own/partner and direct/indirect as exhibited in Figure 9.

- Sales force
  - Telephone
  - Mail
- Own websites

Own

Own stores

Direct

Indirect

Partner

- Partner stores
- Wholesalers
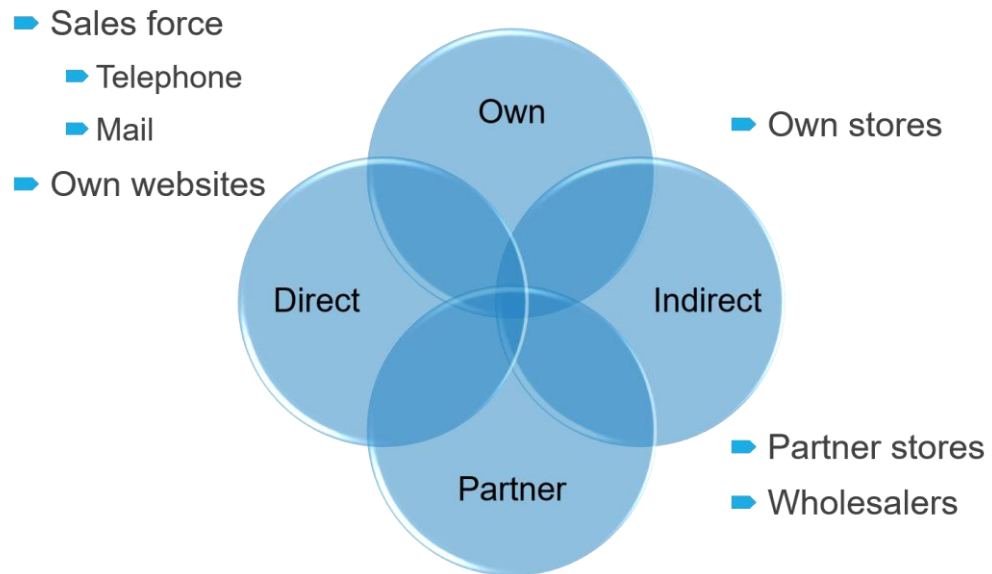
FIGURE 9. Channel Types (Kotler & Armstrong 2006, 509-511; Osterwalder & Pigneur 2010, 27)

Most own channels are direct channels (Luenendonk 2015). Direct channels involve no intermediary (Kotler & Armstrong 2006, 364). For example, Vivint's sales representatives sell the firm's security systems door-to-door and the technicians go to the consumers' residences to install the systems in the United States (Jacobson 2011). Other direct channels include personal selling, telephone, mail, catalog, and television (Kotler & Armstrong 2006, 509). Own channels lead to more intimate relationship with customers and higher profit margins but require more investment to install and operate the infrastructure (Luenendonk 2015).

Partner channels are always indirect channels, which contain at least one level of intermediaries. A company can sell its products to retail stores and the stores in turn sell them to consumers, for instance. (Kotler & Armstrong 2006, 364-365.) Other partner channels are wholesalers, distributors, and brokers. They often deal with also competing brands, have lower margins, and lead to loss of control, but they allow the company to expand its presence and reduce the costly investment in infrastructure. (Luenendonk 2015.)

2.3.4 Customer Relationships

The position of the building block is indicated in Figure 10.
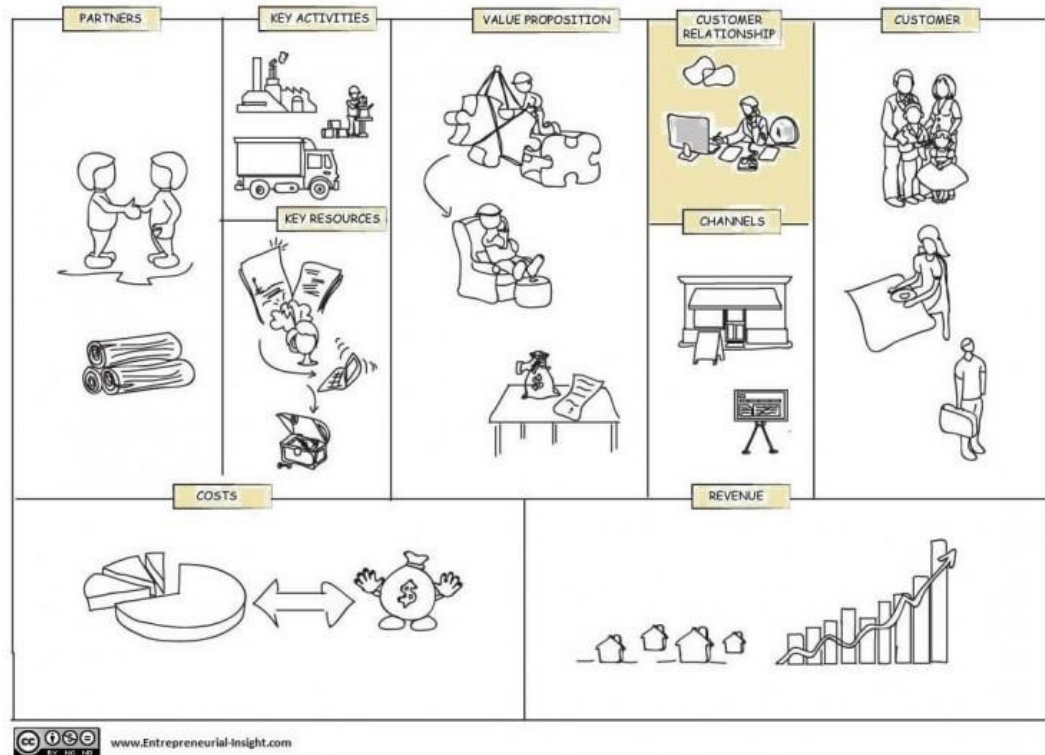


FIGURE 10. Customer Relationships in Business Model Canvas (Luenendonk 2015)

The fourth building block illustrates the nature of the relationships that the company intends to establish with its customer segments. The chosen customer relationships reflect whether the company is at the stage of acquiring customers, retaining customers, or boosting sales. A company can develop more than one type of relationships with a customer segment. Below are five common customer relationship types. (Osterwalder & Pigneur 2010, 28.)

a)      Personal Assistance

A business model that offers personal assistance to its customer segments requires a high degree of human touch available before and after the purchase. The customers should be able to communicate with a sales representative when they make a purchase decision and contact a customer

service representative after the transaction is complete. The interaction can happen at the point of sale, on the phone, or by email. (Osterwalder & Pigneur 2010, 29.) Apple is frequently regarded as a successful practitioner of this type of customer relationship. Apple stores' sales associates are educated to welcome customers warmly, politely learn about their needs, suggest a solution, listen to and resolve all issues and concerns, and invite them to return in farewell. (Kane & Sherr 2011.)

b)      Dedicated Personal Assistance

This relationship is likewise based on human interaction but at a more personalized level and over a longer period. It requires assigning a customer representative specifically to a client or a small group of clients. The relationship is especially ubiquitous in private banking. (Osterwalder & Pigneur 2010, 29) Most private bankers are ready to cater to the needs of their assigned wealthy clients 24/7: houses, sport tickets, and reservations at the hottest restaurants in town, etc. (Frith 2012). Société Générale Private Banking once stockpiled rare and premium wine bottles, each of which costed about €1,000, at the request of a wealthy Asian investor (Landau 2006).

c)      Self-service

As the name suggests, the business model involves providing the customer segments virtually all necessary means to complete the purchase with little or no help (Osterwalder & Pigneur 2010, 29). For instance, certain supermarkets give the shoppers the freedom to scan their groceries and bag them at checkouts or to scan the merchandises with hand-held devices or mobile phones during the shopping trips as alternatives to conventionally letting cashiers perform the tasks. Self-service in supermarkets and retailers reduces direct human interaction with customers to minimum and therefore, reduces the staff expenses, but on the other hand, incurs the risk of theft and customer frustration of faulty technologies. (Knapton 2016.) Self-service is the typical relationship for Internet consumers who book their

tickets (airline, train, concert), reserve their hotel rooms and restaurant seats, and pay utility bills all online instead of going to an agent and placing their requests (Tedeschi 2002; Queenan 2012; Robinson 2012). Self-service is also available in business markets. For example, Snap Inc. allowed marketers to use a tool called Snapchat Ad Manager to buy ads directly on the app Snapchat as of July 2017 as an alternative to contacting Snapchat sales team or Snap's ad partners (Wells & Marshall 2017).

d)    Automated

An automated relationship adds a touch of personalization to the dominant self-service (Osterwalder & Pigneur 2010, 29). For example, Amazon's engines use a customer's unique profile, browsing history, and previous purchase as the base to recommend the products that the customer may be interested in (Krawiec 2016).

e)    Co-creation

A co-creation relationship involves a collaboration between a company and its suppliers, customers, or third parties on generating value together (Osterwalder & Pigneur 2010, 29; Bhalla 2016). To take one example, LEGO provides a website called LEGO Ideas for LEGO enthusiasts to suggest, vote for, and comment on new projects. If a project receives 10,000 votes and later is approved by the company's seniors, the creator will be given 1% of the product's sales and credited on packaging. (Brunning 2015; Milbrath 2016.) LEGO Ideas is a creative initiative that reduces the risk of launching a new product that will become unpopular, lets customers add value to the organization, and celebrates their insights (Simoes-Brown & White 2014; Brunning 2015; Milbrath 2016). Another successful result of a co-creation relationship would be Apple's Application Programming Interface (API) where thousands of apps are designed and sold by third parties (Clayton 2011).

## 2.3.5 Revenue Streams

The building block is at the bottom right corner of the canvas (Figure 11).
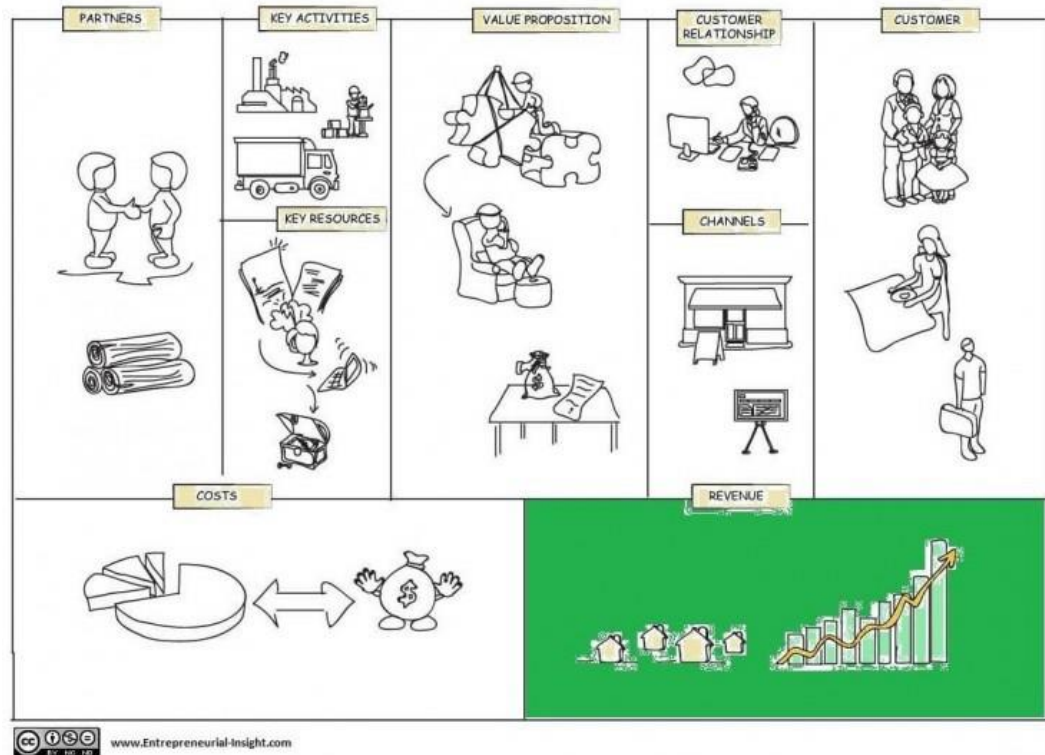


FIGURE 11. Revenue Streams in Business Model Canvas (Belyh 2015)

a)      Definition

The fifth building block concerns the cash the company will receives from the customer segments it serves (Osterwalder & Pigneur 2010, 30). It is imperative to specify that the use of the term "revenue" in the name of the building block does not adhere to a common basis of accounting. In the context of financial accounting, the balance of revenue can be vastly different than the balance of cash at any given point in time due to the accrual basis of accounting. Revenues are recorded when the company completes the agreed course of actions that generate the revenues and not when it receives the cash. Thus, the revenues reported in the company's profit and loss statement in a particular period are tied to the events in that period and do not mirror the evolution of the company's bank account in the aforementioned period. (Kieso, Weygandt, & Warfield 2009, 6-7.)

A company can have from zero to many revenue streams. Startups sometimes have no revenue stream while mature companies have at least one revenue stream because without cash, there is no business activity and no mature company. (Genadinik 2014.) Some companies such as Quora reside somewhere between two extremes of the spectrum; they are not startups and make no money but raise enough funding from investors to continue the operations (Genadinik 2014; MacMillan 2014).

The fifth building block can be seen narrowly as a list of revenue streams, each of which displays one way of how the company is compensated, or extendedly as an abridged version of the company's revenue model, which, in addition, exhibits the strategy concerning different revenue streams. The revenue model is, in turn, different than the business model, which can be limitedly construed as how the company earns money. The revenue model is a part of the business model and is interdependent on the rest of the business model. The business model provides a holistic view of different aspects of a business, their internal connection, and the synergy between them. (BangkokStartup 2013; Genadinik 2014.)

b)    Types

There are fundamentally two types of revenue streams: transactional and recurring (Osterwalder & Pigneur 2010, 30). A transactional revenue stream consists of a group of one-off customer payments and a recurring revenue stream comprises of payments that are likely to periodically repeat in the future (Osterwalder & Pigneur 2010, 30; Seghers 2016).

c)    Examples

•    Asset Sale

This revenue stream is characterized by the transfer of ownership rights of a physical product from the seller to the buyer. For example, Bentley sells cars to customers. After the firm receives a full payment from a customer

for a car, the customer can drive, rent, sell, bury, and destroy the car as he pleases. (Osterwalder & Pigneur 2010, 31; Coelho 2013.) Asset sale is often a transactional revenue stream but if the asset is of high value (for instance, a house, a car, or a factory) and the buyer pays for it in installments, the revenue stream is regarded as recurring (Dini 2015).

- Renting/Leasing/Letting

This revenue stream involves granting the customer the exclusive access to a physical asset for a fixed period of time. The asset is usually of high value, so it is more economical for the renter to pay a lower cost for the full usage in a limited but sufficient duration rather than the full cost of ownership and additional costs of repair and maintenance. (Osterwalder & Pigneur 2010, 31.) Popular rentals range from skyscrapers and machinery to apartments, cars, and tuxedos (Smith R. A. 2015; Tita 2016; Zheng 2016; Kadet 2016; Kusisto 2017).

- Licensing

This revenue stream requires the company to give customers permission to use its protected intellectual properties (Osterwalder & Pigneur 2010, 31). Common registered intellectual properties range from trade secrets to songs and games (Krahmer 2014; Gelinne 2017). They are expensive and risky to develop, so awarding the creators a temporary market monopoly via the intellectual-property rules such as patents, trademarks, and copyrights helps in assuring a fair chance of reaping the rewards if the investments turn successful (Krahmer 2014). For instance, Hyperloop, a transportation concept proposed by Elon Musk, founder of Tesla and SpaceX, aims to cover a distance that takes six hours by car in 35 minutes with a pod in a tub (Nicol 2017). The concept is ambitious and risky; if it materializes into a design, a product, and a business, it is most likely protected by a plethora of patents and deservingly so. Licensing is extremely popular in the media industry and technology sector (Osterwalder & Pigneur 2010, 31). For example, Microsoft sold 1,500 patents to the Beijing-based smartphone startup Xiaomi for an undisclosed sum in 2016. After the transaction, Xiaomi

could use the intellectual properties that the patents protected to manufacture and earn revenues from smartphones and Microsoft would receive royalty revenues each time such phone was sold. (Dou & Greene 2016.)

- Advertising

Advertising involves the placement of an advertisement (ad) in mediums as newspapers, direct mails, billboards, television, radio, and the Internet (Lake 2017). Advertising is traditionally the signature revenue stream for media publishers and event organizers (Osterwalder & Pigneur 2010, 32). In recent years, it grows ubiquitous in the digital media industry (Ember 2015; Rosenwald 2015). Interestingly, online ads have become so obtrusive, obnoxious, and disruptive that they pave the way for the annoying-ads revenue model (Marshall 2013; An 2016). Online users of services such as Spotify and Pandora must pay a subscription fee every month to avoid being bombarded by ads and to experience the services without interruption (Marshall 2013).

- Subscription

A subscription entails the provision of uninterrupted access to a product or service in exchange for a periodically recurring fee (Osterwalder & Pigneur 2010, 31; Noren 2013). Since most subscriptions are renewed automatically, subscribers are free from the hassle of placing the same orders repeatedly and providers are more secure about their revenue projections (Smolar 2011; Longanecker 2015). Subscription fees are an important revenue stream of major digital content publishers such as Netflix (movies and TV shows), Spotify (music), Coursera (educational courses), Lynda (professional courses), and Microsoft (Office 365) (Anderson 2017; Keizer 2017).

d)   Pricing Mechanisms

There are two basic mechanisms for pricing: fixed pricing and dynamic pricing. The first mechanism results in the prices that are determined by static variables such as the number or quality of product features, the traits of the customer segment, and the purchase quantity. On the other hand, dynamic pricing produces the prices that fluctuate depending on market conditions such as negotiation power and skills, inventory, time of purchase, supply and demand, and auctions. (Osterwalder & Pigneur 2010, 33.)

### 2.3.6 Key Resources

The building block is on the left side of the canvas, bordered by key partners on the left and value propositions on the right (Figure 12).
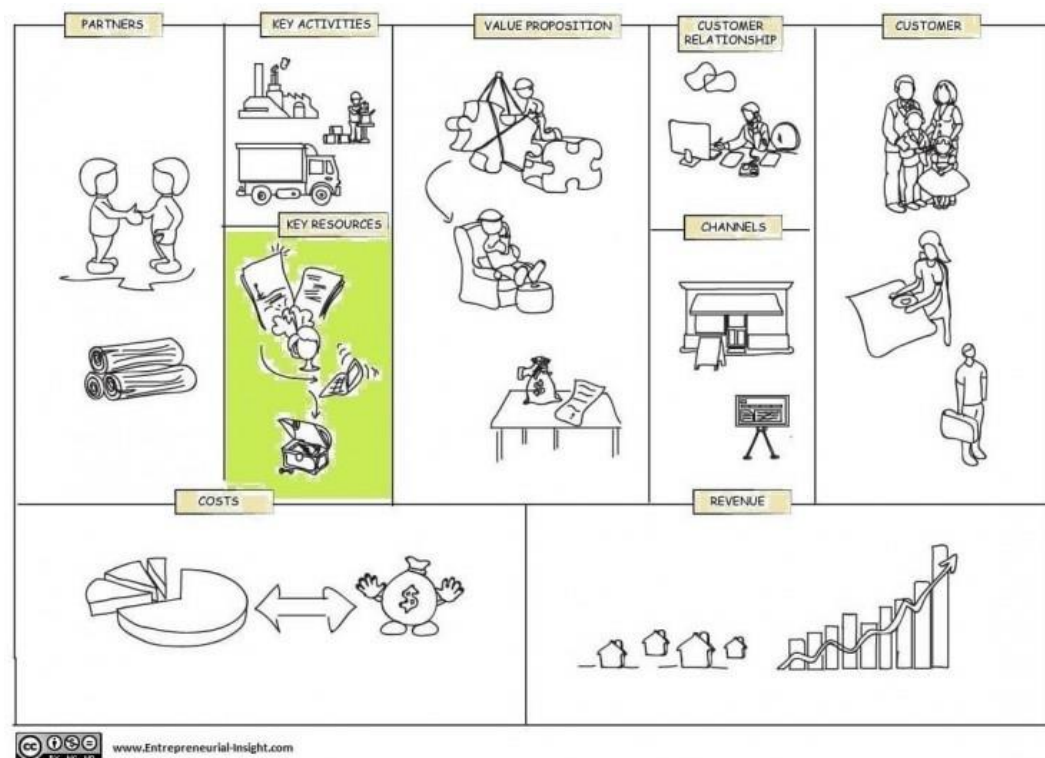


FIGURE 12. Key Resources in Business Model Canvas (Belyh 2015)

Key resources refer to the assets that play a crucial role in creating value propositions, delivering them to customer segments, developing customer relationships, and securing revenue streams (Osterwalder & Pigneur 2010, 34). The building block – key resources – serves as a representation of a firm's operations, stipulating what physical, intellectual, human, and

financial resources are required to ensure smooth operations (Osterwalder & Pigneur 2010, 34; Belyh 2015). It would be fatal to not evaluate the building block strategically and simply to list an array of resources that any business would typically need such as talented workforce or sound capital (Belyh 2015). Different types of business models depend on different key resources to function. For instance, a microchip designer would value its workforce most while a microchip manufacturer would value its production infrastructure most. (Osterwalder & Pigneur 2010, 34.) In addition, it is not necessary that key resources are completely owned by the company, they can be contracted to the company instead (Epperhart 2015).

Below are four common key resources:

a)      Physical

Physical resources encompass building, vehicles, machines, points-of-sales systems, and distribution networks (Osterwalder & Pigneur 2010, 35). For instance, Flexe, a Seattle-based company that connects warehouse operators with online retailers in need of storage space, relies profoundly on physical resources (Smith J. 2017). The company has access to 550 warehouses that cover 25 million square feet of storage space, offering overnight delivery to all online merchants in the United States (Soper 2017).

b)      Intellectual

Intellectual resources are intangible, including brands, patents, copyrights, proprietary knowledge, and customer databases. They are laborious to develop but bring tremendous value if successfully created. (Osterwalder & Pigneur 2010, 35.) For example, brand is one of the key resources of Apple. Indeed, the brand is worth $170 billion, staying the world's most valuable brand for seven years. Brand is also a key resource of other large corporations in the United States such as Google, Microsoft, Facebook, Coca-Cola, and Amazon. (Badenhausen 2017.)

c)      Human

Human resources are generally important in nearly all organizations but are particularly of paramount important in creative industry and knowledge-intensive industry (Osterwalder & Pigneur 2010, 35). Indeed, it would be difficult for HBO to achieve the current level of profitability and prestige without the employment of the most celebrated writers and actors: no The Sopranos without Chase and Gandolfini, no Game of Thrones without Benioff, Weiss, and Dinklage, and no Veep without Mandel and Louis-Dreyfus (Itzkoff 2013; Dockterman 2017; Egner 2017; Leslie 2017; Strause & O'Connell 2017). Likewise, the pharmaceutical giant Novartis depends on its brilliant scientists and skilled sales force to realize perpetual success (Zoltners, Sinha, & Lorimer 2009, 348-349; Osterwalder & Pigneur 2010, 35; Novartis Oncology 2016). What is more, certain personnel are so indispensable that their abrupt or probable departure can leave their companies in brief yet immediate trouble. For example, the rumor of Steve Jobs' hospitalization due to a heart attack in 2008 sent Apple's stock down 10% just in 10 minutes (Hargreaves 2008).

d)      Financial

Key financial resources may include cash, lines of credit, and employee stock options plans (Osterwalder & Pigneur 2010, 35). All firms need financial resources, but when a firm's financial resources determine its existence, they become key resources (Belyh 2015). Banks, for example, depend almost exclusively on their financial resources. They typically need money to conduct their archetypal financial activities and to build buffers against risks. Furthermore, systemically important banks in the United States are even subject to a higher standard of capital buffers; each must reserve billions of dollars to satisfy the capital requirements from the Federal Reserve System, the central bank of the United States. The unusually high capital buffers help the banks absorb their own losses and help prevent the paralysis of the country's banking system once a bank fails. (Tracy, McGrane, & Baer 2015.)

2.3.7   Key Activities

The building block is on the left side of the canvas, above key resources (Figure 13).
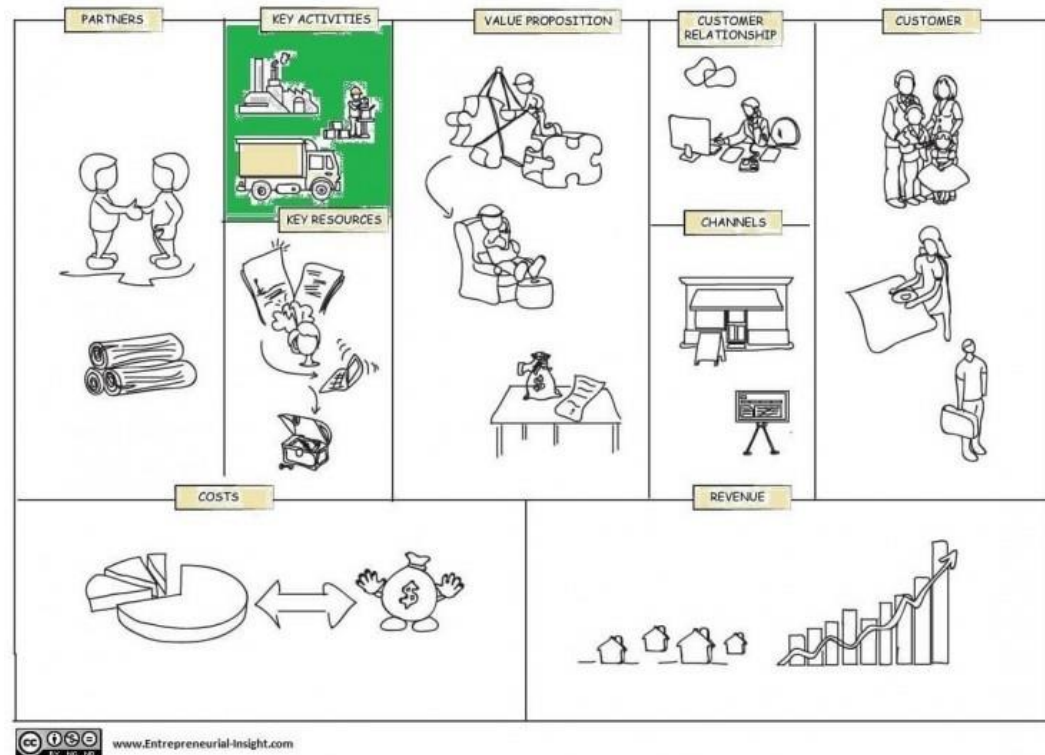


FIGURE 13. Key Activities in Business Model Canvas (Belyh 2015)

Like key resources, key activities affect the creation and delivery of value prepositions, the development of customer relationships, and the generation of revenue streams. Key activities fall under three broad categories: production, problem solving, and network. Production activities include designing, making, and delivering a physical product (Osterwalder & Pigneur 2010, 37.) They commonly appear on the business models of manufacturing firms like Volkswagen, Hyundai, Tesla (cars), and Teva, Sandoz, Actavis (generic pharmaceuticals) (Osterwalder & Pigneur 2010, 37; Newcomb 2017; Stone 2017). The second category of key activities involve finding a solution to a problem and executing it. Such activities are dominant in professional services firms. (Osterwalder & Pigneur 2010, 37.) For example, PricewaterhouseCoopers (PwC) provides its clients with experts who offer specialist advice, strategies, and execution in accounting,

audit, tax, risk, digital transformation, etc. (Tadena 2015; PwC 2017). The last category of key activities is related to platform, including platform development, management, and promotion (Osterwalder & Pigneur 2010, 37). Such key activities are pertinent to the business models of popular e-commerce platforms, each of which hosts thousands of active online shops, such as Shopify, BigCommerce, and Magento (Carmody 2017).

### 2.3.8  Key Partnerships

The building block is positioned on the top left corner of the canvas as illustrated in Figure 14. It depicts a network of suppliers and partners that affects the effectiveness of the business model. A key partnership can be an alliance between non-competitors, a strategic partnership between competitors, a joint venture, or a buyer-supplier relationship. (Osterwalder & Pigneur 2010, 38.)
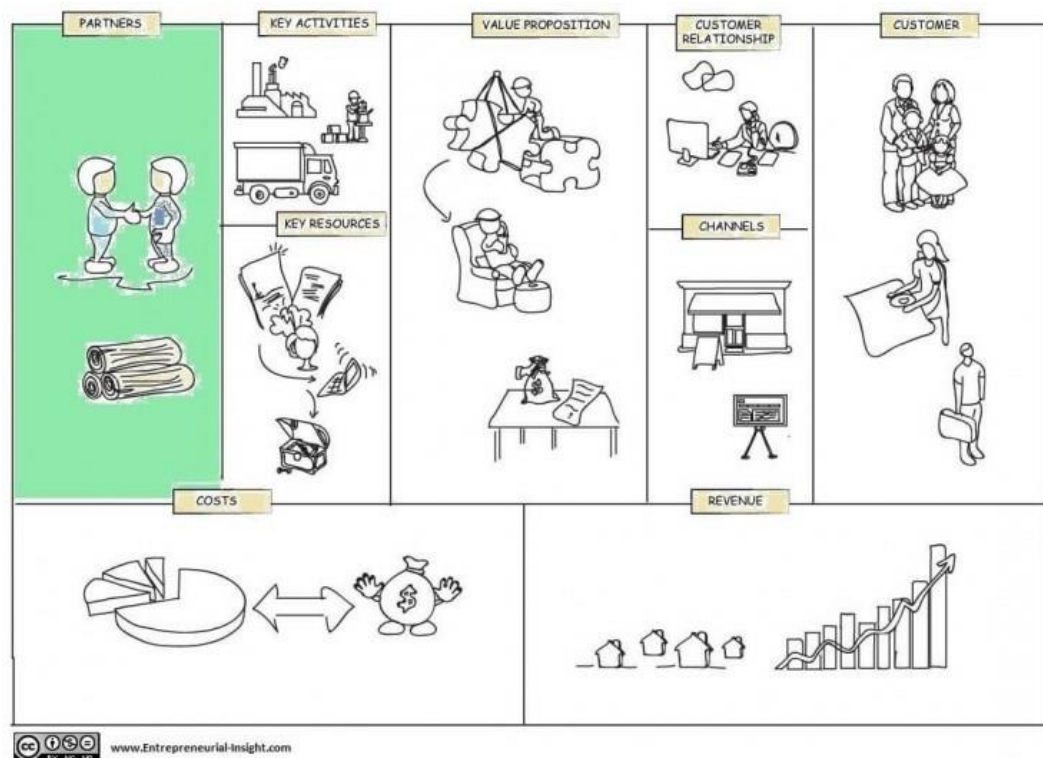


FIGURE 14. Key Partnerships in Business Model Canvas (Belyh 2015)

A buyer-supplier relationship is the most common key partnership (Belyh 2015). Take the relationship between Volvo and Autoliv as an example.

Volvo is a famous original equipment manufacturer (OEM) in automotive industry and Autoliv is a leading supplier of automotive safety systems. As a major direct supplier of Volvo, Autoliv does not only furnish the OEM with components such as seatbelts and airbags but also share its own knowledge and skills with the automaker. The collaboration is proved to benefit both parties: Volvo remains the market leader in automobile safety with unique and innovative components, systems and solutions, and Autoliv continues to receive the high investments. (Brandes, Brege, & Brehmer 2013.)

A joint venture is manifested in Lego and the National Aeronautics and Space Administration (NASA)'s attempt at a unique product for education. The toy company manufactures small versions of satellites, space shuttles, and the International Space Station, which are used by the space agency's astronauts to demonstrate simple scientific concepts. The toys help children familiar with the work life of engineers and astronauts and promote technology, engineering, and mathematics among young audience. (Turiera & Cros 2013, 49.)

An example that demonstrate both an alliance between non-competitors and a strategic partnership between competitors is the Sustainable Apparel Coalition (SAC). The coalition is a proof that an effective collaboration can lead to immense success. The SAC was established in 2010 and aimed at diminishing the environment and social impacts of apparel and footwear production. Seeking a shared vision of sustainability across the apparel industry, the organization comprises of brands, retailers, and manufacturers that are responsible for over one third of the global apparel and footwear, representing the apparel industry with members from all parts of the supply chain and all parts of the world. Thus, the SAC has advanced towards its goals of sustainability at the pace that no individual company can ever dream of, finishing the development of the Sustainable Apparel Index, a tool for sustainability performance evaluation, in less than 18 months. (Kester & Ledyard 2012.)

There are 13 factors that lead to the SAC's success in spreading the Sustainable Apparel Index across the apparel sector. Among those, three factors directly reflect high level of collaboration. Firstly, the coalition selectively started with the right players. 12 companies and 3 non-profit organizations who were invited to the initial exploratory meeting were all strongly committed to a sustainable vision of the apparel industry. Although Walmart and Patagonia, who pioneered an industry-wide effort in sustainability, were both credible leaders in sustainability, they could not have been able to witness the coalition launched with an inferior degree of excitement and leadership from other parties in the beginning. The selectivity in early membership was essential to prevent the low morale, engagement, and commitment, which are usually found in ineffective organizations. Indeed, choosing the right partners at this sensitive stage allowed the coalition to maintain the suitable standard of leadership, and thus, gain momentum and build culture. Secondly, trust is demonstrated, practiced, and honored in the SAC. From 2010, when the host, Walmart, gave the attendees, some of whom were its competitors, a tour of its apparel headquarter in New York after the first exploratory meeting, to today, when members share their stories and challenges as well as proprietary knowledge and tools, the SAC has succeeded in establishing a culture of trust and fostering openness and transparency, paving the way for competitors to temporarily become partners in the journey towards sustainability. Lastly, the Sustainable Apparel Index was not built from the scratch by the SAC but on existing tools and frameworks which had been developed by its members. For example, Version 1.0 of the Sustainable Apparel Index is virtually based on the Outdoor Industry Association's Eco Index and Nike's Environmental Design Tool. Without the contribution of the Outdoor Industry Association and Nike, the SAC could not be able to deliver a pilot index within 18 months. With a collaborative effort, the coalition was able to deliver results quickly and display progress rapidly enough to sustain momentum. In short, collaboration plays an enormous role in the SAC's success. In fact, it is considered one of the three hallmarks in the SAC's culture besides leadership and efficiency. (Kester & Ledyard 2012.)

## 2.3.9 Cost Structure

The last building block is located on the bottom left of the canvas, next to revenue streams (Figure 15).
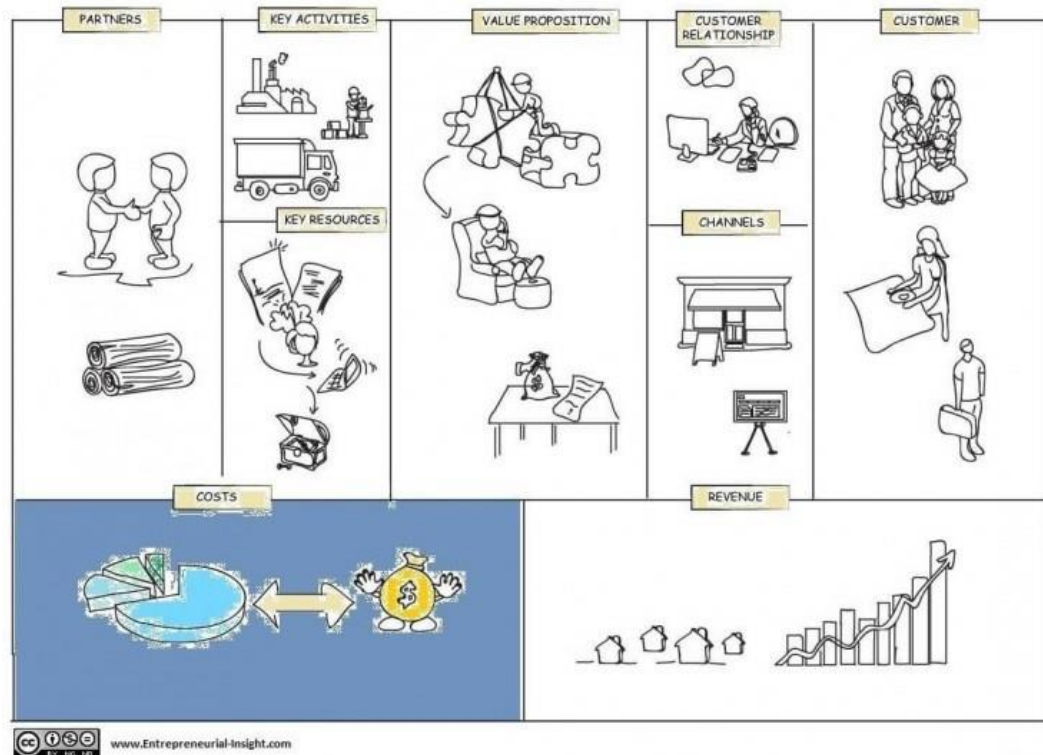


FIGURE 15. Cost Structure in Business Model Canvas (Belyh 2015)

As the title suggests, the building block summarizes the most important costs incurred by executing the business model. The costs of creating and delivering values, nurturing customer relationships, and generating revenues can be calculated fairly easily if the key resources, key activities, and key partnerships are all defined. Certain business models are driven by low cost structures because the value propositions are low price. (Osterwalder & Pigneur 2010, 40-41.) Examples include those of budget carriers such as Ryanair, easyJet, and Southwest. Sometimes, the cost saving is implemented so far that the attention to cancellation, food, and space in overhead luggage bins is not sufficiently paid. (Powley & Beesley 2017.) In contrast, certain business models are at the other extreme of the spectrum (Osterwalder & Pigneur 2010, 41). For instance, Nordstrom invests handsomely in marketing and technology to develop omni-channel

and enable customers to shop in multiple ways. Furthermore, it offers generously free shipping and other costly services. Despite the rise of expenses by 10% and the fall of profits by 17%, the company will continue to pursue omni-channel to boost its online sales and gain market share. (Chao 2016.)

# 3 LEAN CANVAS

The third chapter discusses the birth of Lean Canvas as an alternative to Business Model Canvas. Furthermore, the chapter reviews the building blocks of Lean Canvas, especially the ones that are completely different than those present in the predecessor.

## 3.1 Definition

Lean Canvas was introduced by Maurya in 2010. The canvas was inspired by and adapted from Osterwalder's Business Model Canvas. (Maurya 2012.) Similar to Business Model Canvas, it aims at documenting a business model's hypotheses in one single canvas instead of various worksheets or business plans. The canvas still preserves its predecessor's characteristics: fast to produce, concise, and portable. Therefore, it is likely to be updated more frequently. (Maurya 2012, 4-6.)

The original Business Model Canvas beautifully captures many business models of famous corporations such as Apple and Skype. Unfortunately, it is not suitable to handle the business models before the companies are stable and successful. It is considered too rudimentary to illustrate the dynamic learning collected before the success and thus, is revised by Maurya to incorporate more risky elements that need immediate attention. (Maurya 2012.)

## 3.2 Building Blocks

The building blocks in Lean Canvas are slightly different than those of Business Model Canvas as demonstrated in Figure 16. Key partners, key activities, key resources, and customer relationships in Business Model Canvas are replaced by problem, solution, key metrics, and unfair advantage, respectively (Maurya, 2012).
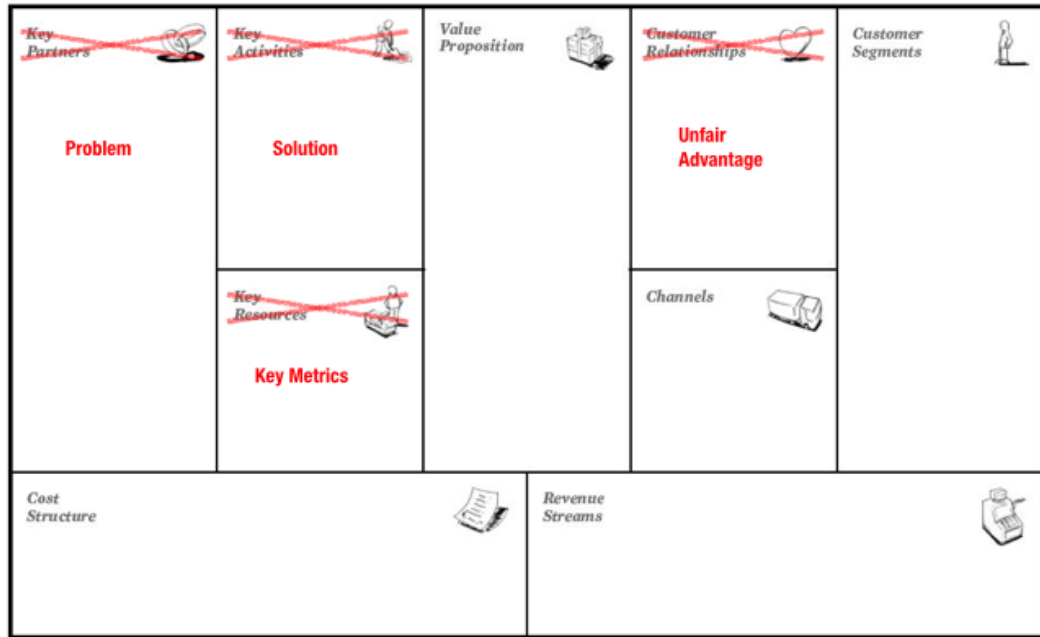
FIGURE 16. Building Blocks in Lean Canvas & Business Model Canvas (Maurya 2012)

Like Business Model Canvas, Lean Canvas should not be tackled from left to right but in the sequence described in Figure 17 below.
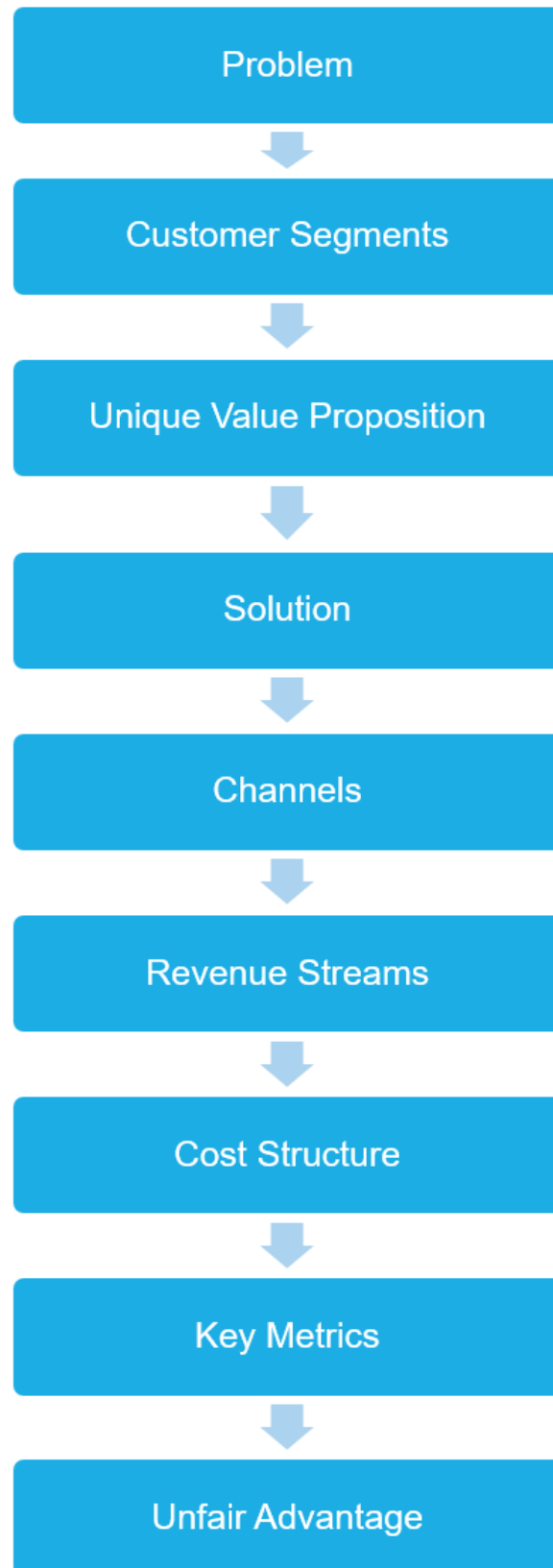
FIGURE 17. Sequence in Lean Canvas (Maurya 2012, 27)

### 3.2.1 Problem and Customer Segments

As Problem and Customer Segments drive the rest of the canvas, they should be addressed simultaneously. Concerning the first building block, besides top problems, existing solutions should also be listed. The solutions may not always be apparent. (Maurya 2012, 27.) For example, a notable alternative to Slack, a virtual collaboration tool, is not necessarily another virtual collaboration tool like Asana or Podio, but email (Maurya 2012, 27; Eisenhauer 2014; Fearn & McCaskill 2018).

The second building block, Customer Segments, resembles the first building block in Business Model Canvas and was carefully examined previously in [Customer Segments](#) (Maurya 2012). In addition, it is recommended to also pen possible early adopters under the customer segments in the building block (Maurya 2012, 28). Tending to be the first users, early adopters are different than other potential customers in the way that they know they have the problem written in the first building block and actively seek a solution for it. For instance, if a businessman writes various posts on various platforms to look for affordable accommodation because he finds it difficult to find a cheap hotel room to attend a nearby conference, he is potentially an early adopter of Airbnb. He stands out from later adopters who are categorized as laggards, late majority, or early majority as described in Figure 18 below (Wilcox 2017.)
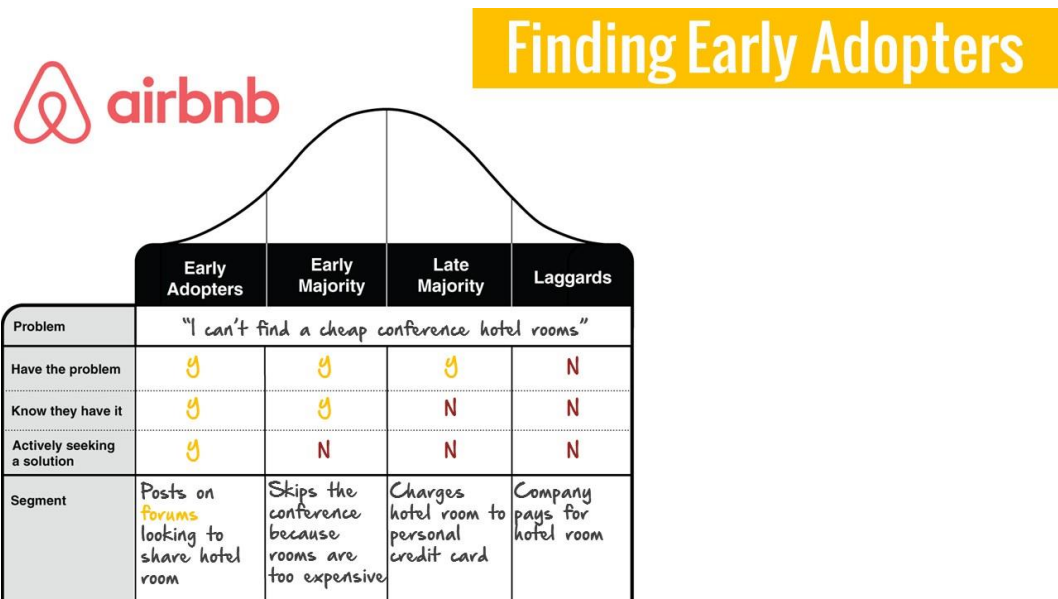
FIGURE 18. Airbnb's Early Adopters, Early Majority, Late Majority & Laggards (Wilcox 2017)

Early adopters can play a significant role in a business model. Passionate about problems and embracing new technologies, early adopters are eager to test solutions and deliver comments for startups, helping the companies verify the hypotheses in their business models. Furthermore, early adopters are usually thought leaders and therefore, capable of heightening awareness of a solution and influencing the acceptance or rejection of a solution in their usually wide social networks. (Buck 2016; Dukes 2016; Newman 2016; Indig 2018.) Distinguished examples include General Electric (GE), which is among the first to publish content on countless emerging social media platforms such as Vine, Tumblr, and Instagram. Famous for producing engaging and impactful content, GE attracts thousands of views and followers, driving traffic on every platform it adopts. (Delo 2013; Hirsch 2015; Boland 2017; Copp 2017.) Another example of early adopters would be the American sorority girls who downloaded the Tinder app for free events, raising the nearby males' curiosity to check out the app, and the fraternity students who threw Tinder parties, each of which housed a few hundreds of people and brilliantly demanded a Tinder app on the phone as an entrance ticket. Word of mouth across the dense collegiate Greek system increased the numbers the users so dramatically that the

network effect took hold and drove Tinder viral within the first few months after the launch date. (Bosker 2013; Medal 2015; Shontell 2017.)

### 3.2.2 Unique Value Proposition

The building block was explored earlier in <u>Value Propositions</u>. In addition, it would be useful if the value propositions are also translated into a succinct marketing promise such as Performance for BMW (Maurya 2012, 29-31).

### 3.2.3 Solution

The fourth building block replaces Key Activities in Business Model Canvas. As its title suggests, it illustrates the solutions for all the problems listed in the second building block, Problem. It is not wise to heavily invest in this building block the first time because the problems may not exist. (Maurya 2012, 32)

### 3.2.4 Channels

The fifth building block was formerly investigated in <u>Channels</u>.

### 3.2.5 Revenue Streams & Cost Structure

The building blocks were previously explained in <u>Revenue Streams</u> and <u>Cost Structure</u>.

### 3.2.6 Key Metrics

The building block specifies the set of metrics that the company use to measure the efficiency, performance, progress, and quality of a plan, process, or product (Maurya 2012, 40; van Kroonenburg, 2016). A good metric should be comparable, understandable, and able to provide actionable information. It is usually a ratio. (van Kroonenburg, 2016.) In

contrast, vanity metrics are usually total and gross numbers (Ries 2011, 128-130).

AARRR or Pirate Metrics, which are visualized in Figure 19, are recommended as a good set of metrics (Maurya 2012, 40; van Kroonenburg 2016).



FIGURE 19. AARRR or Pirate Metrics (van Kroonenburg 2016)

3.2.7 Unfair Advantage

The last building block is the most difficult to fill and thus, can be left blank the first time. Unfair advantage can be interpreted as an advantage that the company has over its competitors and that cannot be copied entirely or be

bought easily. Unfair advantages can be insider information, a dream team, or a large network. For instance, Zappos' unfair advantage lies in its happy customers and passionate employees. (Maurya 2012, 42-43.)

# 4 LEAN STARTUP

Approaching Consolite, the thesis fully embraces the principles of Lean Startup and adaptively exercises two concepts, validated learning and minimum viable products, to iterate Consolite business model.

## 4.1 Entrepreneurs are Everywhere

Lean Startup extends the definition of classic entrepreneurs. Entrepreneurs range from young visionaries with little corporate experience to seasoned visionaries who are employees in established organizations. The latter is sometimes called intrapreneurs. Both groups have one thing in common: They "create a new product or business under conditions of extreme uncertainty". (Ries 2011, 25-27.)

## 4.2 Entrepreneurship is Management

*A startup is a human institution designed to deliver a new product or service under conditions of extreme uncertainty (Ries 2011, 27).*

Most startups pride themselves on their innovation, disruption, and flexibility and the whole world often agrees with them. Thus, it is hard to fathom that startups can be managed. (Ries 2011, 10.) In fact, they categorically cannot. When they view themselves as a smaller version of successfully established corporations and adopt the classic management methodologies, the bureaucracy that builds the effective corporate machine often stifles innovation and dilute the startups' identities. (Blank 2014.)

Unfortunately, chaos is not an answer, either. A startup revolves around a new product or service, but it is not just that. It is a human enterprise and therefore, must be managed. (Ries 2011, 10-28.) However, it requires a new kind of management that is tailored to confront extreme uncertainties and deals with temporary organizations searching for business models and not with permanent organizations executing their business models (Ries 2011, 8; Blank 2014).

## 4.3    Validated Learning

Validated learning is the third principle of Lean Startup. The management philosophy is inspired by lean manufacturing or lean production developed in Taiichi Ohno in the 20th century, hence the name (Ries 2011, 18). Lean manufacturing encompasses a range of production policies that systematically minimizes waste, which is anything that is either not considered value or not going to add value (Womack, Jones, & Roos 2007). Plants that adopt lean manufacturing are proved to achieve higher productivity and quality (Krafcik 1988). Lean Startup proposes similar thinking but in the context of entrepreneurship. If lean manufacturing centers around the productivity and quality of physical goods, Lean Startup aims to maximize the only one thing regarded as value in a startup: validated learning. (Ries 2011, 18-20.)

Learning is regarded as the oldest excuse for failure. It gives comfort to managers who do not materialize targets. It gives comfort to investors who allocate precious funds to dwindling startups. It gives comfort to employees who wrongly believe in their entrepreneurs' vision. (Ries 2011, 37-38.)

Failures, however, are imminent in startups. Entrepreneurs may have a strong perception that there is a pain that customers are eager to dispose of, but there may be in fact no problem. Take IMVU as an example. In 2014, the company decided to create an instant messaging (IM) add-on that allowed users to communicate using a new technology called avatars and could operate within existing networks. The team spent six months to perfect every technical feature of the add-on and no one even tried it on the launch date. Later talks to a few teenagers revealed that the team's assumption that it was too inconvenient to switch from one network to another, the premise that led to the conclusion of an IM add-on, was spectacularly false. The users wanted a stand-alone IM network. The discovery was unarguably useful for the firm. In hindsight, the discovery confirmed that the effort leading to it was not completely wasteful but also showed that it did not necessarily required six months to manifest. The

discovery about the desire for a stand-alone IM application is an example of validated learning that could have be realized quickly if officially incorporated in a systematic process. (Ries 2011, 37-55.)

## 4.4    Build-Measure-Learn

Build-Measure-Learn is a feedback loop comprising of three components as described in Figure 20. The goal of the feedback loop is not to build the perfect final product, but to maximize speed, learning, and focus through incremental and iterative engineering (Maurya 2012, 59-61; Blank 2015). Startups achieve the goal by perpetually testing the riskiest elements of their business models (Ries 2011, 76). A risk can be rated by its impact and probability (Spacey 2016). The riskiest elements on which the rest depend are called leap-of-faith assumptions (Ries 2011, 76).
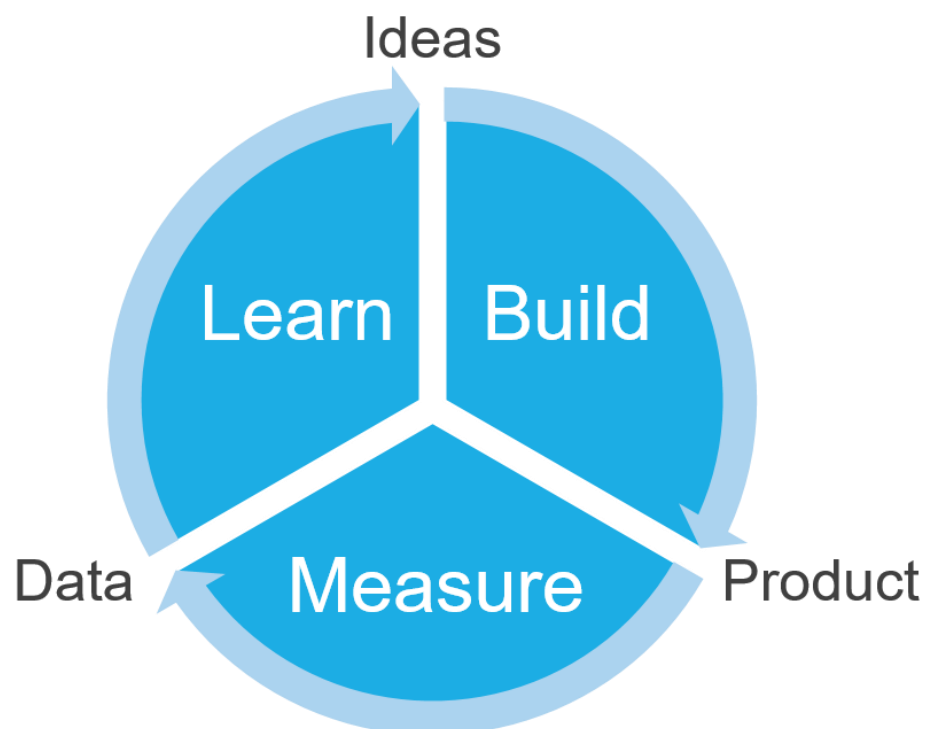
FIGURE 20. Build-Measure-Learn Feedback Loop (Ries 2011, 75)

The feedback loop sharply resembles the fundamental activities of a startup (Ries 2011, 9). First, the startup transforms ideas into something simple that can be tested (Maurya 2012, 61; Blank 2015). The Build phase usually

refers to building a minimal viable product (MVP). An MVP is normally but not necessarily the version of the product that has sufficient crucial features and requires the minimum amount of time and effort. (Ries 2011, 76-77.) Customers are not invited to test the MVP to discover bugs like in the conventional Waterfall Development paradigm but to provide feedback on features or usability so that the startup can test its business hypotheses (Ries 2011, 93-94). Apart from its traditional form, an MVP can be a proxy at the early stage. Dropbox, a Sillicon Valley company that offered seamless file hosting service, entered the feedback loop with zero prototype and a short video exhibiting the upcoming technology and what it would do with files. The firm's beta waiting list expanded from 5,000 to 75,000 people overnight, confirming the market's interest in the service. (Ries 2011, 97-99.) Second, the Measure phase measures how prospective customers respond to the MVP or its proxies with the aid of innovation accounting (Ries 2011, 77). Last but not least, the startup learns to what extent the hypotheses are correct and decide whether to persevere or pivot accordingly (Ries 2011, 77). Pivoting occurs when the startup's original strategic hypotheses are proven false and a course of correction is required (Ries 2011, 149).

## 4.5 Innovation Accounting

Innovation accounting is the final principle of the Lean Startup management philosophy (Ries 2011, 9). It is quantitative framework to measure progress. First, the startup establishes the baseline, which comprises of a range of actionable metrics that best captures the current situation. Second, it chooses a driver of growth (e.g., tweaking a product so that it is easier to use) that has a metric that is not as robust as expected (e.g., activation rate) and design a course of action to improve it. Last, if the action improves the metric and the associated driver of growth, the startup has evidence of progress. Otherwise, if the action fails to do so, the startup pivots and experiments on what will improve the metric again. (Ries 2011, 117-136.)

# 5 CASE: ARSIMA PROJECTS' CONSOLITE

Chapter 5 expounds the early evolution of the project Consolite under the influence of Business Model Canvas, Lean Canvas, and Lean Startup. First, the chapter briefly introduces clerical information on the project and relevant critical milestones. Next, more importantly, it portrays in detail the building process that leads to the first version of Consolite Lean Canvas. Both secondary and primary data are utilized in the process; the primary data that underpin the first version are acquired internally from the team members. Subsequently, the chapter reports on the validation of Consolite business model, in which primary data extracted from meetings with four companies rid the canvas of hypotheses which are proven wrong and update the canvas with new insights. As the result, the canvas is revised to keep up with the latest evidence and be ready for the ensuing occurrences of validation.

## 5.1 Arsima Projects

ARSIMA Projects SPRL was created by Martin van Wunnik in July 2008 (Data.be 2017). The company offers corporate clients consultancy in international financial projects concerning accounting, financial consolidation, controlling, and business intelligence (Arsima Projects 2017). In addition, the firm also advises startups on their financial plans in collaboration with agencies such as Microsoft Innovation Center Brussels (MIC Brussels) and Luxinnovation (MIC Brussels 2017; Luxinnovation 2017). Occasionally, the firm delivers lectures, trainings, and workshops on finance, management, and entrepreneurship at the British Chamber of Commerce in Belgium and the Institute for Business Development (IFBD), etc. (Arsima Projects 2017; British Chamber of Commerce in Belgium 2017).

## 5.2 Consolite

Consolite, in this thesis, can be referred to as three following items:

First, the name of a new Software-as-a-Service (SaaS) for financial consolidation.

Second, a company or a startup. Startups are widely understood as young and small companies (Isenberg 2016). Consolite is not currently registered as a legal entity, yet it can be loosely considered a startup, in the context of the thesis and according to lean gurus, Steve Blank and Eric Ries. Consolite satisfies both of their broad definitions of a startup: "a *temporary* organization designed to *search* for a repeatable and scalable business model" and "a human institution designed to deliver a new product or service under conditions of *extreme uncertainty*" (Ries 2011, 27; Blank 2014).

Third, a project. Consolite has not been legally created as a company yet and all the development of the SaaS Consolite is regarded as a project by the creator's company, Arsima Projects, before the legal formation of the company Consolite.

## 5.3    Timeline

Consolite as an idea of a more automatic and yet economical solution for consolidated accounts was conceived by van Wunnik a few years ago. The project was initiated by him and a partner, Kenny Willems, who also had 30 years of experience in finance and management. Both were Lean Startup enthusiasts and practitioners and therefore, decided to apply the Lean Startup principles to the project Consolite. The activities of the project could be divided into two stages: before the completion of the MVP and after the completion of the MVP. An account of essential events is recorded in Figure 21.
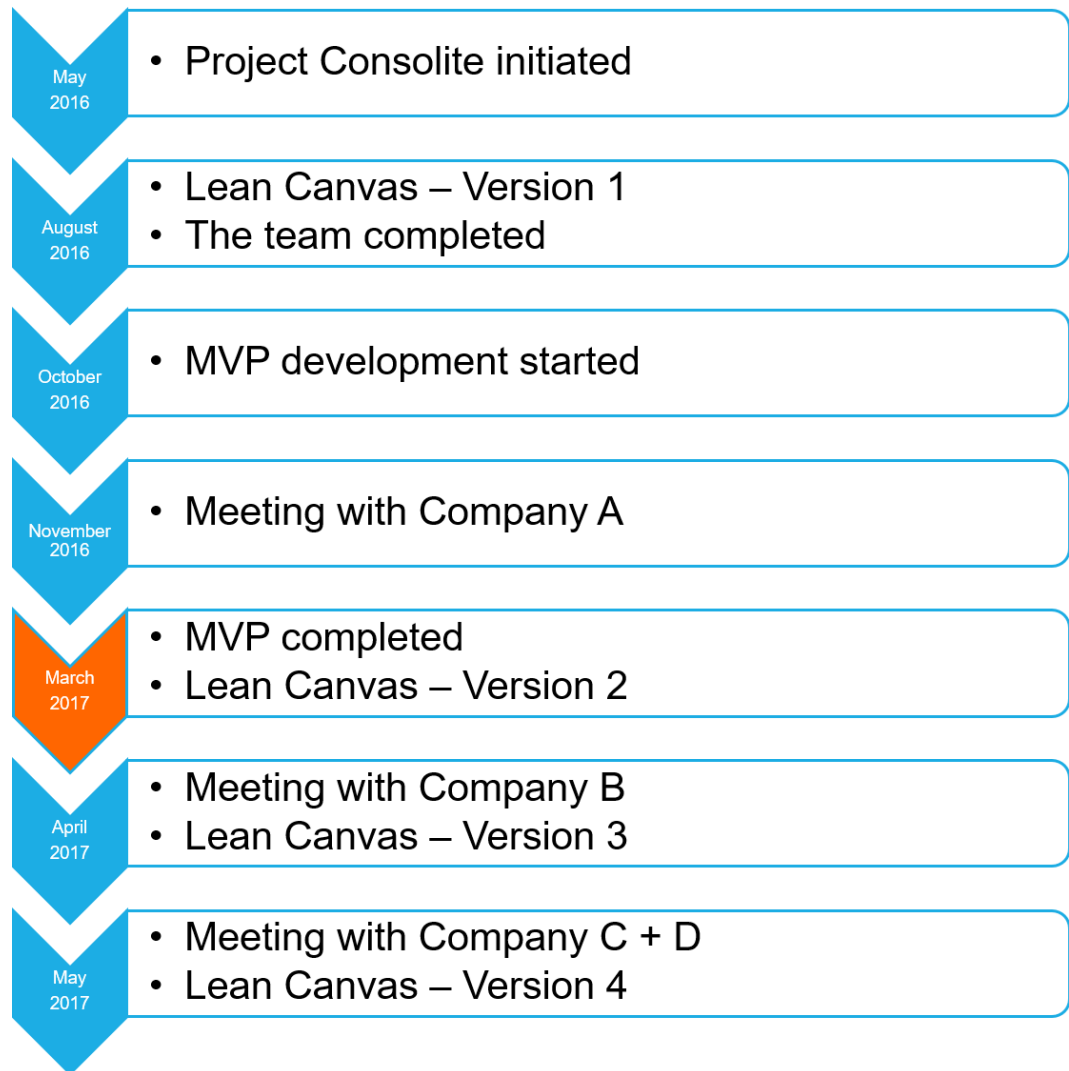
FIGURE 21. Consolite Timeline

In May 2016, the project Consolite started. There were van Wunnik, Willems, and the author in the team. The team's to-do list included sketching the first business model for Consolite on a one-page canvas and finding a software engineer to develop an MVP for Consolite. The author began to collect secondary data on Business Model Canvas, Lean Canvas, and Lean Startup to seek guidance on how to effectively document and validate a business model. Lean Canvas was eventually preferable to Business Model Canvas because it was specifically designed for entrepreneurs and startups. While both canvases offered a beautifully flexible format to capture changes, Business Model Canvas was more suitable for consultants who sought new ideas for a rather established business model and Lean Canvas

was more suitable for entrepreneurs who sought new ideas to form a business model. (Maurya 2012.)

In August 2016, the first version of the Lean Canvas for Consolite was drafted. The version was constructed out of the team's working experience in Belgium and Europe. The author learned of her colleagues' opinions through a series of internal in-depth interviews in the form of conversations and meetings at work. Simultaneously, Sébastien Lorion, a software architect with 20 years of experience, became a pending member the team.

In October 2016, Lorion officially joined the team and started to develop an MVP for Consolite. The team communicated by emails and in face-to-face meetings, documented the strategy and progress on Trello (a project management web application), and logged discussions on technical features in GitHub (a version control repository).

In November 2016, van Wunnik and the author presented Consolite's proof of concept to a multinational firm that provided professional services in assurance, tax, and advisory in Liège, Belgium. The firm performed financial consolidations for its corporate client. It is coded as Company A in the thesis due to confidentiality. There were three representatives of the firm, which will be coded as Mr. A1, Mr. A2, and Mr. A3 for easy reference. All were senior consultants at the firm; Mr A3 especially had years of experience in financial consolidation and understood the technicality and the implication of the process to a firm.

In February 2017, as the MVP would be finalized soon, van Wunnik sent emails to the former participants in his training in financial consolidation at IFBD and invited them to test the Consolite MVP. Willems also began to spread the word to his business contacts.

In March 2017, the final version of the MVP for Consolite was ready for prospective customers. The business model was slightly revised to reflect the latest development.

In April 2017, van Wunnik and the author had a meeting with a Belgian consultancy firm in Herent, Belgium. Similar to Company A, the firm (coded as Company B) offered financial consolidation services among others to its client companies. The Consolite team introduced the Consolite MVP to two senior managers of the firm, who are referred to as Mr. B1 and Mr. B2 (chief executive officer – CEO and chief financial officer – CFO, respectively) and entered a typical sales discussion. The 3rd version of Consolite business model was created.

In early May 2017, the author had a meeting with the CEO of a Belgian company that provided innovative cash flow solutions. Although the company (coded as Company C) was not a potential client for Consolite, the CEO had extensive experience in finance and briefly practiced financial consolidation and therefore, gave valuable recommendations for the new SaaS.

In late May 2017, van Wunnik and the author had a meeting with a Belgian firm who has subsidiaries in several countries in Europe. The firm implemented financial consolidations on its own accounts completely in-house. The company is referred to as Company D and the CFO is referred to as Mr. D1 in the thesis. The lean canvas was updated to Version 4.

## 5.4    Consolite Lean Canvas – Version 1

### 5.4.1   Problem and Customer Segments

a)      Problem

The need for consolidating accounts originated in the 19th century when conglomerates found it challenging to have a holistic economical and financial view of any group of companies as a single entity. The companies in a group usually engaged in different activities, adopted different currencies, experienced different levels of control, employed local accounting rules, and conducted business with each other. Rules were

slowly developed throughout the 20th century and applicable companies must publish their consolidated accounts legally as of 1990. (White 2016, 6-7.)

The consolidation process can be divided into seven steps summarized in Figure 22 below (White 2016, 29-36).

```
┌─────────────────────────────────────────────────────────┐
│         1. Companies in consolidation scope             │
└─────────────────────────────────────────────────────────┘
                          ⬇
┌─────────────────────────────────────────────────────────┐
│  2. Information collection from each company correctly   │
│                       and timely                         │
└─────────────────────────────────────────────────────────┘
                          ⬇
┌─────────────────────────────────────────────────────────┐
│      3. All information → consolidation currency        │
└─────────────────────────────────────────────────────────┘
                          ⬇
┌─────────────────────────────────────────────────────────┐
│        4. Intercompany differences + explanations        │
└─────────────────────────────────────────────────────────┘
                          ⬇
┌─────────────────────────────────────────────────────────┐
│               5. Consolidation adjustments               │
└─────────────────────────────────────────────────────────┘
                          ⬇
┌─────────────────────────────────────────────────────────┐
│                    6. Eliminations                       │
└─────────────────────────────────────────────────────────┘
                          ⬇
┌─────────────────────────────────────────────────────────┐
│                7. Consolidated reports                   │
└─────────────────────────────────────────────────────────┘
```
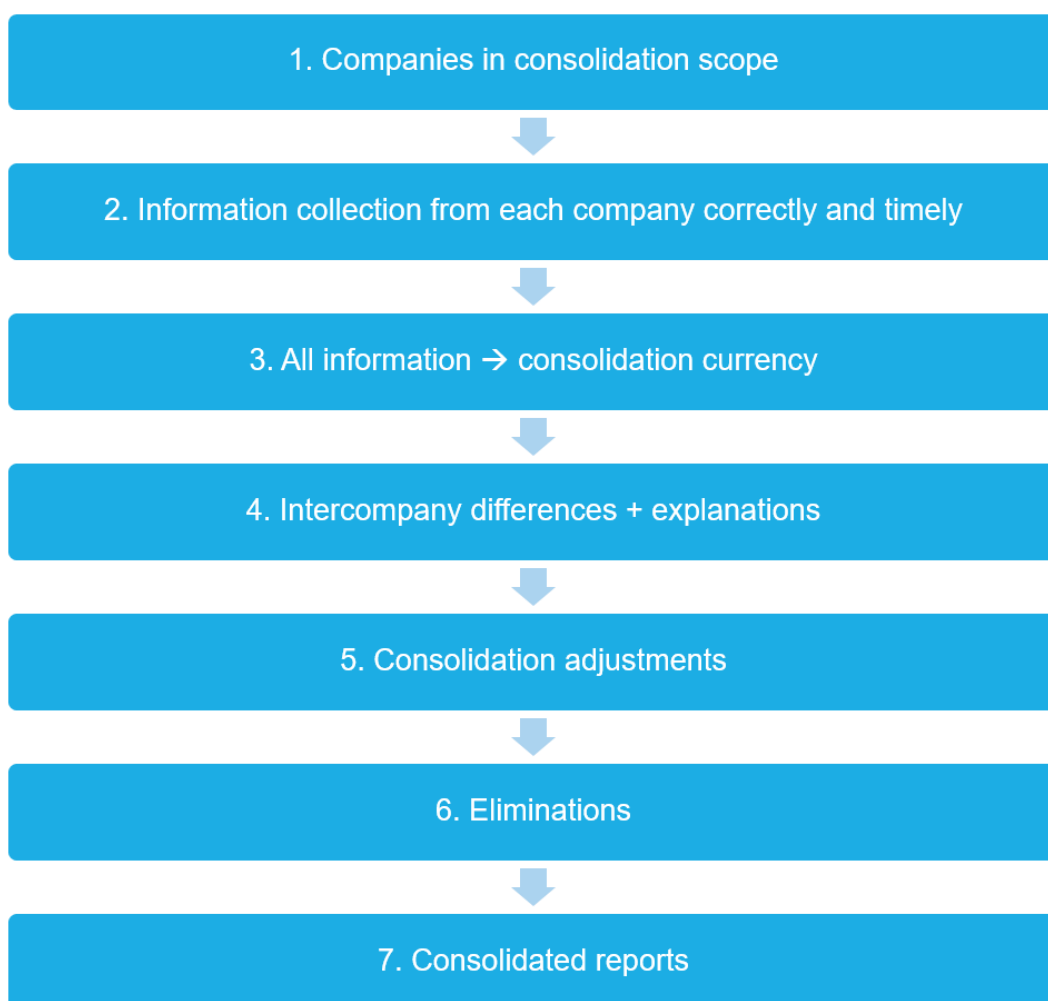
FIGURE 22. Consolidation Process (White 2016, 29-36)

Step 1 concerns identifying the companies to include in the consolidation scope. Most companies remain in the group, but occasionally some disappear after a disposal or a merge and some enter after an acquisition. It is vital that the team in charge of consolidation is alert to such events because the events significantly impact the consolidation figures. Furthermore, the control percentage, financial percentage, and consolidation method of each company should also be noted in this step.

Next, Step 2 involves collecting the information from each company correctly and timely. The information needed from each company includes first, the classic financial statements (income statement or profit and loss statement (PL), balance sheet, and statement of cash flows), and furthermore, details of financial investment in other companies within the consolidation scope and details of other transactions with such companies. Step 3 concerns translating all the information received into the consolidation currency. Step 4 involves identifying all intercompany (IC) differences and ask for explanations. Subsequently, Step 5 is booking all necessary consolidation adjustments depending on group situation and consolidation rules. The adjustments can be related to the compliance to evaluation rules, the elimination of internal transactions, or the changes in the group structure. Step 6 requires the treatment of minority interests, assets and liabilities of equity method companies, balance sheets and PL of proportional integration companies, and group part of equity and financial investments. In Step 7, reports are circulated in the consolidation office and then sent to managers, the board, and the auditors. (White 2016, 29-37.)

Consisting of seven technically complicated steps, financial consolidation is no doubt a slow and laborious process, even until today, hence the need for a tool that allows a lower degree of manual treatment. The process is currently tackled with the help of either Excel or advanced consolidation software solutions. (van Wunnik 2016-2017; Willems 2016-2017.)

Excel is beyond doubt a powerful tool for ordinary reporting, budgeting, and forecasting. Equipped with a wide variety of formulas, functions, and reports (pivot tables, graphs, charts, etc.), sometimes it is even reasonably adequate to offer a certain degree of automation in financial consolidation. However, the moment the consolidated group grows and the complexity of mergers, acquisitions, different systems, different currencies, etc. emerges, Excel is pushed beyond its limits and may endanger the integrity of the consolidation process. The exponential rise in the numbers of spreadsheets created, adjusted, and combined inevitably leads to trivial mistakes that are difficult to spot and renders the data prone to corruption. Furthermore, the

data treatment in Excel is inherently manual. Excel is not knowledgeable about consolidation rules and standards by default. Every rule and standard must be translated into the logic that Excel comprehends (functions, pivot tables, data validation, etc.) and incorporated into a template before raw data can be entered and processed. In addition, as the template is highly customized, personnel additions or replacements will inescapably lack full comprehension and control of the file in the first instance. Moreover, Excel is not configured to be an ideal collaboration tool while consolidation is a collaborative event. Typically, only one person can open an Excel file at a time. Other people who try to open the file meanwhile can only view a read-only version. When a person finishes with his part in the file, he alerts his team members via email or another communication channel; the message may or may not be received immediately. When the consolidation team contains more than five people, the accumulative wait leads to excessive delay in data treatment. Simultaneous contributors are feasible with Excel Online or Shared Workbooks feature. However, these solutions do not come without a problem. Excel Online is deprived of so many major functionalities that it cannot successfully perform a sophisticated task. A shared workbook is laden with restrictions on basic tasks such as table insertion or cell deletion. More dangerously, simultaneous editors generate different versions of a workbook and thus, inconsistent sources of data for later consolidation. Thus, auditing is virtually impossible. In summary, Excel falls short of the ambition of creating an environment conducive to the automatic implementation of puzzling consolidation rationale on a huge amount of data. (van Wunnik 2016-2017; Willems 2016-2017.)

Despite the severe problems with Excel in financial consolidation, it remains the case that an enormous number of companies continue to consolidate accounts in Excel because the software is easy to use technologically, it is already present at every office, and most crucially, it is perceived to hardly incur any charges or to be free of charge (van Wunnik 2016-2017).

On the other hand, consolidation software packages have an inbuilt understanding of accounting definitions and consolidation rules. Therefore,

they ensure that the consolidation process is less haphazard and the results are more accurate. Nevertheless, they are frequently too bulky and too expensive for adoption. (van Wunnik 2016-2017.)

b)      Customer Segments

van Wunnik (2016-2017) expresses that Consolite is most likely to serve a niche in the business-to-business (B2B) market. The niche market comprises of only groups that are obliged to submit their consolidated accounts periodically to their governments or their boards of directors. Small-and-medium-sized enterprises (SMEs) that currently use Excel for financial consolidation are an especially potential market because they need more automation in consolidation but cannot afford prestigious consolidation packages. At this juncture, Consolite is open to multinational enterprises headquartered in both Belgium and outside Belgium.

5.4.2  Unique Value Proposition

Consolite is envisioned to be a SaaS that address the needs of companies that use Excel spreadsheets to perform periodical financial consolidation. The web-based solution will closely follow the consolidation steps and streamline the cluttered process usually associated with Excel. Ideally, it should remove the risks of manual errors related to the combined usage of multiple spreadsheets. The users will have a secure database to store all the raw information, a central deposit of the consolidated financial data with several drill-down reports, and especially historical versions of each consolidation for convenient audit. As the result, accountants, controllers, and managers can obtain consolidated reports timely and accurately to proactively conduct analysis and make decisions. Furthermore, the customers (companies) incur pay-per-use costs which are commensurate with their consolidation frequency and the number of subsidiaries instead of being subjected to the astronomical costs of bulky traditional software. The high license fee and maintainance fee regardless of usage will be replaced by a more modest yearly pay-per-use fee. (van Wunnik 2016-2017.)

### 5.4.3 Solution

The urgency of a consolidation solution that is not as arduous as Excel and not as extravagant as typical consolidation software packages is expected to be resolved by a web application – or Software-as-a-Service (SaaS), to be precise. SaaS is a new technology concept that enables companies to avoid purchasing, building, and maintaining their IT infrastructure at hefty price (Perfect 2015). Basically, SaaS refers to first, a software which is not installed on the user's premises and second, the method of delivering that software to the user via leasing. Saleforce is a leading example. A SaaS application is hosted remotely on the cloud by its creator/vendor. As long as a customer is in the agreement of renting the application and pays the agreed fee, he is authorized to use the app. The Internet connection is virtually all the customer needs. No license fee, maintenance fee, or accessory hardware are required. In other words, the customers rent a software rather than traditionally purchase it and then install it on their premises. (Turco 2013.)

SaaS brings major benefits to customers in terms of costs. Indeed, SaaS saves the customers the exponential cost of obtaining a software by the traditional means. The cost reduction is especially impactful for startups and small businesses (Sylos 2013). Conventionally, a client who decided to solve a problem with a quality (and usually expensive) software must purchase a license and relevant hardware, then hire an IT team to install, maintain, and upgrade the software regularly. SaaS offers the rental of an equally quality software that offers the similar solution to the problem but does not require a massive upfront cost of licensing and IT workforce. (Movahhed 2014.) Furthermore, the user is not obligatory to rent all functionalities of the SaaS application, an analogy of buying an entire on-premises traditional software. The user has a freedom to choose the limited functionalities that their organization need and pay accordingly. (Turco 2013.) The cost reduction is especially vital when the startups and small businesses grow. They will not have to make heavy extra investments in additional powerful computers and servers on their premises and the

compulsory expansion of the IT department. They simply need the budget for more licenses for their extra core staff. (van Wunnik 2016-2017.)

The rental cost of a SaaS is commonly paid by periodical subscription. However, such model does not seem to be fair to SMEs with the need of only one or two consolidations per year. Therefore, the rent will be determined by a pay-per-use model instead. In a pay-per-use model, the use of a service is metered on a basis and charged accordingly. The basis can be the number of minutes, downloads, functionalities, or users. In the case of Consolite, it is reasonable to charge a company a fee according to the number of consolidations and the number of subsidairies. The pay-per-use fee is expected to more closely match the amount of service each customer requires from the SaaS. Moreover, as the fee is not automatically renewed, it temporarily diminishes top managers' concern over a long-term commitment to a subscription and therefore, encourages the tryout of a new SaaS. A pay-per-use model does have a considerable disvantage that it does not permit the straightforward forecast of revenues because the revenues are not steady. Nevertheless, the potential tryouts outweigh the forecast at the beginning of the startup. (van Wunnik 2016-2017.)

Though costing less than a traditional software, the SaaS Consolite is still technologically capable of providing a strong framework for financial consolidation. It is envisioned to produce the group's consolidated figures correctly and instantly after the upload of all the subsidiaries' trial balances if no manual entries are required. Data inputs are inspected and errors are located at every step. Furthermore, different versions of a consolidation are avoided and past consolidations are always methodically archived.

### 5.4.4   Channels

Users can access the SaaS via the following link: https://app.consolite24.com/.

Introductions about Consolite can be spread among the groups dedicated to finance and IT professionals on popular social media platforms. The

author is a member of groups such as [Chief Financial Officer (CFO)](#) [Network | #1 Exec Finance Group I Crypto Investments & Trading | ICO](#) and [Consolidation & Financial Reporting Group](#) on LinkedIn and [BeTech](#) on Facebook.

## 5.4.5   Revenue Streams

The main revenue stream consists of pay-per-use payments as indicated in Figure 23.

| | | 1 | 2 | 4 | 6 | 12 | Unlimited |
|---|---|---|---|---|---|---|---|
| # subsidiaries | 5 | X | 3X | 6X | 9X | 10X | N/A |
| | 10 | 1.5X | 4.5X | 9X | 13.5X | 15X | N/A |
| | 25 | 2X | 6X | 12X | 18X | 20X | N/A |
| | 50 | 2.5X | 7.5X | 15X | 22.5X | 25X | N/A |
| | 100 | 3X | 9X | 18X | 27X | 30X | N/A |
| | 250 | 3.5X | 10.5X | 21X | 31.5X | 35X | N/A |
| | 500 | 4X | 12X | 24X | 36X | 40X | N/A |
| | Unlimited | 5X | 15X | 30X | 45X | 50X | N/A |

(# periods/year)

FIGURE 23. Consolite Pay-per-use Pricing

The euro figures are not available due to confidentiality but the relations between different pricing levels are clearly demonstrated in the figure above. The X value is deliberately set to be low to encourage the tryout and eventually the transition from Excel to Consolite.

## 5.4.6   Cost Structure

Consolite is expected to incur three types of costs. First, the project requires critical services from Amazon Web Services (AWS) such as servers, data centers, virtual machines, and backup. The cost is insignificant during the early stage of the project but will increase with the number of clients in the future. Second, the project involves the collaboration of a software architect as the MVP developer and three business developers. The salary rate in Belgium is quite high, so the personnel cost will take more than half of the budget for Consolite. Last, activities related to customer acquisition such as

promotion on social media and transportation is expected to incur a low level of costs due to the sparse traffic at the beginning of the project.

### 5.4.7 Key Metrics

The key metrics cannot be reliably formulated due to the early stage of the project.

### 5.4.8 Unfair Advantage

The unfair advantage is unclear due to the early stage of the project.

### 5.4.9 Consolite Lean Canvas – Version 1

The hypotheses about Consolite business model are summarized in a single canvas as exhibited in Figure 24 below.

| PROBLEM | SOLUTION | UNIQUE VALUE PROPOSITION | UNFAIR ADVANTAGE | CUSTOMER SEGMENTS |
|---|---|---|---|---|
| ➡ Consolidation is time consuming.<br><br>➡ Excel<br>• Prone to manual errors in Consolidation Step 5 (adjustments of depreciation, internal transactions, goodwill, etc.)<br>• Managing countless spreadsheets is time consuming and not secure.<br>• Difficult to keep track of the results of different versions<br><br>➡ Consolidation package<br>• Overkill<br>• Expensive | ➡ After all the subsidiaries' trial balances are uploaded, the group's financial statements are instantly ready if no manual entries are required.<br>➡ Past consolidations are always available.<br>➡ Pay-per use<br><br>**KEY METRICS** | ➡ Fast, accurate, and organized method of consolidating fiscal accounts of all subsidiaries in a group by Software as a Service (SaaS)<br>➡ No license fee, no maintenance fee<br>➡ Payments based on the frequency of consolidation | <br><br><br><br>**CHANNELS**<br><br>➡ Website:<br>https://app.consolite24.com/<br>➡ Social media: LinkedIn, Facebook | ➡ Business market<br>➡ Niche market<br>➡ Companies that are fiscally obliged to submit their consolidated accounts annually<br><br>➡ SMEs currently using Excel<br>➡ Multinational enterprises headquartered in Belgium<br>➡ Multinational enterprises headquartered outside Belgium |
| **COST STRUCTURE**<br><br>➡ AWS (virtual machines, backup, etc.)<br>➡ Salaries (1 MVP developer & 3 business development)<br>➡ Customer acquisition (social media, transportation, etc.) | | | **REVENUE STREAMS**<br><br>➡ Pay-per-use payments | |

FIGURE 24. Consolite Lean Canvas – Version 1

The hypotheses jointly formulated by the team will be later evaluated against feedback from potential customers. Subsequently, they will be accepted or discarded accordingly.

## 5.5 Validated Learning

The validated learning is collected from the interactions between the Consolite team and four companies in Belgium. Most is extracted from four

in-depth interviews embedded in four business meetings whose schedule is presented in Figure 25.

| Company | Place | Time | Interviewees | |
|---------|-------|------|--------------|---|
| A | Liège Belgium | 23.11.2016 | Mr. A1 | Senior Consultant |
| | | | Mr. A2 | Senior Consultant |
| | | | Mr. A3 | Senior Consultant |
| B | Herent Belgium | 14.04.2017 | Mr. B1 | CEO |
| | | | Mr. B2 | CFO |
| C | Brussels Belgium | 04.05.2017 | Mr. C1 | CEO |
| D | Retie Belgium | 18.05.2017 | Mr. D1 | CFO |

FIGURE 25. Interview Schedule

The meetings are granted so that the companies and the team can discuss about the new product Consolite and discover different possibilities of future business collaboration. Though not officially titled as interviews, the meetings explore Consolite and the business around the SaaS exhaustively, reflecting an in-depth interview in which questions strictly revolving certain aspects of an arch-topic are not predetermined but formulated on-site according to the situation and closely followed up. The notes of the meetings are taken on paper by the author and the minutes are distributed to the team via email afterward. Thereafter, van Wunnik confirms or revises the minutes and initiates discussions internally among the team.

Most of the validated learning is gathered from the in-depth interviews. The rest is extracted from participant observation and emails transmitted between the two parties before and after the meetings. Though insignificant in amount, the second set of validated learning helps corroborate the insights from the interviews and eventually verify the hypotheses in the business model.

### 5.5.1 Before the MVP – Company A

Arsima Projects is granted a private audience to pitch Consolite's proof of concept at Company A on November 23, 2016 at Liège, Belgium. As a leading professional service provider with branches across the world, Company A is interested in the team and the added value that Consolite can bring to the company and the company's clients or how Consolite can assist the company in innovating.

The meeting is scheduled for 30 minutes, 15 minutes for the pitch and 15 minutes for a session of questions and answers (Q&A). There are five participants: van Wunnik and the author are from the Consolite team and three jury members are from Company A. Mr. A1, Mr. A2, and Mr. A3 are all senior consultants; Mr. A3 is especially from the accounting and consolidation department.

van Wunnik (2016-2017) begins the pitch by comparing the consolidation process in Excel to a plate of spaghetti with a tangled mass of pasta strips. He emphasizes on the manual errors, the directionless process, and the exhaustive maintenance associated with Excel. He seeks a solution to generate consolidated reports somewhat effortlessly without Excel and without the steep cost of traditional consolidation software packages. Consequently, he has commissioned the development of a simple SaaS for financial consolidation. The SaaS does not cover all the standards and exceptions in consolidation but is able to handle the most complicated and important activities of a consolidation. The simplicity and limited scope of the SaaS allow the modest pay-per-use pricing scheme, encouraging the tryout of Consolite and transition from Excel to Consolite. van Wunnik concludes that Consolite will help organize the consolidation process as orderly as perfect layers of lasagna and prevent the spaghetti mess in Excel. The pitch is accompanied by a highly visual PowerPoint slide deck.

When the pitch ends, Mr. A3 (2016) expresses his relief for a long overdue solution that can replace Excel in financial consolidation. van Wunnik (2016-2017) asks him and the other jury members what solutions are currently

used by Company A to perform financial consolidation and what solutions are used to tackle the complications introduced by Excel. Mr. A3 (2016) admits that most companies still use Excel to consolidate accounts of companies in a group. He is acutely aware of the strenuous and erroneous exercise in Excel and has proposed a few substitutions to his clients. However, the other solutions are usually over budget and a great deal of accounting and finance executives do not even know that there are other options besides Excel. Therefore, most of the consolidations he performs for his clients are conducted within Excel. van Wunnik (2016-2017) thanks Mr. A3 for the confirmation of the problems and questions him if Consolite has the potential to solve the problems in Excel. Mr. A3 (2016) responds that he needs more information to access the potential benefits of Consolite. He asks for a few screenshots of the SaaS, which are unavailable at the time. Nevertheless, he states that he would be eager to have a meeting about Consolite once the SaaS is ready and learn how the SaaS work and what it can offer. van Wunnik (2016-2017) agrees to set up a meeting when the MVP is completed in 2017.

After Mr. A3, Mr. A2 (2016) reveals his concern about the security of financial data on the cloud. He wonders if the data storage in Consolite complies with Belgian law. The author ensures Mr. A2 that Consolite is protected with security and privacy standards of Amazon, a credible cloud provider. Besides, each client is assigned a distinct virtual machine and each machine is partitioned by a virtual wall. No one can access the client's data without the password or the key created when the machine is assigned. In addition, Arsima Projects is transparent to clients about the security level of Consolite (the location of the data center that hosts the financial data, etc.) and is willing to negotiate additional non-disclosure agreements if required.

After the interview, taking into account the seniority of Mr. A3 and the international environment where he works, van Wunnik (2016-2017) believes that the problems with financial consolidation in Excel indeed exist.

The building block Problems is confirmed; no change is made to the canvas at this point.

## 5.5.2  MVP

The MVP is intended to require the minimal resources, which entails time and money, but still be sufficient for companies to test. Therefore, it includes only one consolidation method of full integration, in which non-controlling interest (NCI) is booked based on the corresponding ownership percentage. In addition, the MVP takes it for granted that all the raw figures are in one single currency. Regardless of the reduced features, the prototype is able to perform the most important financial consolidation activities, which account for approximately 80% of the process, with a high degree of automation.

a)      Summary of Functionalities

•      Start

The user can gain access to the app via the following link: https://app.consolite24.com/. After entering credentials, the user can begin the process of consolidation. A first-time user should specify the period name and click "Open a new period" (Figure 26).



FIGURE 26. Opening the first Consolidation Period

A recurring user has three options as visualized in Figure 27:

•"Close current period and open a new one"

•If the user wishes to continue to work on the current period, he can click "Start consolidation period immediately".

•If the structure of the group and group chart of accounts remain the same like the previous time, he can "Skip directly to transaction step" to upload the account balances.
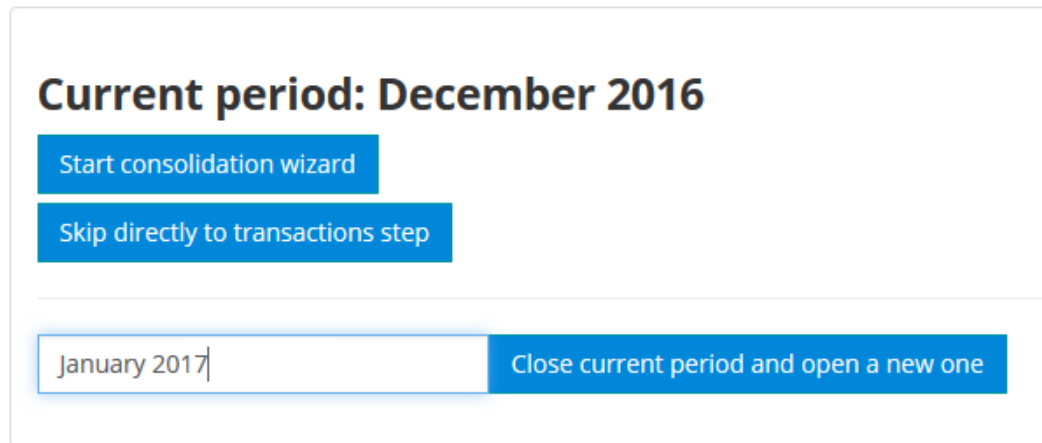


FIGURE 27. Three Options for a Recurring User

When working with Consolite, the user has to go through the following five steps, which will be described in further detail later:

Step 1: Defining the company structure, setting up holding/parent company, as well as subsidiaries/local companies

Step 2: Defining (or adapting) account categories to be used in the consolidation reports

Step 3: Defining the chart of accounts of the holding/parent company

Step 4: Mapping the subsidiary/local accounts against the accounts of the holding/parent company

Step 5: Actual consolidation transactions

Step 1 to 4 are one-off steps: once everything is setup for a consolidation period, these steps do not have to be repeated anymore for consecutive consolidation rounds, accept in case of changes to accounts or whenever a new subsidiary is added.

Step 5 consists of the actual consolidation transactions leading to the required consolidation reports and export files.

- Step 1: Company Structure

First, the user should enter the holding company's details in the first grid "Holding" is illustrated in Figure 28. All the upcoming trial balances must be in the same currency which the user specifies here.



FIGURE 28. Holding Grid

Second, the subsidiaries and the corresponding ownerships should be listed. The user can browse the file with the information or drag and drop that file in the second grid, then click "Upload". A successful upload will show the green sign 100% like in Figure 29 below.



FIGURE 29. Successful Import of Subsidiaries

Otherwise, the errors and their locations are clearly indicated in red. An example is illustrated in Figure 30. The user can open the file in Notepad++ to quickly detect the line where the error is and fix it.


- [4. Subsidiaries.csv] At record number 4: parentOwnershipPercentage format is invalid

FIGURE 30. An Error in Importing Subsidiaries

Alternatively, the user can add the subsidiaries manually in the third grid "Subsidiaries" (Figure 31). If the user chose to import the information with the second grid earlier, the data would be ultimately shown here.



FIGURE 31. Subsidiaries Grid

In this third grid, the user can:

•Search for a subsidiary: Type the keyword in any empty boxes in the second line and press "Enter" on the keyboard and click the magnifying glass symbol. To remove the filter, click the funnel symbol. An example is demonstrated in Figure 32 below.



FIGURE 32. Search for a Subsidiary

•Add a subsidiary: Click the green symbol "+" on the top line to switch from the default search mode to the inserting mode (Figure 33). Enter the new

subsidiary's details in the top blank line and click the symbol "+" at the end of that line (Figure 34).



FIGURE 33. Add a subsidiary 1/2



FIGURE 34. Add a subsidiary 2/2

•Edit a subsidiary: Click the blue pencil symbol on the line which the user wishes to edit and confirm once the revision is done.

•Delete a subsidiary: Click the red trash bin symbol on the line which the user wishes to delete. Although this action cannot be undone, the user can upload the original file again or add the deleted subsidiary manually if desired.

• Format

Data are rigorously validated in the SaaS design, so the files going to be imported in this Step 1 and also other following steps must adhere to a strict format. To begin with, only comma-separated formatted files with the extension .csv or .txt are supported. The user can easily prepare the data in an Excel spreadsheet and convert the .xlsx file to a comma-separated file when saving as exhibited in Figure 35.
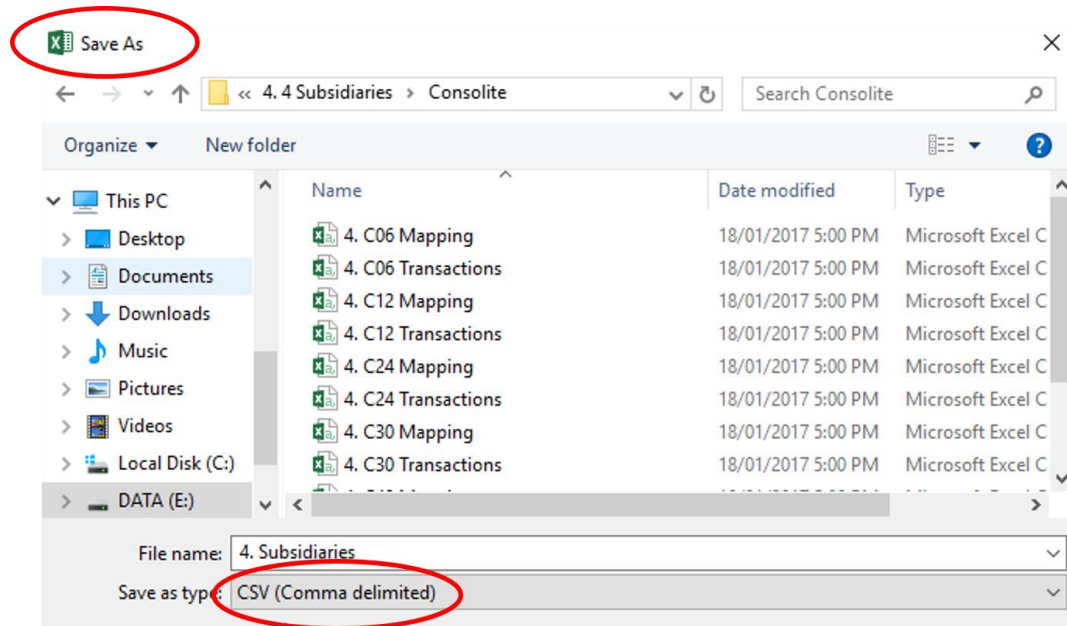
FIGURE 35. .xlsx to .csv

In the comma-separated file, each field in a record (line) is separated by a semicolon ";" so that either a comma "," or a dot "." is accepted as a decimal mark. If the user opens the comma-separated file with a text editor such as Notepad and sees that the fields are separated by commas "," like in Figure 36 below, the user can either replace all the commas with semicolons in the text editor or change the regional setting of the computer to acknowledge the semicolon as list separator. In European countries such as Belgium, the Netherlands, and Finland, the semicolon is the list separator by default because the comma is the decimal mark by default.



```
code,name,parentOwnershipPercentage
C6,Wonka Netherlands,98
C12,Wonka France,100
C24,Wonka Germany,87
C30,Wonka Finland,94
C48,Wonka Belgium,100
```

FIGURE 36. Comma as List Separator

Continuing with the formatting in Step 1, the user should also note that the headings of the columns in Excel are: "code", "name", and "parentOwnershipPercentage" mandatorily. When the converted file is

opened with a text editor such as Notepad, the data should have the structure as indicated in Figure 37:

```
code;name;parentOwnershipPercentage
C06;Wonka Netherlands;98
C12;Wonka France;100
C24;Wonka Germany;87
C30;Wonka Finland;94
C48;Wonka Belgium;100
```

FIGURE 37. Approved Format in Step 1

When the company structure is defined successfully, the user can click "Next" at the top or bottom of the page to be directed to Step 2.

- Step 2: Account Categories

In Step 2, the user should specify the categories in which the accounts are grouped and how they are ordered in the final report. It is strongly advisable that the data is prepared in a .txt file from the beginning in this step. Tab indentation is employed to illustrate the hierarchy like in Figure 38.

```
PL;Profit & Loss
    ──────▶ PL01;Operating Income;credit;reverseSign
              ──────▶ PL011;Revenues;credit;reverseSign
```

FIGURE 38. Tab Indentation in Step 2

Furthermore, each line typically consists of four elements: Category Code, Category Name, Debit/Credit, and reverseSign. An example can be found in Figure 39 below.

PL011;Revenues;credit;reverseSign

Category Code    Category Name         Debit/Credit    To Reverse "+" or "-" Sign
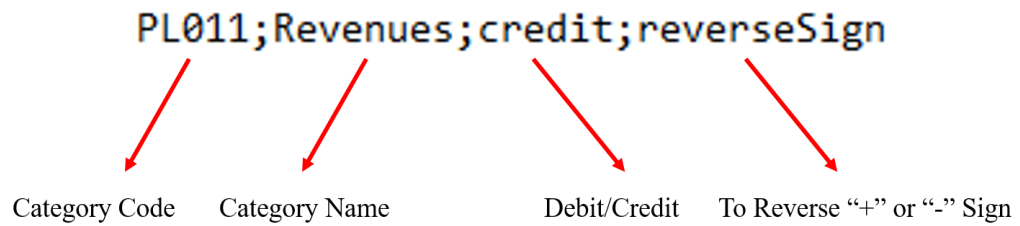
FIGURE 39. 4 Elements of Account Categories in Step 2

First, the category codes are defined by preference, but each code must be distinct. In addition, the following 11 codes which refers to indispensable elements in the final report are obligatory:

1. PL – Profit & Loss

2. PL-PROFIT – Net Profit

3. PL-LOSS – Net Loss

4. PL-NCI-PROFIT – Non-Controlling Interest in Net Profit

5. PL-NCI-LOSS – Non-Controlling Interest in Net Loss

6. PL-GROUP-PROFIT – Group part in Net Profit

7. PL-GROUP-LOSS – Group part in Net Loss

8. BS – Balance Sheet

9. EQ – EQuity

10. EQ-NCI – Non-Controlling Interest in EQuity

11. EQ-GROUP – Group part in EQuity

Second, category names are freely chosen the user. The user can use a language other than English as long as the .txt file's encoding is UTF-8. The selection of encoding is indicated in Figure 40.
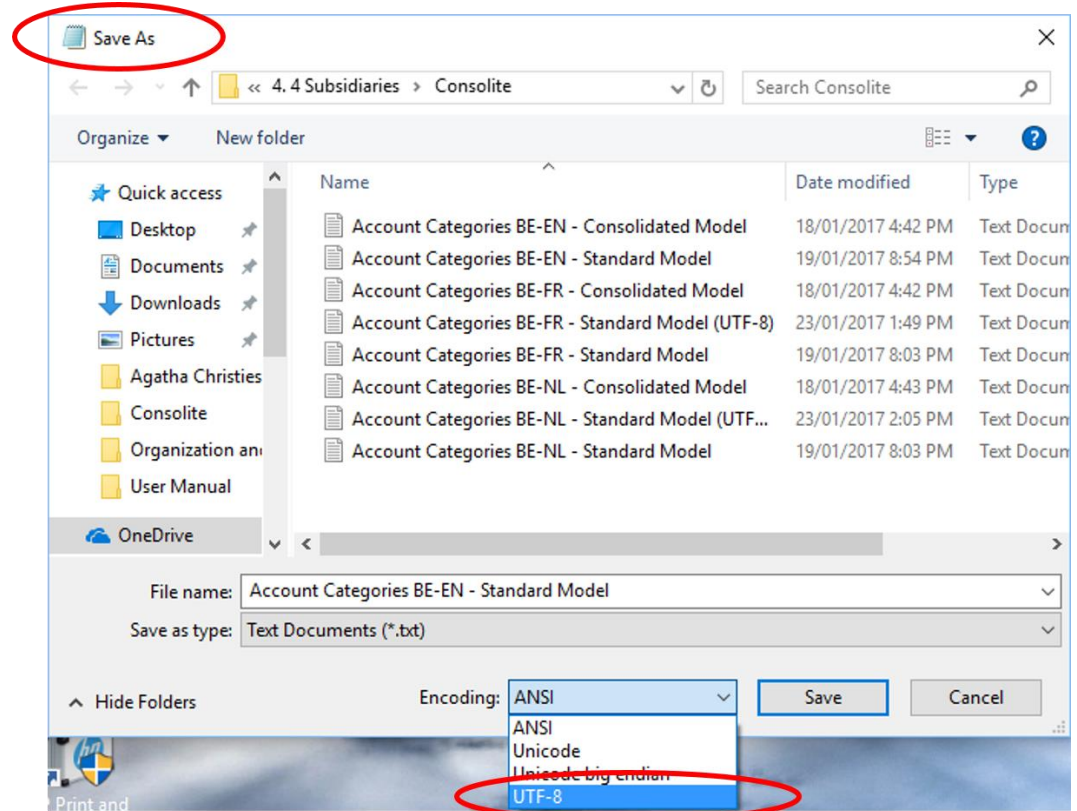
FIGURE 40. UTF-8 Encoding in Step 2

Next, the debit/credit nature of the accounts must be specified. Asset and expense accounts have debit nature while equity, liability, and revenue accounts have credit nature.

Last, the text "reverseSign" should be added at the end of a line to reverse the plus or minus signs in front of the numbers listed under the category. For instance, revenue has credit nature and bears the minus sign "-" in accounting. However, if the user wants the revenue figures to be shown as positive figures for easier understanding, the user can add a list separator ";" and "reverseSign" after "credit". Otherwise, the user simply continues to the next row right after "credit". The user does not need to add ";" after "credit" if "reverseSign" is intended to be blank. Furthermore, the user should not reverse the signs of six following default codes:

1. PL-PROFIT – Net Profit

2. PL-LOSS – Net Loss

3. PL-NCI-PROFIT – Non-Controlling Interest in Net Profit

4. PL-NCI-LOSS – Non-Controlling Interest in Net Loss

5. PL-GROUP-PROFIT – Group part in Net Profit

6. PL-GROUP-LOSS – Group part in Net Loss

In addition, the user should not specify the second last elements in two lines which start with PL and BS.

Step 2 usually demands a considerable amount of time. However, the exercise is one-off and generally does not require regular updates. What is more, the user can always consult the standard account categories in Belgium made ready by the author for convenience. A section of it is exhibited in Figure 41 below.

```
PL;Profit & Loss
      PL01;Operating Income;credit;reverseSign
            PL011;Revenues;credit;reverseSign
            PL012;Increase(+)/Decrease(-) in Finished Goods, Work & Contracts in Progress;credit;reverseSign
            PL013;Own Construction Capitalized;credit;reverseSign
            PL014;Other Operating Income;credit;reverseSign
      PL02;Operating Charges;debit;reverseSign
            PL021;Raw Materials, Consumables & Goods for Resale;debit;reverseSign
                  PL0211;Purchases;debit;reverseSign
                  PL0212;Increase(-)/Decrease(+) in Inventory;debit;reverseSign
            PL022;Services & Other Goods;debit;reverseSign
            PL023;Salaries, Social Security, and Pensions;debit;reverseSign
```

FIGURE 41. Standard Belgian Account Categories

- Step 3: Group Chart of Accounts

Like in Step 1, the user can browse the file with the information or drag and drop that file then click "Upload". The rule regarding the file extension and list separator mentioned earlier should still be respected: Only comma-separated formatted files with the extension .csv or .txt are supported for upload and the list separator is ";" instead of ",". Moreover, in the original Excel file, three columns should respectively be titled "code", "description", and "accountCategoryCode". "Code" is the account number, "description" is the name of that account number, and "accountCategoryCode" represents

the heading under which the balance of this account will be shown in the final report. It is worth noting that every "accountCategoryCode" used in this file must also be present in the file uploaded in the previous Step 2. In the end, the data should have the structure demonstrated in Figure 42 when opened by a text editor such as Notepad.

```
code;description;accountCategoryCode
100000;Capital;EQ11
110000;Issuance premiums;EQ2
121000;Capital Increase;EQ3
130000;Legal reserve;EQ41
132000;Immunized Reserves;EQ43
140000;Deferred profit;EQ5
```

FIGURE 42. Group Chart of Accounts – Step 3

- Step 4: Cross-Mapping of Local Accounts

The relations between the holding accounts and all the local accounts should be provided in the manner fashion indicated in Figure 43 below.

```
holdingAccountCode;subsidiaryCompanyCode;subsidiaryAccountCode
100000;C06;60000
100000;C06;60001
140000;C06;84000
280000;C06;168006
400000;C06;240000
```

FIGURE 43. Cross-Mapping of Local Accounts – Step 4

The user can list the mapping between the group accounts and the subsidiaries' accounts in one single file or various files. Browsing multiple files is feasible. It is important to remember that the mapping of the parent company must be uploaded, too. In this case, the first and the third column have the same values.

- Step 5: Import and Consolidate

All the trial balances of the subsidiaries and the statutory trial balance of the holding should be uploaded. Again, the trial balances can be in one single

file or separate files, each for a subsidiary. The structure demonstrated in Figure 44 must be respected.

```
sourceCompanyCode;sourceAccountCode;amount;icCompanyCode
C06;60000;-141000.00;C48
C06;60001;-4000.00;
C06;84000;7271.64;
C06;168006;126665.00;
C06;240000;340873.62;
C06;240006;12345.00;C24
```

FIGURE 44. Trial Balance – Step 5

"icCompanyCode" is only to be used for intercompany transactions. It is the code for the counterparty company with which the source company in the first column had the intercompany transaction. If a transaction is not intercompany, the user can simply leave the fourth column in Excel blank.

Once the comma-separated formatted file(s) with all the trial balances are uploaded, the user can also enter manual corrections in "Current statutory data" (Figure 45) if required. For example, an adjustment is needed when two subsidiaries have different policies in determining the economic lifetime and depreciation rate of the same computer and the user would like to align that.



FIGURE 45. Entering Manual Corrections – Step 5

All manual entries are shown at the bottom of the grid like in Figure 46. The user has a choice to edit or delete them.



FIGURE 46. Editing or Deleting Manual Corrections – Step 5

As mentioned previously, steps 1 to 4 contain the preparatory work: the actual consolidation process is done in Step 5. The user can click "Generate Report" (Figure 47) to initiate the consolidation and to see the final report.
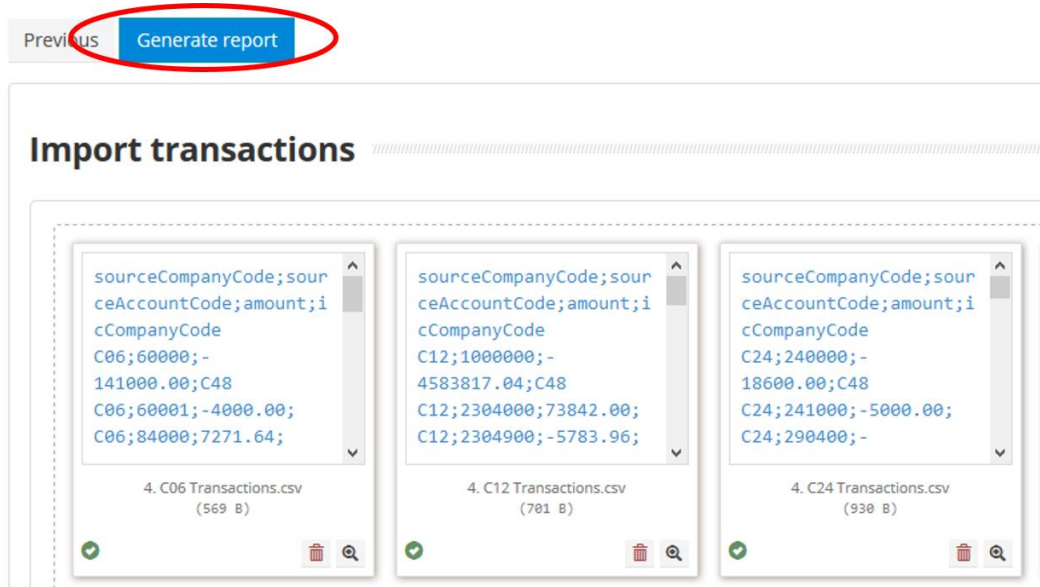


FIGURE 47. Generate Report – Step 5

- Final Report

The final report has eight grids in total:

• The first four illustrates the P&L and balance sheet of the group.

• The last four contain the summary of intercompany transactions.

The net result for the group and minority interests are separated at the end of one of the first two grids. Net profit is presented in the grid "Profit & Loss – Credit" on the right side of the report (Figure 48) and net loss is presented in the grid "Profit & Loss – Debit" on the left side of the report.

FIGURE 48. Net Profit of Group and Minority Interests – Final Report

The equity of the group and minority interests are separated at the end of the grid "Balance sheet – Credit" on the right side of the report (Figure 49).



FIGURE 49. Equity of Group and Minority Interests – Final Report

Below the PL and the balance sheet situated all the intercompany transactions, whose matching can be checked side by side as illustrated in Figure 50.

FIGURE 50. Intercompany Transactions – Final Report

Moreover, the user can find all intercompany transactions from a specific subsidiary by typing its code in the column "Account" or "Counterpart" like in Figure 51.



FIGURE 51. Querying Intercompany Transactions – Final Report

Besides viewing the top lines of the final report, the user can expand each grid to the third level and see more details by clicking the symbol "+" on its top right (Figure 52).



FIGURE 52. Expansion to the 3rd Level – Final Report

If the user wishes to expand the grid further, he can click the symbol "+" in front of the heading (Figure 53).

| | | | |
|---|---|---|---|
| ⊞ 📁 Cost of Goods | | | -3,248.45 |
| ⊞ 📁 Office Rent | | | -332,844.86 |
| ⊞ 📁 Small Equipment charges | | | -806.71 |
| ⊞ 📁 Transport charges | | | -1,282.88 |
| ⊞ 📁 Warehouse Rent | | | -81,215.01 |

FIGURE 53. Expansion to One Level Further – Final Report

To collapse the report, the user can follow the same method but with the symbol "-" (Figure 54).
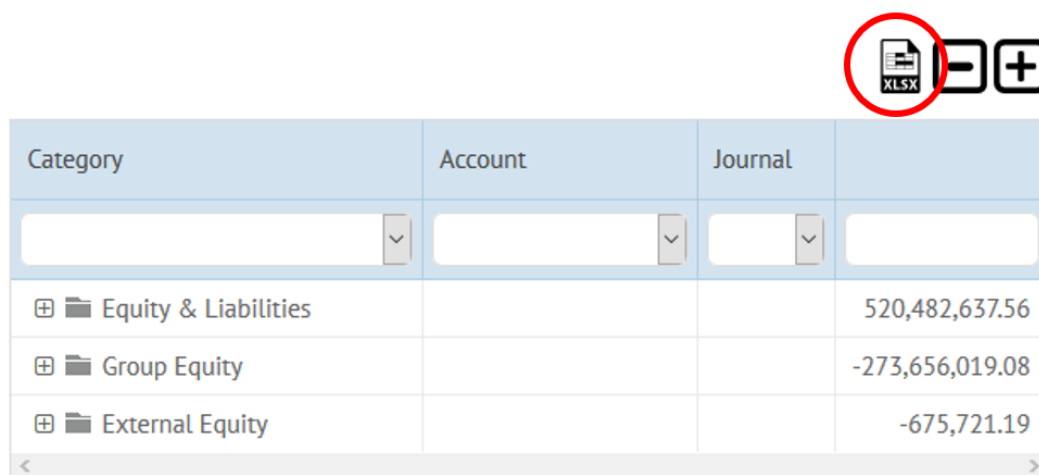


FIGURE 54. Collapse – Final Report

In addition, the user can export a grid to an Excel file by click the XLXS symbol at the top right of the corresponding grid (Figure 55).
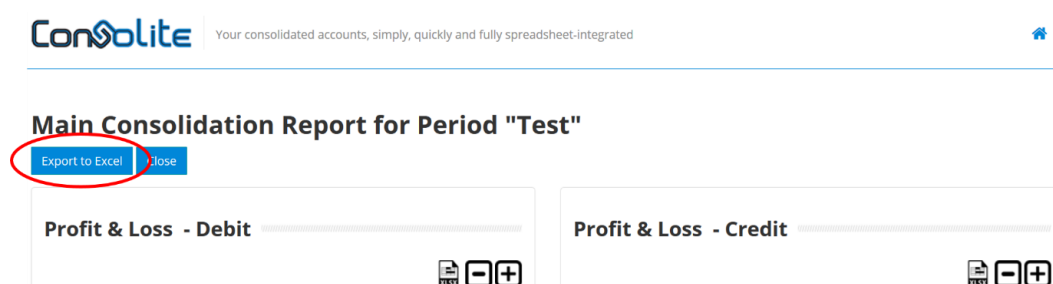


FIGURE 55. Export a Grid to Excel – Final Report

If the user wants to export the whole report, he can click the blue button "Export to Excel" at the top left of the report (Figure 56).



FIGURE 56. Export the Final Report to Excel

b)      Consolite Lean Canvas – Version 2

The completion of the MVP casts light on the solution to the problem in Consolite business model. The solution is manifested in a five-step wizard that requires the import of partially processed data on the group structure, account categories, group chart of accounts, mapping between the group accounts and the subsidiaries' accounts, and transactions. The wizard

generates three reports: profit and loss statement, balance sheet, and intercompany; the former two shows the results separately for the group and for the minority interests. All reports can be expanded, collapsed, queried, and exported easily. The complete developments in the MVP is inserted into Consolite business model and replaces the hypotheses in the first version of Consolite Lean Canvas (Figure 57).



FIGURE 57. Consolite Lean Canvas – Version 2

### 5.5.3 After the MVP

a) Company B

A meeting between Arsima Projects and Company B is scheduled for Friday, April 14, 2017 at Herent, Belgium by Willems and Company B's CFO at a business event in Belgium. Company B is a small Belgian service provider who offers financial expertise to family businesses, SMEs, non-profits, and international companies. The company is interested in the newly developed SaaS Consolite and therefore, grants the team a meeting for two hours. There are four participants: van Wunnik and the author from the Consolite team and the CEO (Mr. B1) and CFO (Mr. B2) of Company B.

van Wunnik (2016-2017) starts the meeting with a presentation about Consolite, which is similar to the pitch at Company A before the completion of the MVP. However, this time, he also incorporates the pay-per-use pricing scheme and potential added values to Company B into the presentation. He

contemplates that Consolite will help Company B achieve timely submission of consolidated financial statements to the National Bank of Belgium (NBB) and other fiscal authorities. Besides, Company B can increase the efficiency of the consolidation process with Consolite thanks to around two weeks and 30% of the personnel expense saved per year, allowing extra capacity for more customers and thereafter, business expansion. The margin especially accelerates when the client group has more than five subsidiaries because the rate at which Consolite charges Company B is lower than the rate at which Company B would normally charge the client group. Next, the author shows Company B how Consolite works step by step with fictitious data of a fictitious group. She carefully explains all the functionalities available in the final report.

When the discussion starts, both Mr. B1 (2017) and Mr. B2 (2017) confirms the inconvenience of consolidation in Excel and agree with van Wunnik about the potential benefits of the SaaS to the business of Company B. Mr. B2 (2017) is so impressed with the leanness and effectiveness of Consolite that he proposes trying out the application with actual data of a simple group of three garages in the near future to verify the functionalities of the app. Moreover, he suggests he will look for a typical group of more subsidiaries with financial participation for the second test. Subsequently, Mr. B2 (2017) recommends that the difference between the price of one consolidation a year and that of more consolidations a year should be reduced so that he can persuade his customers to not only try out the app but also use the app on regular basis. The increase frequency helps him have a better overview of the customers' business activities. Furthermore, he suggests a form of financial reward for the time Company B invests in testing Consolite. He would like to have a competitive advantage over the later adopters. When the discussion comes to an end, he socially asks van Wunnik a few questions about the latter's life and career and he finds Consolite more credible and reliable because it is created by a financial expert.

After the meeting, van Wunnik (2016-2017) is confident that the problems in Excel exists and become a pain acute enough for companies to look for

alternative solutions. Since both companies which have approached Consolite are service providers, service providers are inserted into Consolite business model. The pricing scheme may be revised exclusively for Company B after the first test with the simple group but such a change does not need to be mentioned in the canvas. In addition, van Wunnik's financial acumen seems to boost the credibility of the SaaS; therefore, it is added to the Unfair Advantage building block. In summary, the third version of Consolite Lean Canvas is updated with a new customer segment and unfair advantage as exhibited in Figure 58.

| PROBLEM | SOLUTION | UNIQUE VALUE PROPOSITION | UNFAIR ADVANTAGE | CUSTOMER SEGMENTS |
|---|---|---|---|---|
| ▪ Consolidation is time consuming.<br><br>▪ Excel<br>• Prone to manual errors in Consolidation Step 5 (adjustments of depreciation, internal transactions, goodwill, etc.)<br>• Managing countless spreadsheets is time consuming and not secure.<br>• Difficult to keep track of the results of different versions<br><br>▪ Consolidation package<br>• Overkill<br>• Expensive | 5-step wizard<br>▪ Company Structure<br>▪ Account Categories<br>▪ Group Chart of Accounts<br>▪ Mapping<br>▪ Transactions<br><br>Expansion, collapse, query, export<br><br>**KEY METRICS** | ▪ Fast, accurate, and organized method of consolidating fiscal accounts of all subsidiaries in a group by Software as a Service (SaaS)<br>▪ No license fee, no maintenance fee<br>▪ Payments based on the frequency of consolidation. | ▪ van Wunnik's financial experience<br><br><br><br><br>**CHANNELS**<br><br>▪ Website: https://app.consolite24.com/<br>▪ Social media: LinkedIn, Facebook | ▪ Business market<br>▪ Niche market<br>▪ Belgian SMEs that are fiscally obliged to submit their consolidated accounts annually<br>▪ Accounting service providers that perform consolidation for such companies |

| COST STRUCTURE | REVENUE STREAMS |
|---|---|
| ▪ AWS (virtual machines, backup, etc.)<br>▪ Salaries (1 MVP developer & 3 business development)<br>▪ Customer acquisition (social media, transportation, etc.) | ▪ Pay-per-use payments |

FIGURE 58. Consolite Lean Canvas – Version 3

b)     Company C

The meeting between the author and Mr. C1, CEO of Company C, takes place on May 4, 2017 at Brussels, Belgium. Mr. C1 is a good friend and a business contact of van Wunnik's. He has 20 years of experience in finance, successfully founding and managing Company C, a company that offers innovative cashflow solutions. The meeting last for one hour.

As the meeting commences, the author quickly introduces Consolite and its purpose to rid the consolidation process of problems typically seen in Excel. Next, she describes the steps and completes them with fictitious data of a fictitious to show Mr. C1 how efficiently consolidated reports can be obtained in Consolite. Subsequently, she demonstrates different items

which are presented orderly and calculated correctly in the final report and different functionalities that the user can perform on the final report.

Mr. C1 (2017) claims that Consolite can significantly improve the productivity of consolidation. Subsequently, it helps reduce the delay of activities that depend on consolidated data such as business analysis and decision making. He argues that the summary of IC transactions is the strongest feature of Consolite since managers always wanted to see the details of IC transactions and never received a straightforward report of them from Excel. The IC transactions are treated through countless steps in Excel, which makes an audit virtually impossible. He encourages the author to develop more sophisticated features. For instance, he suggests a secure connection between Consolite and the group's accounting software so that Consolite can look up IC transactions and detect differences in booking of the same transaction between the subsidiaries. When a difference is detected, explanations can be demanded early and the input of trial balances into Consolite can be ready sooner. Mr. C1 repeats that IC transactions is the main pain in consolidation and any means of relief would be appreciated. Besides the IC transactions, Mr. C1 also comments on the single currency environment. He understands the need of leanness in the MVP; however, he urges the author to place multi-currency high in the list of priorities because that feature will significantly affect the transition from tryout to regular use, besides the pricing.

After the meeting with Mr. C1, the author confidently believes that the unique value proposition of Consolite is the semi-automated treatment of IC transactions and modest pricing. The suggestion on the urgent development of more sophisticated IC treatment and multi-currency makes perfect sense; nevertheless, such development is only noted for now because it is more appropriate in later stage when the business model is nearly completed and verified. An update on the building block Unique Value Proposition will be carried out after the meeting with Company D.

c) Company D

Company D is a manufacturer of event products such as wristbands, tokens, and badges. The company is located in Retie, Belgium and has six subsidiaries across Europe. Interested in improving the in-house consolidation process, the CFO of the company (Mr. D1) grants the team a meeting to know more about Consolite and how to better tackle consolidation. The meeting is scheduled for two hours on May 18, 2017 at Retie, Belgium.

Before the meeting, the author receives an Excel file containing the trial balances and consolidated figures of the previous period from Mr. D1. She is tasked with the translation of data into the format that Consolite comprehends and perform consolidation in Consolite. Both parties want to check if Consolite produces the same consolidated figures. The exercise takes a tremendous amount of time because not all the information is clear or available. Moreover, several consolidation rules are violated in Excel, resulting in different consolidated figures in Consolite.

At the meeting, van Wunnik starts by quickly deliver a pitch about Consolite and its potential benefits. Then, the author uses the files containing information extracted from the Excel file to perform consolidation in Consolite. The differences in results are rigorously explained one by one. The differences result mostly from a poor comprehension of consolidation rules concerning the elimination of capital, the depreciation of good will, and the definition of consolidation scope, etc. It turns out that Mr. D1 (2017) has conducted only one consolidation upon the request of the Company D's auditor. He may be obliged to consolidate and submit the data to the NBB for the first time this year if Company D earns more revenue and the revenue surpasses the legal threshold. Inexperienced in consolidation, Mr. D1 is happy with the arrangement that he sends the team the raw data which will be used as input for testing Consolite and in return, the team helps him with the consolidation knowledge so that he can independently carry out the process in the future.

After the meeting, the author states that it is an opportunity to have the actual raw figures to check if Consolite can handle all the problems that an Excel user faces and come up with the correct results. Nevertheless, it is clear that Consolite is not suited for user who do not have a strong command of financial consolidation (Willems 2017). Indeed, many problems arising from Company D does not concern the SaaS itself but the wrong data format, data inconsistency, insufficient details on IC transactions, or poor knowledge of consolidation. Such users require the help of a consultant to ensure the correct consolidation in Consolite. However, such free time and effort may not be available for all weak users in the long run. Perhaps, it is wiser to target only services providers, who possesses in-depth knowledge of consolidation and are usually good at technology. Final customers remain in the business model for now but may be considered for removal later.

The insights from Company C and D are incorporated in the fourth version of Consolite Lean Canvas (Figure 59).



FIGURE 59. Consolite Lean Canvas – Version 4

# 6 CONCLUSIONS

*Q1: How can the main assumptions about Consolite business model be documented?*

All the assumptions about Consolite business model can be distilled and documented on a one-page canvas. Either Business Model Canvas or Lean Canvas can be used. Business Model Canvas was created by Osterwalder and consists of nine building blocks: customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. Lean Canvas was proposed by Maurya and comprises nine slightly different building blocks: problem, customer segments, unique value proposition, solution, channels, revenue streams, cost structure, key metrics, and unfair advantage. Lean Canvas is arguably more suited for entrepreneurs and startups because it contains more risky elements that need immediate verification. Both canvases demand regular updates until an appropriate business model is defined.

*Q2: How can Consolite business model be validated?*

The business model can be validated with the help of a minimum viable product (MVP). The response of prospective customers to the MVP constitutes validated learning. The validated learning is then compared against the hypotheses in the business model. If the hypotheses are positively confirmed, the startup can persevere with the current course. If the hypothesis is proven incorrect, the startup may consider pivoting, experimenting with a different course of action. In the case of Consolite, validated learning is achieved by communicating with four companies in Belgium.

*Q3: What are the main characteristics of nine building blocks of Consolite business model based on the best available evidence?*

Based on the best available evidence, Consolite business model is distilled in a lean canvas below (Figure 60). Problems, revenue streams, and cost

structure are confirmed; customer segments, unique value proposition, and solutions are revised according to the latest evidence; and unfair advantage is discovered.

| PROBLEM | SOLUTION | UNIQUE VALUE PROPOSITION | UNFAIR ADVANTAGE | CUSTOMER SEGMENTS |
|---|---|---|---|---|
| • Consolidation is time consuming.<br><br>• Excel<br>• Prone to manual errors in Consolidation Step 5 (adjustments of depreciation, internal transactions, goodwill, etc.)<br>• Managing countless spreadsheets is time consuming and not secure.<br>• Difficult to keep track of the results of different versions<br><br>• Consolidation package<br>• Overkill<br>• Expensive | 5-step wizard<br>• Company Structure<br>• Account Categories<br>• Group Chart of Accounts<br>• Mapping<br>• Transactions<br><br>Expansion, collapse, query, export<br><br>**KEY METRICS** | • Semi-automated treatment of intercompany transactions<br>• Modest pricing | • van Wunnik's 30 years of experience in financial consolidation<br><br>**CHANNELS**<br><br>• Website: https://app.consolite24.com/<br>• Social media: LinkedIn, Facebook | • Business market<br>• Niche market<br>• Belgian SMEs that are fiscally obliged to submit their consolidated accounts annually<br>• Accounting service providers that perform consolidation for such companies<br><br>• Early adopter: Accounting service providers |

| COST STRUCTURE | REVENUE STREAMS |
|---|---|
| • AWS (virtual machines, backup, etc.)<br>• Salaries (1 MVP developer & 3 business development)<br>• Customer acquisition (social media, transportation, etc.) | • Pay-per-use payments |

FIGURE 60. Consolite Lean Canvas – Version 4

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