

Development of a Profitability Report for a Luxury Fashion Service Provider

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You can't cross the sea merely by standing and staring at the water.

Rabindranath Tagore

Desenvolvimento de um Modelo de Rentabilidade para um Prestador de Serviços na Área de Moda de Luxo

Resumo

O comércio digital é um dos tópicos mais falados nos negócios de luxo. Inicialmente, estes pautavam-se pela ausência de crescimento, levando a que a relação entre indústria de retalho e o comércio por via eletrónica fosse sendo considerada como quase inexistente. Assim que o retalho por via eletrónica começou a entrar em voga, as empresas que apostavam nessa via focavam-se em maximizar receitas e lucros o mais possível, despreocupando-se com a forma como a empresa se desenvolve noutros aspetos.

Após alcançar um fluxo operacional otimizado, a gestão de informação torna-se uma das principais preocupações das empresas. O crescimento e desenvolvimento até então feito pode ter escondido potenciais perdas que podem ser monitorizadas através sistema de controlo de informação definido e eficiente. Assim sendo, antes de tomar decisões estratégicas tendo em vista um certo objetivo, é crucial monitorar rendimentos e gastos, de forma a maximiza-las e a reduzi-las, respetivamente.

O principal objetivo deste projeto é compreender a rentabilidade da empresa. Inicialmente, foi essencial perceber a cadeia de valor, a partir de um estudo profundo sobre a estrutura e processos da empresa, as fontes de rendimentos e a alocação de custos.

Normalmente, os custos associados aos serviços são problemáticos e não são reconhecidos pelas empresas que disponibilizam serviços. A sobrecarga de serviços exigidos pelos demais clientes e as metodologias tradicionais de custeio não fornecem soluções eficazes baseadas nos resultados. Assim sendo, este projeto, como resposta aos métodos tradicionais de custeio, foi desenvolvido um modelo orientado para as atividades adaptado às restrições impostas pelos serviços, com o intuito de explicar os custos de uma forma mais balanceada.

Após identificarem-se as fontes de rendimento e gastos, é necessário realizar um estudo mais abrangente através da estruturação e implementação da demonstração de resultados da empresa. As demonstrações representam, de forma oficial, as atividades financeiras dos serviços oferecidos pela empresa, representando assim uma imagem da empresa, a nível de condições e resultados operacionais.

Consecutivamente, será realizada uma análise aprofundada do negócio em si, de forma a determinar a posição financeira, a viabilidade e a rentabilidade dos serviços. O passo seguinte será a criação de um relatório dinâmico que permita focar numa análise de rácios, com o intuito de perceber o historial dos mesmos ao longo dos anos. Posteriormente, a partir da demonstração de resultados e da monitorização realizada aos indicadores chave de desempenho, é possível perceber quais as áreas mais dispendiosas, dentro dos serviços oferecidos. Como tal, é realizada uma análise a um departamento fulcral na área dos serviços – Atendimento ao Cliente - com o objetivo de aumentar a eficiência deste departamento e consequentemente reduzir os custos. É realizada uma análise de otimização sobre o número de prestadores de serviço ao cliente através de um modelo desenvolvido.

Abstract

Digital commerce is among the hottest topics for luxury business. Initially characterized by an almost stagnant growth, the relationship between the retail industry and e-commerce became a slow-paced reality. As the e-tail world started to gain conviction, the service retail companies focused on growing and getting profits, without controlling the ceaseless information and amount of new data that came from the processes.

After establishing a significant operational workflow, the demand for managerial information becomes one of the main concerns of the companies. The growth and development of the company might be hiding potential losses that could be tracked through a defined and efficient information and control system. Therefore, before undertaking strategic steps towards a certain goal, it is crucial to track the revenues and costs and improve them.

This project's main goal is to grasp the company's profitability. Initially, it was essential to understand the value chain by providing a systematic exploration of the service company's structure and processes, the roles of profits and explore the allocation of costs. As a clearer understanding of revenues and costs is essential today, so the process suggested must offer a well-thought route through these important aspects.

The costs associated with services are often problematic and unacknowledged. Service companies often have high overheads and traditional costing methodologies are not providing adequate solutions in an outcome-based environment. Therefore, the result was to design and propose an activity-based costing model adapted to services business, which can enhance practice and account for the costs in a balanced way.

After properly defining the revenues and costs, it was necessary to account for the bigger picture, through the structuring and implementation of the financial statement, more specifically, a Profit and Loss Statement. These statements will be a formal record of the financial activities of the service (activities that were identified beforehand) and will give an accurate picture of the company's condition and operating results in a condensed form.

This allows for a further analysis and interpretation of the business by assessing its profitability. Therefore, the next step will be creating dynamic reporting which will focus on ratio analysis, with the main purpose of showing whether the company is improving or deteriorating over time.

Finally, through both financial statement and constant reporting through key performance indicators it is possible to see which area of the service business is being costlier overall. This leads to a final analysis over one of the main departments on the service business – the Customer Service. Providing the best service for the clients is what ultimately maximizes revenue. So, to efficiently manage the costs of this department, an optimization analysis is implemented is conducted over the number of customer service agents through a developed model.

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Nomenclature

ABC – Activity-Based Costing
AWB – Air Way Bill
AOV – Average Order Value
ATV – Actual Transacted Value
B&W – Black & White Business Unit
BOR – Business Overview Report
BU – Business Unit
CP – Commission Percentage
CR – Conversion Rate
CS – Customer Service
CTO – Customer Traffic Orders
DCO – Delivered Contribution per Order
EC – Effective Commission
GBP – British Pounds
IT – Information Technology
KPI – Key Performance Measure
MTD – Month-To-Date
NP – Net Profit
NTV – Net Transacted Value
Ops - Operations
P&L – Profit and Loss Statement
PR – Profitability Report
TPFT - Third Party Fraud Tool
VAT – Value-Added Tax
YTD – Year-To-Date

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1 Introduction

The emergence of technology during the last years was so predominant that online commerce is now one of the hottest themes for luxury brands. However, initially, there was a perception that the introduction of internet sales would destroy the high-end image that consumers attach to luxury goods (Pruzansky 2012). Currently, the luxury industry is forced to adapt to the e-tail trend. This change in paradigm was visible in 2015, when luxury and online commerce slowly bonded together to reach online sales worth 23€ billion, only half of its true potential (Walters 2016). Moreover, this growth is expected to reach up to €70 billion by 2025 (Catena, Durand-Servoingt, and Remy 2015). Nowadays, the current wave of e-commerce is concentrated on developing convenience, personalization and rich buying experiences for customers – which is something that can be witnessed in Farfetch and its new Business Unit (BU), Black & White.

Although the luxury industry is established in the digital market and growing, the ceaseless demand for managerial information becomes one of the main concerns of companies. This requirement is intensified whenever the company starts to grow rapidly, without having time to define an efficient information system. This dissertation, developed on Farfetch B&W Operations Team, will focus on building a Profit & Loss Statement for the whole Operations Division of Black & White. This is crucial to understand the Operations' profitability and, more importantly, it allows to build a revenue model based on forthcoming brand clients and already existing ones. Another objective is to advise and point out opportunities to decrease the costs.

1.1 Farfetch

Farfetch is a global luxury fashion e-commerce platform that links consumers with a curated global network of boutiques and brands around the world. It was launched in 2008, with its headquarters in London, steadily expanding its offices internationally. Currently, its operations extend to up to 500 luxury boutiques, distributed all over 190 countries, through a single Internet storefront for a seamless logistical experience for fashion shoppers. This universal approach on offering a streamlined online shopping technology to empower e-commerce is unrivalled, granting boutiques access to an e-commerce marketplace. Farfetch focuses on developing a win-win partnership with boutiques and constructing a bridge of trust with its customers.

Farfetch's outperforming business model, which is based on a commission per sale, has its advantages and also its complexities. First, it benefits from economies of scale when providing the services to a high number of boutiques. Second, Farfetch does not store inventory - the stock is kept at the boutiques where customers buy from and get it shipped directly. On the one hand, embracing this retail drop shipping fulfillment allowed this company to focus on a stress-free way to build a successful business, allowing it to scale easily in a flexible way and with low overhead expenses and consequently decreasing the

operating costs significantly. On the other hand, supplying from multiple boutiques brings many complexities. Controlling multiple products from various stock points and synchronizing all the information systems on a daily basis might not result in the most accurate information regarding stock quantities. Farfetch's business model also relies heavily on customer appreciation, trying to do the most to generate value and deliver an amazing experience to customers.

Regarding the company's structure, Farfetch is currently spread in eleven offices, namely Guimarães, Lisboa, London, Los Angeles, Hong Kong, Moscow, New York, Porto, Shanghai, São Paulo and Tokyo, with over 1000 workers. Each office has its structural differences. Regarding Porto's office, it is currently divided into twelve main departments: Account Management, Business Development, Customer Service, Finance, Human Resources, Marketing, Merchandising, Operations, Office Operations, Partner Services, Production and Technology. The Operations department is where part of the Black & White BU is integrated, and is analyzed in the next section.

1.1.1 Black & White

Farfetch empowered its growth by using the acquired know-how in technology to potentialize the online fashion e-commerce – hence the creation of Black & White (B&W) BU. B&W, created in 2015, is a fully-fledged agency and white-label omnichannel solution for brands, exploiting Farfetch's services and core systems to build websites and deploy them in a modular way, whatever infrastructures or services brands want to use.

B&W delivers omnichannel out-of-the-box solutions by taking advantage of the fact that Farfetch unwittingly specialized itself in international commerce. This specialization includes expertise in shipping and customs taxes and policies and pricing models. This gathered know-how and accumulated experience regarding e-commerce operations can be leveraged by B&W to create API-based modular solutions.

Although most of the integration is aided by Farfetch, B&W has its differences and potential benefits. Whereas Farfetch focuses on establishing connection with boutiques, B&W reaches out to brands from big fashion groups and designers. This mono-brand partnership leads to closer ties with indispensable groups from famous brands and enriches Farfetch resolving issues regarding supply and stock items. Furthermore, integrating the brands' operations this way allows a simpler synchronization with Farfetch's domain, since the platform used is the same. If the brand desires it, it can sell both its products in B&W and Farfetch in an instant. Therefore, Farfetch can secure more stock and, more importantly, secure partnership with brands that were not in their portal, giving them in return global exposure and huge amounts of traffic. It is also important to mention that this division business was called B&W because of its translucent solutions. B&W wants to commit itself with the brands in a clear and advantageous relationship for both sides - "it's black and white".

B&W has already launched about seven e-commerce websites until now. The current layout of this company has a dedicated team and Farfetch departments that support the project.

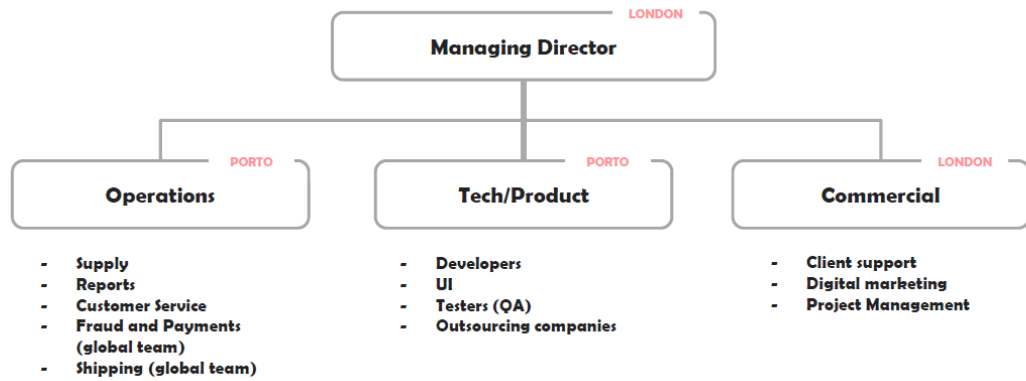


Figure 1 - Black & White Department Organigram

Concerning Figure 1, the Technology department oversees all the information technology resources that are needed – management of information systems, website development and user interface. It is also responsible for creating client-oriented tools, such as Content Management System, or even more general technology. The Commercial department, which is currently based in London, is responsible for covering all the commercial work, such as procurement. Moreover, the digital marketing is also included in this department. It’s also important to underline that the Managing Director is responsible for supervising all the departments mentioned, and is currently based in London as well. Finally, there is also the Operations department, the focus of this project, which is described thoroughly in the following segment.

1.1.2 Black & White Operations

Starting from when the customer pays until the processing of the order and its shipping, the Operations’ offer covers a wide range of tasks when it comes to day-to-day activities. B&W Operations belongs to the integral team of Farfetch Operations department, and its structured as shown in Figure 2.

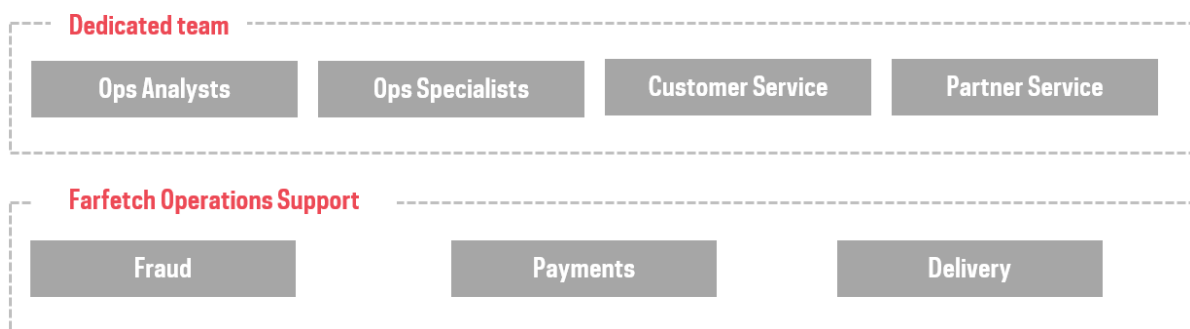


Figure 2 - Black & White Dedicated Team and Farfetch Operations Support Team and its Departments

B&W Operations can be separated into two parts: (i) The Dedicated Team, which consists of people that only work for B&W business (100% allocated); (ii) The Farfetch Support Team, which can be seen as an ‘outsourcer’, since it is composed by people that currently work at departments within Farfetch, but also deal with B&W daily operations. The support team focuses mainly on customer operations (fraud check, payment verification, delivery support and development of better shipping solutions, supply setup and retail).

On the one hand, the Customer Service is a department that guarantees the customer support that is vital to an online business. On the other hand, impacting the customers’ experience

indirectly, it is vital to build and define expectations alongside brand partners, which is secured by the Partner Service. There are also the Operation Specialists who are responsible for setting up the brands configurations and manage projects to support them in the daily operations. Finally, as a more reporting role, there are the Business Analysts, who make data analysis, business intelligence and forecasts.

Altogether, this team has a defined work stream, defined into three main phases as shown on Figure 3.

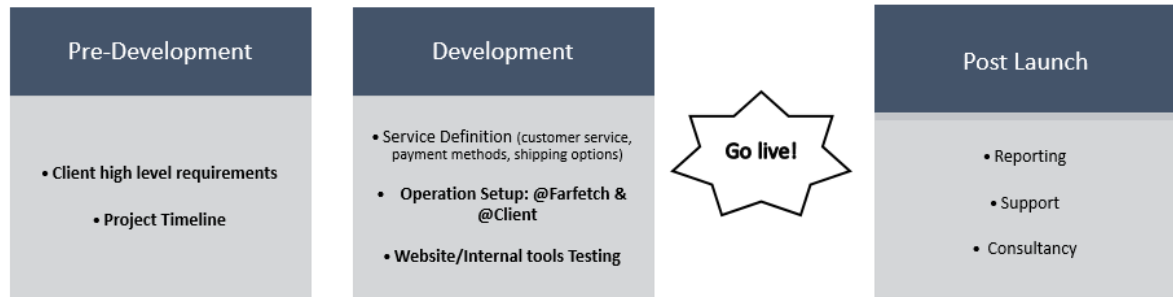


Figure 3 - Black & White Operations Work Stream Plan

Initially, it is necessary to understand brands requirements to reach the right partnership agreement. After attending to such requests, a timeline is designed and is reached the final agreement, with a defined roadmap, which ends the Pre-Development phase. Moving onto the next phase, B&W Operations firstly focuses on aligning the service definition alongside the brand. Defining service hours and languages, payment methods available, shipping destinations and stock points to use and pricing items are many of the requirements needed. Meanwhile, B&W Technology builds and develops the website that the brand had structured. After helping the brand with all the operation set up and testing out the internal tools, website is launched. This is covered by a Post Launch support, improving the brands' performance through reporting and consultancy. Moreover, the dedicated team and support team are the main actors in this stage. All the activities surrounding customer operations (managed by customer service, payments, fraud team and so on) play an important role supporting the brands' service.

All in all, the Operations department works as both Farfetch and B&W to optimize resources and take advantage of what is already implemented correctly, all the while still improving or adapting what is already done. This represents a win-win relationship between both companies.

1.2 Project framework and motivation

This project was born out of the necessity of any newly born company. B&W begun with the objective to reach out to a specific market that Farfetch saw as an opportunity to explore. Given that this is a service provider, the most important focus was to partner up with the right luxury fashion brands. Along with these partnerships grew a lot of information to manage and data to store, as well as, most importantly, the inevitability of generating and controlling profits. Once the growth became solid enough, it was expected to have some way to control the company's operations. Fundamentally, the main objective of this project is to create a full profitability reporting and analysis focused on the B&W Operations Department. As stated above, this project is developed in the Operations Department of B&W.

Due to the fresh nature of this company, this report had to be sketched and created from scratch. Nevertheless, it's important to mention that Farfetch had already established itself

and designed its revenues and overall costs. Given the similarities between both company and BU, the layout of the operational information could be sent from Farfetch to B&W, in order to help meet the unique requirements that the BU focuses on. Moreover, the expertise and processes of Farfetch could be used to fill in any lack of experience that both B&W and its new partnered-up brands would have. The relevance of this report will help B&W not only in measuring its profits, but also study the brands performance. Moreover, it may also be extended and scalable to the other departments of the company, detailing other costs that may be important to consider.

1.3 Project Goals

According to what was delineated above, this project has the following goals:

1. Understand all the operations' processes and structure and allocate revenues and costs;
2. Build a thoroughly automated full-size profitability reporting model
3. Study deviations from the target and deepen the analysis of some costs

The first goal serves as a starting point to understand the B&W organization and get deeper knowledge regarding the current operation, mapping out all the revenues and operational costs. It is necessary to understand where the variable and fixed costs come from and define the allocation parameters in the direct costs of the processes, by identifying the various cost drivers and activities throughout all the departments involved.

Secondly, building the Profit & Loss report is the focus here. It is very important to ensure that this report is constructed in the same way that the data was collected and classified. Moreover, it must have scalability to study each brand independently to come up with an internal rentability brand tool. This can be useful to study every brands' necessities and define what is most crucial to study.

Lastly, once the deviations are identified, it is vital to conceptualize a deeper analysis on defining which actions will have to be taken to keep the costs on track or, better, decrease them. This is done by scrutinising each brands' specific costs and identifying metrics that are important to measure in this business. The result must be an analysis over the metrics that can identify possible cost decrease.

Putting all the puzzle pieces together will allow to build a fully-fledged reporting system that is automatically updated and on schedule with the costs. Moreover, it will be flexible and scalable enough to outbring customised analysis for each brand.

1.4 Methodology

The present project was divided into three main steps: (i) structure all the revenues and costs involved, as well as allocation of costs; (ii) the development of an automated profitability report as a whole and; (iii) finally advice on possible deviations and opportunities to control and/or reduce costs.

Initially, it was essential to understand how the Operations Department was structured. Since a lot of departments were involved, there were a lot of processes to consider. After achieving the general mapping, there were two types of data to gather and understand: revenues and costs. Conceptualizing the sources of revenue and cost allocation was the step to be taken next. On the one hand, it is important to know how B&W generates revenue from the brands commission per sale. Depending on the specifications of each brand, the value obtained for this category can differ a lot. On the other hand, there will be an allocation of the costs to the

different departments of B&W. In other words, to different centre of costs. Altogether, this allowed the creation of the structure of the Profit & Loss Statement, making it flexible enough to have the measured profits and losses for all the periods. Last but not least, one of the most important objectives was also to, having the bigger perspective, calculate KPI measures in order to state possible deviations and, consequently, analyse them on possible workarounds to decrease the costs. The study will mostly focus on studying the impact of returns policies on profitability, understanding how different payment methods deliver cost and credit efficiency and, finally, calculating the efficient number of workforce agents in the customer service department.

1.5 Dissertation's structure

The substance of this dissertation is briefly structured into further four different sections.

To begin with, section 2 includes a literature review on the main subjects relevant for the project. This review starts by describing the relationship between luxury fashion and e-commerce. Moreover, this section will focus on detailing the financial development, focused on how to allocate costs and build the accounting models.

Section 3 will provide an overview of the current operations' fulfilment process and organization. After that, there will also be an overview of what Farfetch is currently accounting on its P&L Statement. Furthermore, this Section also focuses on identifying all the revenue sources and costs of the B&W Operations.

Section 4 contains the implemented management control - expose the new accounting ABC system, followed by the P&L Statement structure and reporting, finally concluding with an analysis over the optimization of agents in the CS Department.

Finally, section 5 presents the main conclusions, outlining the important steps taken and the final model with cost analysis. Future work and further development is also presented.

2 Literature review

In this section, an overview of the most relevant and up-to-date literature on the subjects pertinent to the implementation of the project is provided. Firstly, it is given an introduction over the concept of e-commerce, followed by the development of revenue models and metrics. After that, the e-tailing business in the luxury fashion world is addressed. Next, a slightly more detailed description over cost concepts. Finally, the last section focuses on how service companies have embraced the costing systems and how it could relate to performance measurement.

2.1 E-commerce, Revenue Models and Metrics

Over the last decades, the essence of Electronic commerce was still emerging as a new way to do business. Initially, only a few companies had really established solid footholds online and were mainly focused on selling in physical stores and taking orders in calls (Schneider 2015). E-commerce started off as a development of Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) technologies that allowed companies to exchange information, place orders and make electronics payments through computers. More specifically, according to Mohapatra (2013), this allowed businesses to share different documents, for example bill of materials, warehouse receipts, purchase orders or invoices electronically. This first-generation commercial transaction exchange begun revolutionizing itself over time. The next phase was characterized by using Internet as a commercial tool of goods and services (Tian and Stewart 2007). E-commerce, which was considered as an aid to the business, became a strategic tool for organizations due to the growth and predominance of the Internet. Later on, aided by the National Science Foundation (NSF) the commercial restrictions and regulations on the use of the network were lifted, allowing the e-commerce to grow (Tian and Stewart 2007). Consequently, new technologies were introduced over time, such as Automated Teller Machines, telephone banking, credit cards and the well-known Enterprise Resource Planning Systems (ERP) (Mohapatra 2013). It's important to underline the fact that, together with the Internet's growth, the change in consumers' behaviour also contributed to the emergence of electronic commerce (Gray and Zappalà 2006)

The fast growth of electronic commerce was possible due to three main reasons (Du, Lederer, and Wu 2010): (i) easy and unceasing access to personal computers; (ii) the expansion of broadband connections and; (iii) the continuous development of the Internet. The term "electronic commerce" has been conceptualized in various ways. Generally, it is assumed that it means shopping on the World Wide Web (WWW). However, according to Schneider (2015), e-commerce includes many other activities, whether trading between different businesses or internal processes that are used to support buying, selling, hiring and so on. Supporting this versatility, according to Niranjnamurthy et al. (2013), e-commerce refers to anything that occurs online – including even small businesses that provide personal services such as nail salons. Additionally, e-commerce creates new paths to reach global customers. In

contrast, customers gain a wider product range overview and more control of the information (Clark, Johnston, and Shulver 2012). Complementing this, Mohapatra (2013, p. 8) states that “E-commerce is a short version of the term Electronic Commerce. It implies transactions related to online buying and selling of products or services. These transactions are done using electronic systems such as the Internet and other computer networks.” However, (Evans 2001) broadens the concept even more, by stating that it also enables and supports changes internally in bigger scales. This means that e-commerce can also improve internal operational practices in an online basis and make them more flexible and global. Consequently, this would enable the companies to work closely with their suppliers and, thus, becoming at the same time more responsive and provide a better Customer Service. To top it all off, E-commerce “can greatly raise productivity, improve the efficiency of economic operations, lower economic operating costs and make possible things that were impossible before” (Qin et al. 2014, p. 1). Knowing that embracing e-commerce in current business creates a competitive advantage (Evans 2001), it is also important to be aware of the advantages and disadvantages of e-commerce – which are shown in Table 1.

Table 1- Advantages and downsides to e-commerce, adapted from (Niranjanamurthy et al. 2013, Mirescu 2010)

Advantages	Disadvantages
Reduces time devoted to various activities, and eases accessibility to stores anywhere, from either the store perspective or customers’.	The cost of investment can be higher than what some geographical zones or areas of activity can achieve in terms of customers
Ousting of intermediaries from the economic activities	Security issues connected to transactional fraud processes
Instant purchase of digital goods and 24/7 store availability	Inability to test out the product beforehand
Dissolution of geographical barriers – possibility of international trading	Fragile control over customer expectations – from the moment the order is placed until it is received by the customer
Possibility of selling low volume goods	Website downtimes that can harm the business and carry substantial losses

It is also possible to grasp the growth of e-commerce by analysing its transactions. Either for Business-to-Business (B2B), or Business-to-Customer (B2C), the growth of actual and estimated global online sales is growing, according to Schneider (2015). Table 2 summarizes those values.

Table 2 - B2C and B2B sales over time, adapted from (Schneider 2015)

Year	B2C Sales (\$ Billions)	B2B Sales (\$ Billions)
1996	Less than 1	460
(...)	(...)	(...)
2010	573	8600
2011	681	9500
2012	821	10600
2013	963	11900
2014	1080	13100
2015	1170	14300

Since one of the most important things in business is its profitability, it is also important to have an overview on how companies earn their revenue in e-commerce. Selling on the web might be different from selling physically, but companies are still exposed to strategies that are used to generate revenue - the so-called Revenue Models. According to Schneider (2015), there are various models that focus on generating revenue:

- **Web Catalog model**– The seller establishes a brand image, later using that as a trademark to sell through printed information mailed to customers, who place the orders mainly through the web site;
- **Digital Content model** – Companies that sell written information or rights to access the information they own. In other words, firms sell subscriptions to clients that either give access to all information or just a specific part (or it can be a combination of both approaches);
- **Advertising-Supported model** – Firms that use online advertising messages (ad sites) as the sole revenue source to support the operations. This can also apply to other types of business, such as broadcasting.
- **Advertising-Subscription Mixed model** – Levers the amount of advertising on websites depending on how much fee the subscribers pay.
- **Fee-for-Service model** – Companies charge a fee for the various services available on the internet. The fee will be based on the value of the service provided. In this specific case, it can also be a fee for every sale made, when it comes to outsourcing companies.

Schneider (2015) also states that some of the initiatives on e-commerce are undertaken to focus on reducing costs. Most companies tend to dedicate themselves to finding ways to cut costs and operate more efficiently. The potential earnings impact of cost reductions will depend on how the company wants to define its flexibility as a business. Intrinsically related to this is the need for most firms to outsource their processes, which is a strategy that is mentioned in this section further ahead. The costs can be various, for example purchasing activities – which are all the activities that include operational subjects, such as selecting specific products, placing orders and customer service. Moreover, it can also include costs related to logistics activities (receiving warehousing, inventory control, transport allocation, and so on) and business process support activities, which are composed by processes done by administration, human resources and technology development categories.

Taking all of this into account, although it is important to gather and define what are the revenues and costs, it is also imperative to know how to measure the values obtained. E-commerce metrics yield information regarding key attributes in E-commerce initiatives. They are important because they provide comparability and a rigorous research procedure when taking into account the values (Straub 2002). Zhu and Kraemer (2002, p. 281) states that “Good metrics earn credence and subsequently relieve researchers from repeated efforts at construct and instrumentation development. Metrics enable research to accumulate in a subject area as direct comparisons become possible between persons, time periods, industries, cultures, or geographic regions”. Some of the most used metrics in e-commerce to achieve the desired results are:

- **Conversion Rate (CR)** – The percentage of the website’s visitors who make a purchase. It’s calculated as the total number of website visitors who make a purchase divided by the total number of visitors);
- **Average Order Value (AOV)** – Average amount a customer spends when they order through the website. Summing the value of all orders divided by the number of orders is the formula for this metric;
- **Customer Lifetime Value (CLTV)** – The value of an average customer during their entire relationship with the company. This is calculated by projecting the profit

expected to receive from a certain customer over time and take the net present value of those projected cash flows.

- **Gross Merchandising Value (GMV)** – Total value of merchandise sold over a given period through the website. It is obtained prior to the deduction of any fees or expenses.

All in all, although the e-commerce has expanded and contracted over the years, it is now a pillar of hope for most companies. It was possible to witness the evolution of e-commerce from a novelty to its current place as an important component of a global business activity (Schneider 2015).

2.2 Luxury: Embracing E-tailing

Despite fashion being one of the world's most important industries to drive a significant part of the global economy (Amed et al. 2017), luxury itself has burgeoned over time. Because of its uniqueness, it represents a specific niche that is characterized neither as a product, nor as a service, not even as a concept, but as “an identity, a philosophy and a culture” (Okonkwo 2009, pg. 302). On the other hand, luxury can also be a term traditionally connected with wealth, power, premium quality and exclusivity (Brun et al. 2008). This concept adapted itself over time, recreating the social stratification in a democratic way to whom was rich enough to achieve it (Kapferer and Bastien 2009). In a way, luxury products were an expression of the indirect social stratification (Okonkwo 2007) and were consumed for their psychological values instead of their practical utility (Doss and Robinson 2013).

Whereas luxury initially pronounced its function in segregating and stratifying the social classes, nowadays it takes a subtler role creating social status. Consequently, luxury transformed itself into an imposition of social stature displayed by the change of wealth into a “culturally sophisticated product” (Kapferer and Bastien 2009). This paradigm reversion results in the combination of various factors sought by customers, such as quality, aesthetics, scarcity, uniqueness, premium price all combined with functionality (Hines and Bruce 2007). Moreover, Abtan et al. (2014) also states that factors such as craftsmanship, sustainability, brand reputation and emotional connection are empowering the experience of luxury over simple ownership as a growing trend.

The customer should be able to perceive enough value in the product worth the premium value that is paid (Tynan, McKechnie, and Chhuon 2010) and recognize it as fashionable and stylish (Ko and Megehee 2012). This leads to an increase of competition. As customers find it more important to crave the experience of the brand and not the products themselves (Epsilon 2014), the appearance of brands in such a short time leads to an even higher struggle to maintain the original image and identity while controlling the business globalization (Choo et al. 2012). The luxury shoppers are more knowledgeable about brands, more sophisticated and, thus, more demanding (Abtan et al. 2014, Brun et al. 2008). After the economic depression at the end of the twentieth century, luxury brands were forced to expand on the online world, because, whilst physical stores sales were decreasing, e-commerce attained an unceasingly double digit growth (Okonkwo 2009). Consequently, the technology has changed the shopper's behaviour and the way business is made in the luxury fashion management (Okonkwo 2007), launching the evolution of the e-tailing concept.

E-commerce and luxury fashion retail are not fully complementary. E-commerce, stated by Okonkwo (2009), is a very unique and particular distribution channel since it lacks any physical and technological boundaries, consequently offering the consumers information about brands and product without any time or space restraints (Kourdoughli and Larraufie 2014). Luxury brands feared that, by joining up with e-tail concept, their identity and brand

image would dissolve over time. The upsurge panoply of product offerings and accessibility and the struggle in reproducing the high-end luxury feel were reasons that Okonkwo (2009) mentioned to explain the resistance embracing e-commerce. Contrary to these fears, e-commerce allowed for a vaster range of goods in smaller quantities to be available online – this is known as a long tail strategy (Clemons and Nunes 2011). E-tail is able to take advantage of the long tail market because it benefits from low communication costs and no geographical limitations (Bin and Qiang 2007). This allows customers to get their perfect fit according to their unique characteristics and tackle competition in the mass market. According to Okonkwo (2009), accessibility and convenience are now highly regarded among the luxury customers' expectations. More importantly, online customers want a pleasant, interactive and engaging website experience that still emanates the prestigious integrity, exclusivity and trustworthiness atmosphere of a brand (Bjørn-Andersen and Hansen 2011, Lee 2012), as the customer still wants to feel like their choices are driven by their human senses (smell, touch and vision) and not their rationality (Okonkwo 2009).

The aftermath of this evolution gave birth to E-tailing – Electronic Retailing – which is the selling of retail goods over the internet, and a B2C transaction. The multichannel resolution for e-tailing is important, as research suggests that omnichannel customers tend to spend twice as much (Abtan et al. 2014). In order to leverage the costs of initial investments, the fashion companies can practice e-commerce outsourcing and, indirectly, gain access to superior expertise and strategic flexibility, increasing the project success rate at the same time (Hasty and Pentina 2009, Sun, Li, and Zhao 2015). Through outsourcing, the paths that are unveiled for the companies can vary, including outsourcing e-commerce related activities, totally or partially (Okonkwo 2007, Sun, Li, and Zhao 2015). Given the exceedingly dynamic environment of E-tailing, strategic outsourcing can be the most beneficial approach when the company has just started (Hasty and Pentina 2009).

Overall, the role of luxury in the world, the growth of the luxury market, its penetration in the online market and the reversion of the customer paradigm, it is without a doubt that the interest in social and interactive digital technologies has been increasing (Bjørn-Andersen and Hansen 2011). Being able to pinpoint the right channel for marketing, understanding purchasing motivations of luxury shoppers, and addressing the differences in benefits between shopping physically and online will be the key focus for the success of luxury brands (Deloitte 2015).

2.3 Financial Ratios and Cost Concepts

Management accounting is recognised as a tool to assist people in decision-making, to formulate plans and operate controls (Hussain and Gunasekaran 2001). Strategy, finance and project management are intrinsically related – by mapping out the various phases of the project, the financial analysis can pinpoint important highlights. The firm's strategy must be oriented by mission and milestones, but the strategy must be driven by finances (Garrison, Noreen, and Brewer 2003). These financial analyses are carried out with the use of tools, which can vary depending on which is the better fit from both strategic and financial point of view (Callahan, Stetz, and Brooks 2007). Some examples of these tools are the balance sheets, income and expense statements, and financial analysis of which the DuPont method is an example. The main focus of this method is to see how financial operations drive value (Callahan, Stetz, and Brooks 2007, Garrison, Noreen, and Brewer 2003), and some people refer to it as value drivers model, whereas others as financial levers model. Although the differences between them is arguably an issue of semantics, they both provide the necessary financial information to apply into a project. This information, however, can be used differently according to the target assumed (Garrison, Noreen, and Brewer 2003), namely for a cross-company ratio analysis (comparing two similar businesses), cross-industry ratio

analysis (comparing company to industry alike) and cross-trend ratio analysis (financial ratio analysis). Callahan, Stetz, and Brooks (2007) warn that it is indispensable to be aware of the changes in the accounting depending on the period chosen - the financial statement of a certain period might not match another statement's method. Consequently, they should be reported differently so that the trend analysis doesn't suffer distortion. Furthermore, the ratios used can be grouped according to the type of information that they deliver. They can be profitability, activity and solvency ratios, as seen in Table 3.

Table 3 - Types of financial ratios, adapted from (Callahan, Stetz, and Brooks 2007)

Profitability Ratios	Activity Ratios	Solvency Ratios
Return on Equity	Total Asset Turnover Ratio	Leverage Multiplier
Return on Capital	Fixed Asset Turnover Ratio	Debt to Equity
Net Profit Margin	Working Capital Ratio	Times Interest Earned Ratio
Operating Profit Margin	Inventory Turnover Ratio	Current Ratio
Tax Rate	Days of Inventory on Hand	Quick Ratio
Gross Profit Margin	Accounts Receivable Collection Period	
Operating Expense Ratio	Accounts Payable Collection Period	

Garrison, Noreen, and Brewer (2003) state that profitability ratios calculate the amount of money earned by the business. This profitability analysis is spread in many ratios, and they can usually help determine the origin of the problem. For example, Return on Equity (RoE) shows the amount of income represented by percentage of the owner investment in a year. The next category, known as activity ratios, are the ones responsible to measure the amount of assets (monetary equivalent value) needed to support operations (Zeller 1990). Assets can either be fixed (plant structure, equipment, etc.) or variable (inventory and so on). Total asset turnover ratio (TATR) is an activity ratio that indicates the frequency of sales or revenues cycle deployment, depending on the assets. Finally, there are ratios that are used to determine how leveraged and/or solvent the business is (Callahan, Stetz, and Brooks 2007). The leverage multiplier ratio (LM) is calculated by dividing averages of total assets and total equity. The DuPont financial analysis allows us to take a closer look at the firm's finances and determine the current situation, as well as analyse how things can be controlled to improve the financial picture (Soliman 2008).

When it comes to cost analysis, it is necessary to cross-check information given by the previous analysis and check which costs should and should not be considered. Callahan, Stetz, and Brooks (2007) state that cost is concerned with analysing its source and its behaviour, its effect on finance and the process considered to achieve an optimal management of it. Essentially, cost is the quantification of resources, expressed in monetary values, that must be consumed to obtain an object or complete an activity (Callahan, Stetz, and Brooks 2007). Whereas product costs provide information needed to create external financial statements, cost behaviour aids a company look into the future by seeing how costs may change based on changing variables (Wielman 2009). In order to grasp the full meaning behind the costs, it is vital to understand how they can be classified and its importance to the project management.

Table 4 - Cost classifications, adapted from (Garrison, Noreen, and Brewer 2003)

Financial Statements	Cost Behaviour	Assigning Cost	Cost Decisions	Cost of Quality
Product cost	Variable	Direct	Differential costs	Prevention
Period cost	Fixed	Indirect	Sunk costs	Correction
Cost behaviour	Semi-Variable		Opportunity costs	Warranty

As shown in Table 4, financial statements are fed by the information that comes from product and period costs. Cost behaviour studies the prediction of future costs when creating budgets or planning future activities. The behavioural costs can be considered fixed (structural) – those that are not dependent on the activity of the company in the short term, as they aren't affected by the volume change in production (Bornia 2010). Furthermore, there are variable which are a function of sales, production or service volumes, such as raw material, packaging and commission sales (Durán 2004). The assigning costs are classified depending on how related they are to certain activities or cost objects. According to Viceconti and Neves (2010), the direct costs are those that can be allocated directly to fabricated products, since there is an objective measure associated to its fabrication. In contrast, the indirect costs need to be defined with the help of driver cost parameter (Bornia 2010) and are not directly linked to an object or activity (Callahan, Stetz, and Brooks 2007). Regarding cost decisions, just as the name suggests, they are used to discern between opportunities or goals and objectives established. Lastly, quality costs focus on preventing mistakes and solving problems.

The way businesses are conducted influence how the classification of costs can be interpreted. On the one hand, if it is a service industry, all the expenses are categorized as direct client expenses and are considered period costs during the period they were incurred. On the other hand, for the retail industry, it is introduced a new element, called cost of goods sold. This variable indicates the cost of what is being sold, beyond the direct client costs that were mentioned in the service industry (Callahan, Stetz, and Brooks 2007).

2.4 Service Costing Systems and Performance Measurement

With rising prices and increased competition, service companies are finding that knowing the costs of their products and services is vital to their health, if not to their existence. However, many of these companies have found their cost accounting systems less than satisfactory (Dearden 1977). Cost accounting has its origin in the manufacturing industry, hence most approaches or terminologies refer to it and not specifically to services (Baum 2013). Cost accounting is part of internal management accounting and designed for providing information to managers to assist them in making decisions (Lanen et al. 2010). Documentation, information, planning and control, and conflict resolution and decision making are the functionalities presented by the cost accounting (Mowen and Hansen 2011). Furthermore, the costing systems are usually divided into three categories, namely cost element accounting, cost centre accounting and cost object accounting. The cost accounting should always measure the cost of products or services (Baum 2013). According to Lanen et al. (2010), the accounting reporting must assign its costs and income not only to cost centres but also to responsible people within the organization. Additionally, according to Lanen et al. (2010), when it comes to cost centres, most companies try to manage and limit them through the delineated budget, which shouldn't be exceeded. Unused budget will not be reported as savings, rather, it will be spent as the cost centre for the responsible person to achieve a lower budget, in case they request a higher or same budget next year (Baum 2013). This will lead to a suboptimal behaviour in terms of costs consciousness, and the evaluation of performance measurement of the cost centres of the responsible person will be affected. Contrarywise,

people accountable for revenue centres have no responsibility for costs, just for bad pricing policies or too much spending according to the companies' profitability (Mowen and Hansen 2011). Lanen et al. (2010) states that, due to this nature, the cost consciousness behaviour will be higher, as it adds financial value to companies' overall performance. However, it is not advised to measure the performance uniquely through financial KPI's, but also quality and alignment of other objectives (Lanen et al. 2010). With both centres weighting, the investment centre dedicates itself to deciding the right investments and, therefore, calculate and plan in terms of return on investment (RoI) and economic value added (EVA) calculations before the investment is made (Baum 2013). However, this allocation in cost centres depend strongly on the gathered data. The blind usage of data, or misplaced data, can lead to incorrect decisions in the future. The quality of data can lead to one of the main limitations of cost accounting – the lack of publicity of the cost accounting versus financial statements leads to a lack of understanding for recording the need quality (Kubr 2002). Overtime, there have been developed many costing systems.

The traditional management accounting systems (TMAS) were developed for goods because services have traditionally only been seen (at that time) as a small part of a bigger problem solution offered to consumers (Hussain and Gunasekaran 2001). Nowadays, researchers consider that services can be as important as goods, sometimes being difficult to distinguish differences between them (Hussain and Gunasekaran 2001). Therefore, as stated by Whitt and Whitt (1988), service firms need management accounting systems for two main reasons: i) increased competition demands improved planning and control; ii) professional service firms have grown in size and organization complexity and, consequently, need systems comparable to those used by manufacturers. Hence, these systems must be applicable to service firms. Management accounting is starting to reject standard cost systems, traditional variance analysis and use of financial accounting for internal decision making – instead, non-financial measures are supplementing these systems on how to evaluate performance (Hussain and Gunasekaran 2001). According to Hussain and Gunasekaran (2001), businesses that understand and can quantify costs are in the best position to handle them – the prime objective is to minimize them, rather than minimize service through value-added activities.

In order to keep up with the current pace of technological and economic innovation, the most important goals that a financial accounting should focus on, mentioned by Gardner and Lammers (1988), are the product development and pricing, achieving cost reductions, evaluate performance and finally compare industry costs. However, as mentioned before, the swift advancement of information technologies and the ever growing competition helped make conventional management accounting systems irrelevant (Hussain and Gunasekaran 2001). Moreover, Gering (1999) states that traditional accounting has a tendency to provide information that is accurate but often late, irrelevant or misleading. Consequently, TMAS were initially created with the focus of serving the accountancy function, ignoring the needs when it came to decision-making moments. According to Bornia (2010), the principles of costing methods are intrinsically connected to the objectives of cost accountability and management, namely stock evaluation, aid to control and, as mentioned before, aid in decision-making. Companies tend to maintain a cost calculation system mainly because of two main needs: (i) in a fiscal point of view, where cost accounting integrates bookkeeping procedures required by law; (ii) in a managerial perspective, where allocation features all types of costs in order to improve and provide support for management information (Júnior, Oliveira, and Costa 1999). The determination of costs of goods and departments, control of production costs, elimination of waste (process improvement) and optimization of costs are also some of the objectives that Júnior, Oliveira, and Costa (1999) cite as imperative to determine costs.

After detecting all the essential costs and understanding what they are, it is necessary to recognise how they can affect the organization in all its structure. For that, the next section

will focus on developing an analysis over the Activity based costing model, discussing its strengths and weaknesses.

Activity based costing model (ABC)

Popularised by Cooper and Kaplan (1992), the ABC model can be described as a methodology enabling and managing the financial information in the firm's value chain to be used for active decision making. The ABC costing system is usually required whenever there are changes in strategy, information management or if the current cost accounting is not sufficient (Baum 2013). The overall objective is to reduce costs and improve customer value (Mowen and Hansen 2011). ABC is a technique for assigning the direct and indirect costs of an organization to the activities consuming the organization's resources and subsequently tracing the costs of performing these activities to the products, customers, or distribution channels consuming the activities (LaLonde and Pohlen 1996). This assignment is done with the cost drivers. A cost driver is an activity or predictor (activity measurer) which, due to a cause-and-effect relationship, drives costs (Mowen and Hansen 2011). These driver costs need to be identified for each unit-based individual business. Moreover, the activities also need to be classified into primary and secondary activities – primary are those which are assigned as final cost objects, whereas secondary are assigned as intermediate cost objects (Mowen and Hansen 2011). The strength of this model reveals itself for companies with a large portfolio and high product complexity. It reengineers efforts (continuous improvement), as the system provides information about the relationship between activities and cost drivers (Baum 2013). ABC emphasizes tracing over allocation (Mowen and Hansen 2011). This system makes it possible to identify factors that cause an activity, assets or identify the activity and evaluate the performance and results achieved (Mowen and Hansen 2011). However, the implementation of an ABC system is a very time consuming and cost-intensive, and organisational barriers in terms of territorial, hierarchical or corporate culture can often block it (Babad and Balachandran 1993). According to Kaplan and Anderson (2007), "ABC systems (are) expensive to build, complex to sustain, and difficult to modify". Additionally, in terms of information technology, a professional ERP system must be available (Mowen and Hansen 2011).

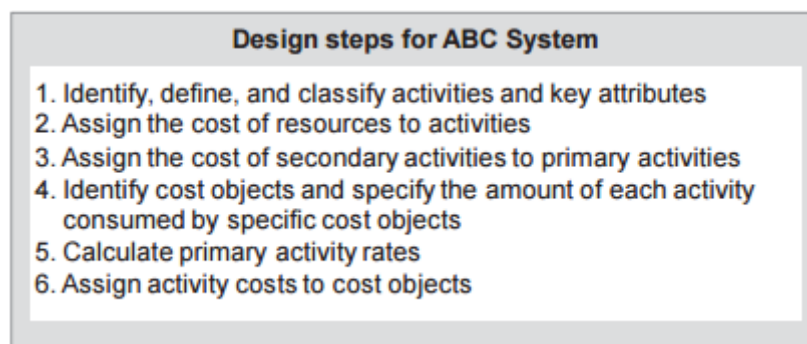


Figure 4 - ABC design steps adapted from (Mowen and Hansen 2011)

With the growing interest over this area, the allocation of costs in service companies is developing more accurate approaches overtime. The aim here is, depending on the various accounting methods, obtain an approach that is adapted to the own necessities of the company and reveals cost transparency for a management firm.

3 Overview of Current Revenues and Costs

3.1 Business Overview

The first phase of this project starts by analysing the functional areas of the company, in order to identify sources of revenue and allocate costs in the current processes and activities (cost pools). Although B&W represents a new-fangled service, the operational flows of both Farfetch and this BU are tangled together. Moreover, Farfetch already prepares profitability reports when conducting its day-to-day business. This creates an advantage for B&W as it can use it to its favour, because most common operational concerns were previously identified. However, there are still some details that are unique for B&W processes that must be taken into account.

Before the identification process, it is important to have a brief overview on how the fulfilment in this company works. This will help understand how Farfetch and B&W departments work altogether for the operational workflow, and also exploit concerns or lack of information that is still not being accounted for. To maintain a degree of confidentiality, the company data presented in section is not actual. However, they do fairly represent the true amounts.

3.1.1 Order fulfilment process

The ordering process starts with the placement of an order through the website. Ordering entails clients' choice of one or more items to buy, selecting the desired delivery option among those available to their shipping location and, lastly, the confirmation of the payment method. If these steps are accomplished successfully, a portal order will be inserted automatically in the database, starting the pipeline. The order processing flow can be seen in Figure 5.



Figure 5 - Order processing flow

The portal order is then split into many boutique orders, according to the boutiques where the items were purchased from (Figure 6). The internal management system, which was created by Farfetch, registers the orders' information whenever it is placed. This system allows internal users and boutiques to inspect what orders need to be processed and which step of the processing they are in.

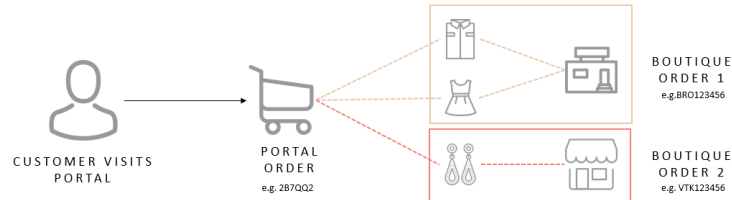


Figure 6 - Order hierarchy

Regarding the order flow in Figure 5, the steps mentioned can be further described below.

Step 1 – Check Stock

The boutique is responsible for this step. From when the order is placed until the boutique confirms that there is stock available, the order remains intact in step 1. This step aims to verify if the item is available physically. Since an in-store sale can occur at the same time as an online one, a synchronised inventory is necessary. If there is no stock available at the time, and if the service is available for the brand, then the order is cancelled and the client is refunded.

Step 2 – Approve payment

This step occurs in parallel with the first one, since this is an internal responsibility. Farfetch processes the payment request. This processing can be treated differently depending on the customer's transaction history - it can be either approved or refused. In case the order is dubious, the Fraud team will be responsible to verify if it's authentic and look for anomalies. The order is cancelled if there are suspicions of fraud.

Step 3 – Decide Packaging

After the approval of step one (stock checked) and step two (payment approved) the boutique is now responsible for choosing the adequate packaging for the selected items' size and shape. Moreover, it is also responsible for printing the documentation needed to go along the parcel. The parcel can also include additional personalized details, such as gifts, to maximize the customer experience.

Step 4 – Create Shipping Label

The creation of Air Way Bills (AWB) is usually done automatically. Nevertheless, in some cases, the Delivery Support team might need to intervene and correct the misspellings zip codes entered by the customer. Plus, an order can be stopped at this step by customer request or legislation restrictions (such as reaching the maximum daily import value).

Step 5 – Send Parcel

Once the AWB is created, the order automatically moves to the fifth step and is flagged as “ready to send”. While some boutiques have daily pick-ups scheduled, others need to book them with the courier. As the courier scans the package and AWB, the customer will receive an e-mail informing that the order has been shipped.

Step 6 – Send Parcel

Finally, the order remains in this step while the courier is travelling to its destination until he delivers the order to the customer.

Return Process

If the customers find the newly received order not to their liking, for whatever reason may be, they can return it to the company. The returns process is triggered once the customer requests a return pick-up within the established time limit, and they must respect a list of requirements. After the courier picks the order up and delivers it to the boutique, the boutique must confirm the conditions of the order and decide if the return is to be accepted or contested. If the return is in mint condition and is accepted, the Payments team from Farfetch processes the refund to the customer.

3.2 Farfetch Profit & Loss Statement

The profit statement report that is already schematized at Farfetch can be divided into two categories. The first part of the report is focused on the financial statement itself, whereas the second aims to study e-commerce metrics. The function of the statement is to total all sources of revenue and subtract all expenses related to the revenue, showing the company’s financial progress during the period chosen. B&W is composed by three main areas, namely Operations, Commercial and Technology. Therefore, the model includes the overview of all these departments but in a very limited way. The values are calculated in general categories of sales and losses, which is partly why it was so important to go deeper in the analysis of the Operations Department in terms of revenues and costs. Nevertheless, it is possible to divide the income statement in sub-sections for an easier explanation. More specifically, Gross Profit, Profit after Marketing and Profit after Semi-Variable Overheads. It is essential to understand how this division is made and exploit the main differences from the B&W business. The sections 3.2.1 to 3.2.3 will explain briefly how the model is built in an Operations point of view. Its full structure is shown in Appendix A: Farfetch Profit and Loss Statement. The second part of the statement, detailed over section 3.3, covers all e-commerce metrics which are considered important to the company to give an overview of the business and analyse its profitability during a chosen period.

3.2.1 Gross Profit

The gross profit assesses a company’s efficiency at using labour and supplies. It usually takes total revenue minus the cost of goods sold. In this case, there is no cost of goods sold, but there are still variable costs that can influence the gross profit, represented in Table 5.

Table 5 - Gross Profit drill-down calculation

Balance	Title	Value
+	Commissions	£ 8000
+ / -	Net Credit Card Charges	£ 200
+ / -	Net Packaging	-£ 500
-	Net Shipping	£ 200
+ / -	Net Duties	£ 100
Total	Gross Profit	£ 7700

Comissions

The company's profit comes mainly from the amount of money that is received from the commission. This commission is earned each time there is a successful sale (the order is shipped and delivered to the customer successfully). The commission policies for B&W depend on the contract conditions with each brand, so its value can vary. This is the most important revenue source for both companies, and even so more for B&W since it applies for many different companies. The commission composition for B&W is detailed in section 3.4.1.

Net Credit Card Charges

This refers to the fee that the company must pay whenever a client uses credit card payments.

This payment charge normally depends on the currency used. For both Farfetch and B&W the procedure is the same, as the credit card payment choice is shared between the businesses. Nevertheless, since the cost is inevitably preponderant, the main difference is that Farfetch applies an adjustment to its partner boutiques as a way of earning revenue. The formula works as a way of compensating the weight of the cost. So, the actual net credit card charges, in this case, can be either negative or positive. However, the charges for processing this payment is of full responsibility in the case of B&W business. This means that the cost is entirely paid by B&W and there are no compensations. This also applies for the other available payment choices other than credit cards, described in section 3.5.1.

Net Packaging

This category refers to a concrete part on the order processing referred in section 3.1.1. Once the order is verified as non-fraudulent and have stock available, the items in that order need to be packed. The packaging can vary depending on the size of the items (they can be packed individually or altogether depending on their conditions). This is the assortment made in cases where the company spends money on packaging. On the one hand, this comes as an internal cost for Farfetch. On the other hand, B&W does not have this responsibility. In this case, the packaging will be a cost allocated to the partners.

Net Duties

When it comes to duties, it can be of two kinds: (i) Delivered Duties Paid (DDP); (ii) Delivered At Place (DAP). The difference between them is that, in the first case, the amount of the duties that the customer must pay is included in the final price of the order.

In DAP case, the value paid only includes the items prices and their shipping cost, and the customer will receive an invoice separately from the order with the amount of the duties that he has to pay. The service couriers are the same for both businesses. Thus, this can work out as either cost or revenue, depending on what is charged from both company and the service provider or customs place point of view. This intrinsic relationship is described in section 3.5.8.

3.2.2 Profit After Marketing

After calculating gross profit, this section calculates all costs that are relevant inside marketing. It can be divided into two main areas: Digital Marketing (also known as Online Marketing) and 3rd Party Marketing. Both Farfetch and B&W have costs concerning the commercial point of view but, since the project at hand is concerned with the operational point of view, this area will not be detailed thoroughly.

3.2.3 Profit after Semi-Variable Overheads

This is the segment on the P&L statement that includes departments where there is a mixture between fixed and variable components, which is shown in Table 6. Production refers to everything that happens since a boutique sends the items to be photographed until the items are available at the website.

Furthermore, this semi-variable segment also includes an important Operations department – Customer Service (CS). Again, the amount that is displayed corresponds to the summation of various categories inside this department, such as payrolls, business trips, call costs and so on. CS department plays a big role in both companies since it is important to provide the customer with the best treatment. One of the topics addressed in this project is describing what happens inside CS department and how the improvement of the number of working agents can result in a cost decrease, later explained in section 4.6. The Account Management refers to post-sale support costs.

Table 6 - Profit after Semi Variable Overheads structure

Balance	Title	Value
Total	Profit after Marketing	£ 2200
-	Production	£ 500
-	Customer Service	£ 200
-	Customer Compensation	£ 100
-	Account Management	£ 100
Sub Total	Semi-Variable Overheads	£ 900
Total	Profit after Semi Variable Overheads	£ 1300

Further on, there's also a table dedicated to the Information Technology Department, showing all the variable and fixed expenditures. This department is also not going to be detailed in this project, since it does not belong to Operations' scope.

The whole structure of this report can be seen in Appendix A: Farfetch Profit and Loss Statement.

3.3 Profitability Measurement

To complement the P&L Statement, Farfetch needed to track its profitability, in order to know how much it needed to be optimized. As mentioned before, this segment is used to assess the business's ability to generate earnings, by analysing KPI metrics, which are related to the company's milestones defined by the profit levers.

3.3.1 New Customers, Traffic and Orders

This section combines several intertwined KPI's. Respectively, measuring the number of new customers that made a purchase, registering the traffic on the website and finally counting the number of orders that were placed. The objective here is to quantify all the orders that were created during a certain period, comparing the visitors over the website to the number of new shoppers. These altogether serve as a potential sales benchmark, as it can be possible to infer if the sales are increasing or decreasing somehow. This metric helps on calculating the Average Order Value (AOV), described in section 3.3.2.

3.3.2 Average Order Value (AOV)

The AOV is an e-commerce metric that measures the average of the total amount of orders placed over a defined period of time. The importance given to this metric is due to the fact that it uses sales per order and not per customer. Although one customer may come back multiple times to purchase, each order would be factored into AOV separately. This KPI does not describe gross profit or profit margins, but offers insight of what they can become (or what to expect). By increasing AOV, the Return on Investment consequently increases and, thus, the more the company is getting out of each customer. However, this metric can be susceptible to some unprompted peaks, such as buying season or campaigns, which can make AOV fluctuate. This metric is calculated according to equation (1). The Gross Merchandising Value (GMV) metric is explained in section 3.3.3.

$$AOV = \frac{GMV}{Number\ of\ Orders} \quad (1)$$

3.3.3 Net Transaction Value (NTV)

The importance of NTV starts by calculating the Gross Merchandising Value (GMV) metric. The GMV is the total amount of merchandise sold over a given period, and it is considered a growth measure. Since it corresponds to the total value, the amount is calculated prior to the deduction of any fees or expenses.

GMV tracks everything that is transacted during a certain period (shipping costs, duties costs, customer purchases, value-added taxes, cancellations and return orders, and so on), so it only serves as a gross overview of the performance of the company. However, it can be possible to measure this value to something more concrete, and this is where the Net Transaction Value (NTV) steps in. The NTV records the value of merchandise sold over a given period as well, but, this time, without considering cancellations or returns orders. It can also be more drilled-down, by deducting the fees or expenses, until it measures the Net Sales. The NTV itself is closer to a revenue analysis than GMV. Additionally, there can be an intermediate between the metrics, which is called Actual Transacted Value (ATV), which is the same as GMV but it subtracts cancelled orders from its amount. The formula for each metric is shown below.

$$GMV = Orders \quad (2)$$

$$ATV = Orders - Cancellations \quad (3)$$

$$NTV = Orders - Cancellations - Returns \quad (4)$$

3.3.4 Delivered Contribution per Order (DCO)

Also known as contribution margin, DCO tends to look at the price of the items and compare it to the costs that are inherent to its creation, as seen in formula (5). Therefore, it is a metric that takes the selling price of the units and subtracts the variable cost per unit. It represents the portion of sales revenue that is not consumed by variable costs and contributes to the coverage of the fixed costs.

This is an important financial KPI since it is one of the most important metric when it comes to building a break-even analysis. Moreover, it can be used as a measure of operating leverage – understanding how growth in sales translates to growth in profits. Operationally speaking, this will be one of the most important KPI's to address on the profitability report to be done in B&W, since there are a lot of brands and, therefore, a lot of specific variable costs.

$$DCO = \frac{Unit\ Contribution\ Margin}{Item\ Price} = \frac{Total\ Contribution\ Margin}{Total\ Revenue} \quad (5)$$

3.3.5 Net Promoter Score (NPS)

The NPS is a management tool metric used to measure the customer loyalty and their level of satisfaction. In case of B&W, this metric is not calculated since there is no feedback form sent to the customers.

3.3.6 Profit Levers

Although the aforementioned KPIs contribute to analyse profitability directly or indirectly, this segment sums up the important milestones of the company. For Farfetch, the three measures considered are NTV, Cost-to-Serve and Control Costs. For each lever, there is a certain desired target to reach. Just as described in section 3.3.3, NTV is an important measure that can impact profitability since it is close to the real revenue received.

Reduce Cost-to-Serve

As mentioned above, Farfetch commits itself to bringing the most enjoyable experience to the customer. However, as expected, this leads to the need of supervising the costs that might come from adopting this policy – hence the cost-to-serve target. Cost-to-serve is a process-driven financial measure that calculates the profitability of a customer, based on the actual business activities and overhead costs. It builds up a kind of cost profile of customers. This focuses on aggregate analysis around a blend of cost drivers.

Control Costs

Finally, one way to increase profits can be through maintaining costs, or even decreasing them. As the title says, this KPI is solely focused on determining all the costs that affect the

business, and is also related to the Cost-to-Serve measure. The costs comprise all the categories included in all departments, namely Operations, Integrations, Partner Service, Customer Service and so on. All the categorized fixed and variable costs will be considered in this KPI. Having this measure, it is possible to see, over time, how the costs are developing and, more importantly, see if the company is growing on efficiency. This will also be an important KPI to consider on the B&W business.

With this background connection between Farfetch and B&W, it is now possible to understand the B&W Operations structure by identifying current revenues and costs.

3.4 B&W Operational Revenue Model

In this section, B&W revenue model will be presented as it is. This model is focused on standard commissions and also adjustments (which can result in either gains or costs) that are made to calculate the final revenue charges. Some titles shown will be explained to help understand the intricacies of B&W business. The revenue layout can be seen in Table 7.

Table 7 – Effective commission and adjustments applied by Farfetch and B&W

Balance	Title
+	Effective Commission
+ / -	Marketing / Discounts Co-Payment
+ / -	Partner Contribution on Order Shipping
+ / -	Special Payments

3.4.1 Effective Commission and Fees

As aforementioned, B&W is based essentially on a sales commission model – consider the sales price or fixed price of the item sold and multiply by the commission percentage (CP). This is usually called Effective Commission (EC), calculated as shown below.

$$EC = Item\ Price * CP \tag{6}$$

Since B&W deals with different brands, the formula to calculate the effective commission can be extended to different approaches and not only the value of sales itself. Therefore, the percentage given for the commission can be changed depending on factors such as (Table 9):

- **Duties/Promocodes included** – Just as traditional commission sale, but summing up the value of duties and/or promo codes paid;

$$Total\ Commission = EC + Duties * CP + Promo\ Codes * CP \tag{7}$$

- **Cancellation/Return threshold** – The defined CP can vary depending on the level of the sub-threshold (ST) or above-threshold (AT) agreed upon. For example, if the return/cancellation value rate is above 20% of the aggregated item prices (AIP), then the percentage changes.

$$CP = \begin{cases} \text{If } \sum Refunds > \% AT\ AIP \text{ then } x \\ \text{If } \sum Refunds < \% ST\ AIP \text{ then } y \\ Else\ CP \end{cases}, \forall x, y \in [0,1] \tag{8}$$

- **Commission per stock point** – The commission will depend on the stock point (store) origin. For example, for a certain brand, all the sales that come from US stores have a different CP applied.

Table 8 – CP per stock point

Brand A	Country	CP
Store 1	UK	x
Store 2	UK	x
Store 3	US	y

- **Commission sale over refunds** – The commission is applied not only for orders but also refunds (cancellations and/or returns).

Depending on the model, the corresponding percentage is considered to calculate the final commission amount (Table 9).

Table 9 – Commission percentage layout example

Brand	Orders	Cancellations	Returns	Duties	Promo Codes	Above threshold	Sub threshold
A	15%	0	15%	0	15%	0	0
B	5%	0	0	20%	0	0	0
C	20%	0	0	0	0	10%	30%
D	16%	16%	0	0	0	0	0

However, this is not the only source of revenue. There is also a development fee, which is a fixed amount that is paid to help B&W with the technological support over the website. Furthermore, there is a marketing fee in case the brand partner wants help with digital marketing. Since this project is solely focused on an Operation perspective, both fees won't be considered as a revenue for the proposed model.

3.4.2 Discounts Co-Payments

Discounts Co-Payments (DCP) corresponds to the accumulated value of promo codes used on transactions. These promotion codes are tickets that can be redeemed by the customers for a (financial) discount when purchasing products. The original price of the product is reduced by the discount made. This can either represent a cost for the partner involved or for B&W. The difference between what it weighs as a cost to the partner and the actual promotion code discount is what determines whether it is the partner that needs its cost reverted (negative value) or B&W.

3.4.3 Partner Shipping Contribution

Intrinsically related to the shipping subsidy, Partner Shipping Contribution (PSC) represents promoted shipping campaigns that were supported by the partners. A shipping discount is offered to the final customer and can be fully supported by Farfetch or split with the Partner. This also applies for B&W.

3.4.4 Special Payments

Special Payments (SP) relates to corrections to charges or credits to the partner that can occur in specific situations. The special payments are known as sporadic refunds made as a compensation to the customer – for example, Price Matching. On a certain day, a customer buys an item for \$200. The next day, the customer, involuntarily, searches the same item and sees it now has a discount of 50% on the price, costing \$100.

The customer then calls the brand saying that he paid more when he could have waited a day. In order to satisfy the customer, a special payment is processed – in this case, a refund of \$100 to the customer. These payments are, basically, customer compensations.

3.5 B&W Operational Costs Structure

Understanding the fulfilment process is just the tip of the iceberg. Having a deeper insight over each step can lead to vital costs for B&W, as shown in Figure 7. This section will identify the most important costs for the company, in order to help with defining the best allocation and categorization system, which is discussed later in section 4.2.

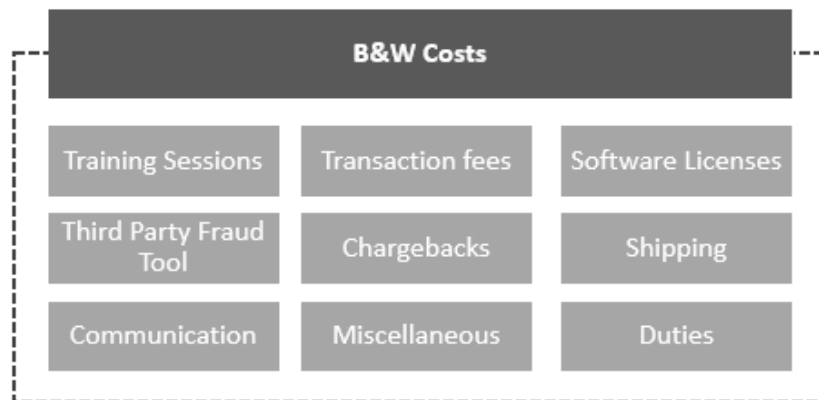


Figure 7 – B&W Operational Costs

3.5.1 Transaction fees

Starting from the beginning of the value chain, when an order is placed, there will be an inherent transaction fee that will be multiplied by the value of the order, as shown in equation (9).

$$\text{Transaction fee} = \text{Order total amount} * \text{transaction percentage} \quad (9)$$

Depending on the method chosen, the fee is relative to the costs of the process between the responsible agents, passing through different unknown intermediates that charge the chosen fee. As a result of this process, there is a cost that B&W has to support, one expected to have a huge influence over the operational performance, since it is tied to daily orders.

Table 10 - Payment fees layout

Payment Provider	Currency	Fee	Payment Provider	Currency	Fee	Payment Provider	Currency	Fee
AA	GBP	1,90%	BB	All	1,00%	CC	JPY	2,00%
AA	EUR	2,00%	CC	GBP	3,50%	CC	AUD	1,50%

As shown in Table 10, the payment methods offered to the customer can vary a lot. For each payment provider, there is a certain fixed fee that is taken for each payment.

It is also important to note that the fee can depend on the currency chosen, in some cases. For example, if the customer pays in GBP, the fee that he pays will be different from a customer that pays in Euros, to balance the exchange rates available.

3.5.2 Third Party Fraud Tool

Approve a payment may sound easy, but there is a thorough process with a lot of steps that need to be approved in order to call the payment non-fraudulent. As it can be seen in Figure 8, if the Fraud team has doubts on approving a certain order, it has to undergo a verification analysis.

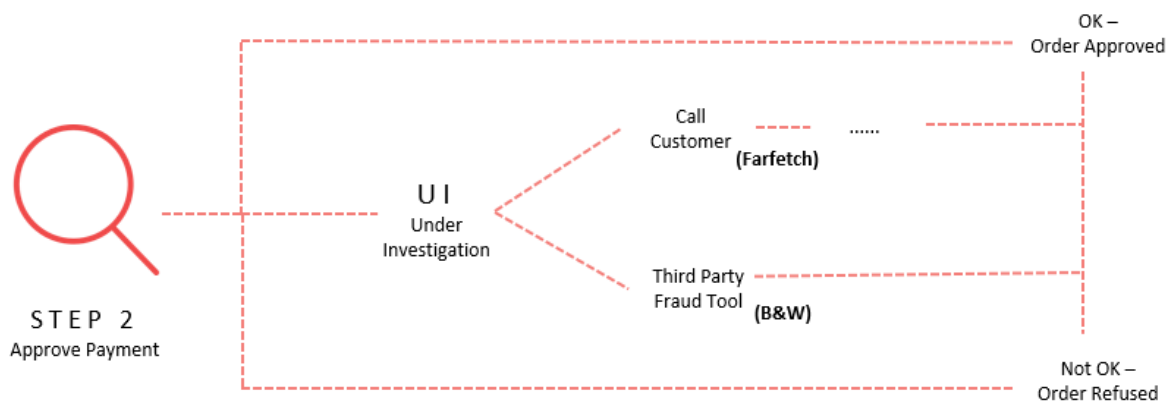


Figure 8 - Approve payment workflow

If the order comes from the Farfetch platform, since the Fraud Team is from Farfetch, the customer is called and approached to verify the information that was given (for example, the proof of billing is asked for). However, if we consider an order from the B&W portal, the case is not the same. The Fraud Team still has the responsibility to verify all the payments but, if they have doubts, they cannot call the customer. This is so because they cannot tell the customer that they are from Farfetch when they see the number. Therefore, this is where Fraud Tool steps in as a secondary agent of fraudulent order detector.

Third Party Fraud Tool (TPFT) is an external tool that possesses technology to detect fraudulent orders and also guarantee insurance over chargebacks (which are explained in section 3.5.3). When the order is sent to TPFT, the order will be analysed and one of two answers comes out:

- **Accept payment** – TPFT confirms that the order is not fraudulent and, consequently, this comes as a cost for the company. A fixed percentage is applied over the total amount of the order. In case the order comes back as chargeback, TPFT takes full responsibility and the company is relieved from that additional cost;
- **Reject payment** – The order is fraudulent and the Fraud team is recommended to reject it. In this case, TPFT will not take any commission over the order and, consequently, there is no cost.

3.5.3 Chargebacks

On a daily basis, there can be countless orders placed by customers, and it can be hard to control all of them in a companies' perspective. Some of these might be the result of a mischief, constituting a fraudulent order that might not be noticeable at first and was made with the credentials of another user without consent. It takes a long time for the theft victim to

realise that a fraudulent transaction has occurred. The alarm for this is commonly raised by the legitimate owner who notices a transaction in his bank statement that was not his doing. After this, the customer places a complaint on that transaction, which will originate what is called chargebacks. Depending on how the case goes, this may have a closure only after quite a while. In other words, this chargeback consists in a refund of the total value of the order of the client, which is a cost for B&W. However, the tide can turn depending on how the defence over the chargeback goes. If the company proves that it wasn't their fault, then the chargeback can be reversed and the company does not have to pay for it. Another factor that must be mentioned is the TPFT tool (described in section 3.5.2). If the customer made the purchase, and the payment was accepted by TPFT and later on came back as a chargeback, then TPFT takes full responsibility of the cost and the chargeback does not revert to the company.

3.5.4 Communication costs

One of the most important part of the business is to listen to what the customer has to say. In order to keep the service quality on an excellent level, it is essential to provide a good customer support. Because of the ever-increasing numbers and customer support services provided by the company, the costs that come from communication will be large as well. This category includes the cost of the phone calls. This cost can be divided into a fixed quantity – which is paid on a monthly basis – and variable costs (cost per minute). The accounting of these costs will depend on if the calls are either inbound or outbound. On the one hand, inbound means that the call comes from outside (the client calls CS). Outbound, on the other hand, means the CS agent takes the initiative and calls the customer. This cost also depends on the countries of origin or destination, and also on the number type (if it is a mobile phone the price will be different from a landline). The intricacies of these costs are delineated on Table 11.

Table 11 - Outbound and Inbound prices

<i>Country</i>	<i>Number type</i>	<i>Number categorization</i>	<i>Price number/month</i>	<i>Price number/minute</i>
<i>AAA</i>	Inbound	National	£3,00	£2,00
<i>BBB</i>	Outbound	Toll Free	0	£4,50
<i>CCC</i>	Outbound	National	0	0
<i>DDD</i>	Inbound	Local	£0,00	£1,00

3.5.5 Training Sessions

B&W is currently present in over various places throughout the globe. The main offices are in Portugal, United Kingdom and United States. Even if the technology is ever growing and everyone can be connected digitally, there is still the necessity to gather the people together in one place to put things in order. For example, the United Kingdom office is mainly composed by people that work in the customer service department. When these people need to undergo a training session (for example, test out new releases on the order management system software), some people have to move from one office to another. The travelling expenses from one country to another for trainings create costs for the company. These costs can be easily dimensioned in four categories, namely traveling tickets (mostly airplane tickets), hotel, meal and transportation expenses. Sometimes it is not possible to get the real amount paid for a training session, so, for those cases, this is estimated through an internal model that calculates prices for each category depending on the country of destination and the number of nights spent.

3.5.6 Software Licenses

The software licenses are all external programs that are used for various purposes. In a software license agreement, there is a legal contract between the licensor and B&W to establish its purchaser rights. For each software used there are different types of costs, which can be seen over

Table 12.

Table 12 – Type of costs available for each software

<i>Software</i>	<i>Entry Cost</i>	<i>Fixed cost</i>	<i>Variable Cost</i>
<i>Software T</i>	X	X	-
<i>Software Z</i>	-	X	.
<i>Software C</i>	-	X	X
<i>Software M</i>	-	X	-

For B&W, the licenses used are:

- **Software T** – A software that focuses on interactive data visualization. This is mostly used to create ad hoc reports, data analysis and forecasts, automating them through BI interface. This software presents a one-time entry cost whenever an account is created, followed by an annual maintenance fixed cost. There can be exclusive discounts for the prices practiced;
- **Software Z** – Provides a cloud-based service support platform which allows quicker and easier interaction between businesses and customers. It works as a ticketing platform where companies can handle customers' emails. It also comes with full integration to the websites' contact form. This is another fixed cost for the company, paid on a monthly basis;
- **Software C** – This software is a provider of contact centre solutions and omnichannel services available in cloud models. This software provides the existence of phone calls, which was described earlier in section 3.5.4. Apart from its variable cost, the affiliation to this software also brings a monthly fee that B&W must pay;
- **Software M** – This is a workforce management tool that incorporates forecasting, scheduling and adherence to optimize the workforce resources. Despite being an analytical tool, it serves mostly to schedule the agents' worktime, according to the service and efficiency required, measuring both workforce and performance. Just like the other softwares, this also has a monthly cost.

3.5.7 Shipping

Shipping should take a big role in businesses like Farfetch and B&W. Since this is part of the fulfilment process described in section 3.1.1, it affects the customer's experience for the most part. This cost mostly comes from the agreements that are done with the couriers. For each of them are defined different prices depending on the service type and route origin and destination. Although this may be treated as a one hundred percent cost, it is not as simple as it seems. Although B&W has an agreement with the couriers, the brands have the final word deciding the shipping costs that the customers must pay when they purchase items. This leads to a different analysis in the costs: understanding the difference between what the brand defines as a shipping cost and what is charged by the couriers. This can result in either revenue or just break-even costs. Therefore, for B&W, shipping only represents a momentarily cost because the company pays up the shipping costs on an operational daily

basis. By the end of each month, the total amount left from the difference is sent to the brand so they can either pay what they owe or just receive it as profit. It's important to keep track of these costs because, when it comes to negotiating new contracts with brands interested in the business, shipping is usually a theme that is discussed thoroughly. Therefore, having a control over these costs can help see if the agreements with the couriers are balanced with the service level alignments.

3.5.8 Duties

Also closely related to shipping, there are duties. Depending on the product that the customer purchases, the country's customs agency determines the duty that is included in the shopping. Import duties is the amount that is charged whenever the shipment crosses international borders, and are imposed by the importing country's government. The way the duties is presented can take two forms: (i) Delivered Duties Paid (DDP) or; (ii) Delivered at Place (DAP). In case of DDP, the final price will include the value of the item, shipping and duties, whereas with DAP the duties that the client has to pay are not included in the final price. In the latter case, the client will receive a separate invoice to pay the respective duties to the courier separately. Farfetch and B&W have a supplier that provides an approximation duty rate by importing country and, in each of them, defined categories based on the item type.

Inside B&W business, it is important to mention the possible cost that comes from couriers that deliver out internationally. The paradigm here is that what the client pays as duties (whether already included or after invoiced) might not match what the courier charges as duties as well (depending on the custom's calculation). Due to the sensitivity of this process, it will be assumed that Duties is of partner's responsibility, but it will still be tracked for further developments in the future (section 5).

3.5.9 Miscellaneous costs

These costs are allocated to different departments that are not included in Operations, such as Office Management and Information Technologies, but are related to it. For B&W, those costs are:

- **Wages** – The payroll of the people that work in the company;
- **Rent** – Which refers to the value of the usage of the physical space that is paid each month;
- **Office equipment** – Corresponds to all the materials used on a daily basis, such as computers or telephones;
- **Transports** – Allocation of transportation costs between the company offices or for special events
- **Food & Beverages** – Costs that refer to meals provided to the employees.

4 Implemented Management Control

At the beginning of the project it was clear that implementing an efficient management control for the Operations Department was of the utmost importance. In order to achieve this objective, it was important to understand what was the current scenario and how the profits and losses were being accounted and controlled. This would help the integration of all company plans with ease, with a proper framework for the resource allocation and budgeting.

The project is thus defined by four main stages. It starts by creating a structured analytical accounting system through an overview of the structure of the company. This is followed by a thorough explanation of the activities that are related to the main process, as well as the definition of cost centres for each combination of activity and cost. After developing the costing model, it is essential to understand the profitability measures and indicators, which are built over the cost indicators that were defined previously. This is related to financial accountability, by constructing a Profit & Loss Statement. After developing this tool, reporting the data in dynamic dashboards will also be addressed, to define an operational summary. This allows tracking costs on a daily basis and identify patterns and opportunities to decrease them. Finally, after defining the budgeting and monitoring, it is made a specific study of a detected high cost - more specifically, the optimization of the number of agents in the Customer Service Department.

4.1 Data Collection

Concerning the first part of the project, it was indisputable that data would require a long period of time. Most of the brands inside B&W business had already initiated its partnership in 2017, so, respecting the initial annual fashion cycle, and to maintain comparison between brands, the data gathered starts in January until June 2017. As a result, the main data pieces created to foster this project come from various sources. Most of the data came from the database that is shared with Farfetch, using SQL language. As for the rest, it was filled in by a manual process of insertion. Nevertheless, the data collection played a big role in the beginning as it was a consuming activity for this project. Some data preparation was also required. This was due to the fact that database structure had to be dismantled to get the minimum possible data level (it was preferred to have daily records instead of cumulative data, or gathered data). The data gathered was then restructured using *Excel* and *Tableau*. *Excel* helped mostly on modelling and laying out the data initially and *Tableau* was more suitable to build further analysis and dashboards.

Following the information presented in section 3, the focus now is to clarify their calculations and the assumptions that were made throughout the project. It is also important to underline the fact that, due to confidentiality concerns, all the numerical information given hereinafter do not correspond to the real amounts and are only used for academic purposes. However, the proportionality and differences between them are guaranteed.

4.2 Costing System Approach

The overall objective of the new account model is to inform management about important details that might surge from the cost allocation. Thus, the costing model must fit the special issues and situations of B&W. It must cover typical project business and organisational transparency in terms of overhead costs.

4.2.1 Operations structure

Concerning the compilation of all important main processes for the company, it is essential to understand the structure of the area covered. Figure 9 shows the split hierarchical composition of the Operation's functionality. The Operations delivery and corporate functions are basically divided into two streams of activities and operations: (i) direct team and; (ii) supportive team. On the one hand, the Direct team is the unit that establishes direct contact with the customers, so their functions are customer-oriented. On the other hand, the Supportive team is composed by all the functions that support the daily operations. The highest lead-function in the team of Operations is the Managing Director, who is responsible for leading all the Departments. Immediately below there are Heads of Departments, each responsible for a certain area (in this case, there will be a Head for Operations Department). This Head is responsible for supervising the B&W dedicated teams and indirectly the Farfetch Operations Support Team, as mentioned in section 1.1.2. For a company to perform well, it is vital that all teams' functions work together.

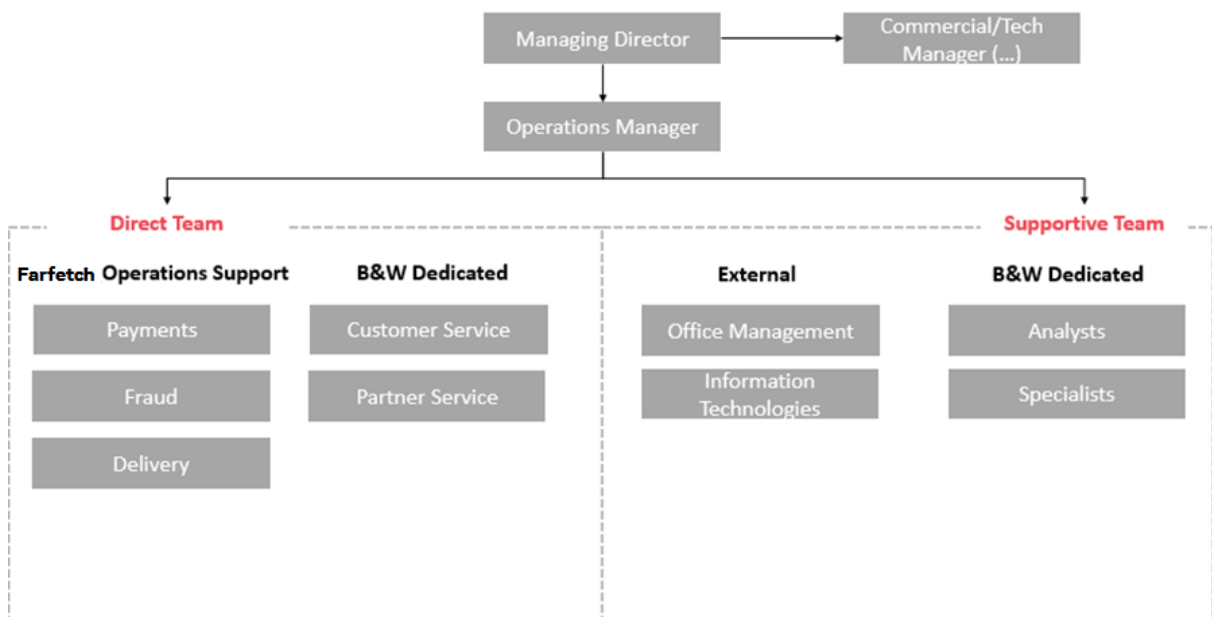


Figure 9 - Split of Operations Teams

As it can be seen in Figure 9, there are five direct teams: Payments, Delivery, Fraud, Customer Service and Partner Service. These define the operational side of the company. Nevertheless, there are other Teams within Operations that also contribute to the daily operations, but not directly. These comprise of Operations Analysts and Specialists, as well as external departments of Office Management and IT. For each team, it was necessary to study what their influence was over the main processes of the company, as well as the definition of their activities and operations broken down by function.

4.2.2 Costing model

Analysing this company, it is safe to say that B&W is considered a single brand producer, since its business revolves around serving its partners.

Therefore, the activity centres will start off by the brands individually and they will be the focus of the cost accounting solution. The solution assumed will be based on activity-based costing model (ABC) to cover all issues when allocating overheads. For the allocation of indirect costs, a system is needed that creates transparency and assists with understanding the cost drivers. Compared to other costing models, the ABC is useful for such allocation as it explains the generation of the cost allocation.

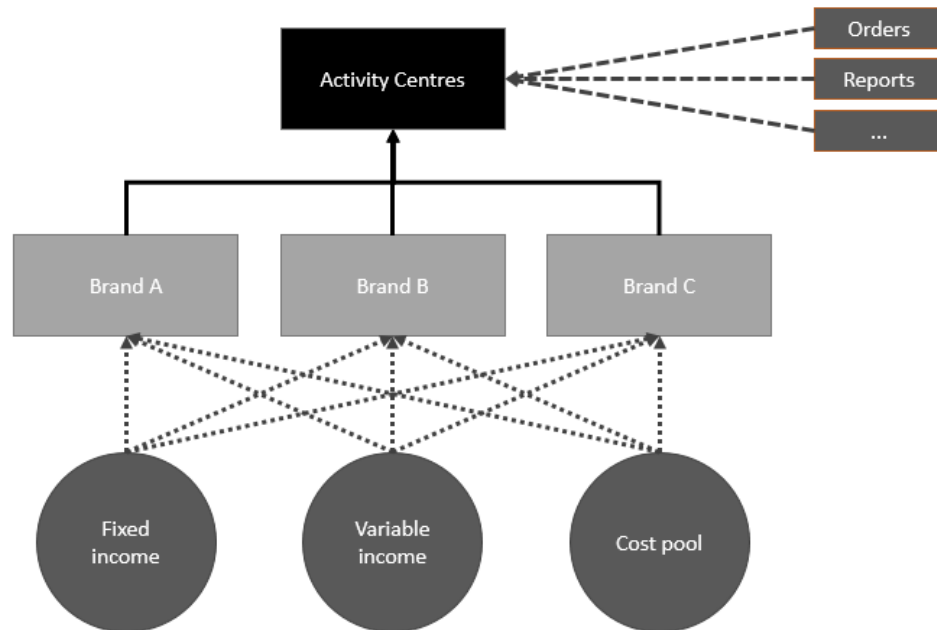


Figure 10 - Main brands activity centres and cost drivers' layout

As seen on Figure 10, it was necessary to conduct a four-step analysis: identify costly activities inside each cost centre, assign the correspondent overhead costs, identify the cost driver for each activity and calculate a predetermined overhead rate for each activity.

4.2.3 Activity identification

An important step in developing the new system was to identify the activity centres. These provided the basis for identifying homogeneous activities that can be directly related to a measure of output or a single cost driver. Within the value chain analysis, all activities need to be reengineered and dedicated to activities, as it can be seen in Table 13.

Table 13 - B&W teams' main activities

<i>Team</i>	<i>Activity</i>
<i>Business Analysts (BA)</i>	Reporting
<i>Operations Specialists (OS)</i>	Project Management
<i>Partner Service (PS)</i>	Brand Support
<i>Customer Service (CS)</i>	Customer Support
<i>Delivery (D)</i>	Delivery Procedures
<i>Fraud (F)</i>	Fraud Screening and Reviewing
<i>Payments (P)</i>	Acquirer and payment analysis

The BA team is mostly comprised of supportive processes, which are Data Analysis, Forecasts and Daily Reports. These activities focus on a simple area, denominated Reporting. Analysts focus on developing reports, whose requests can either be internal or from their partners. The OS main activity is Project Management. This involves brand supporting on a daily basis, simply by following their requirements.

Specialists are also responsible for guaranteeing the alignment between all the teams inside the department in order to manage the project. As for CS, this can include a lot of processes, such as In-Store Assistance, Transaction Processing and Handling Complaints. CS can either cover internal issues or, more importantly, external issues. The Payments team is responsible for analysing payments and the acquirers used. These analyses will reflect on how this team approves payments daily and how they can improve their processes by researching on the market for new acquirers and currencies. Delivery altogether is in charge of improving the delivery processes, which can include optimization of delivery times, product classification and so on. Finally, PS is focused on supporting the partners in the daily operations, such as resolving order processing queries, handling STORM issues or creating product categories.

4.2.4 Cost Assignment

With the activities previously defined, the conditions are met to allocate the costs and, consequently, identify the most appropriate cost drivers for each activity. The overview of the allocation process of specific team costs can be seen in Table 14, and miscellaneous costs are illustrated in Table 15.

Table 14 - Cost assignment to activities (specific costs)

Cost Centre	Activity	Cost Definition	Cost Driver
Payments	Acquirer and payment analysis	Transaction Fees	Number of portal orders
Business Analysts	Reporting	Software T	Number of accounts created
Delivery	Delivery Processes	Shipping	Courier charges
		Duties	Customs calculation
Partner Service	Brand Support	Training Session	Number of people
		Software Z	Number of tickets
Fraud	Fraud Screening and Reviwing	Chargeback	Number of faulty portal orders
		Third Party Fraud Tool	Number of doubtful portal orders
Customer Service	Customer Support	Training Session	Number of people
		Communication Costs	Phone call conditions
		Software Z	Number of tickets
		Software C	Number of phone calls
		Software M	Number of people
Operations Specialists	Project Management	Training Session	Number of people

Transaction Fees

This cost is tightly tied to the orders placed on a daily basis. The fee placed over the order is the main cost allocated to the Payments team. This constitutes a direct cost.

TPFT and Chargebacks

The TPFT, referred in section 3.5.2, is a tool used to analyse potential fraudulent orders. Therefore, this is a cost allocated directly to the Fraud team. Moreover, chargebacks, once again, are also part of the direct costs allocated to Fraud.

Communication Costs

As clear cut as it can be, this cost is going to be allocated directly to the CS team.

Training Sessions

Although training sessions are easily identified as a PS, CS and OS allocated costs, it is not as easy as it seems. Since it is an indirect cost, the number of people in each team is the cost driver in this case.

Software Licenses

Since this includes a lot of software variety, it is necessary to separate them through the various teams depending on their main activities. Software T is specifically allocated to BA's, since it is used purely for reporting. This cost is dependent on the number of accounts created in the software, and it is a direct cost. Moving on to Software Z, this is allocated to PS and CS teams, since they use them to exchange tickets. This cost is going to be divided indirectly into both teams depending on the number of tickets created. As for Software C, it is only used by CS team for calls. Therefore, it is also going to be a direct cost. Software C also applies the same rules – direct cost of CS.

Shipping and Duties

These costs are intertwined between them, since they refer to the same thing – delivery matters. Thus, they are direct costs of the Delivery team.

Miscellaneous Costs

Just as software licenses, this category includes a series of costs that are clearly overheads.

Table 15 - Miscellaneous allocation and cost drivers

Cost Centre	Activity	Cost Definition	Cost Driver
All	All	Wages	Number of people
		Rent	Area of desktops
		Office Management	Number of hardware components
		Transportation	Number of people
		Food & Beverages	Number of people

As shown in Table 15, these costs will apply for all the teams. Starting off with wages, the cost driver is the number of people allocated to a certain team. This cost driver also applies for transportation and food & beverages costs. The rent cost could also be applied to this cost driver. However, the most proper cost driver is the area in square meters that each desk occupies per person. This gives a more accurate and real cost allocation. To finish, the office equipment can be divided into two parts: telephone costs, which are allocated directly to CS, and computers, which is distributed indirectly by all teams. The latter cost driver is the number of hardware components each person has.

4.3 Profit and Loss Statement

The purpose of the P&L Statement is to measure the company's sales and expenses during a specific period. Consequently, with everything defined and allocated, the statement will help gather the B&W's revenues and subtract all expenses related to them, in order to come up with the Net Profit (NP) value of the company. It is important to underline the fact that P&L Statement always snapshots a listing of what has transpired during a certain period. In this case, the period is the same stated in section 4.1. The report is calculated in the GBP currency. The full structure can be seen on Appendix C: B&W Profit and Loss Statement.

Therefore, this section will focus on the four financial ratios that compose the shell of a P&L Statement – Net Sales, Gross Margin, Net Operating Profit and Net Profit.

Net Sales

This ratio gives the total sales subtracted by any allowances for returns and trade discounts, for the period chosen. The steps to calculate Net Sales (NS) can be seen over Table 16.

Table 16 - GMV to Net Sales drill-down

Balance	Title	Value
+	Gross Merchandising Value	£ 10000
-	Cancellations	£ 1000
+	Actual Merchandising Value (ATV)	£ 9000
-	Returns	£ 2000
+	Net Merchandising Value (NTV)	£ 7000
-	Duties (DDP)	£ 300
-	Sales Tax	£ 200
-	VAT	£ 100
+	NTV Without Tax	£ 6400
-	Shipping Value	£ 200
+	Net Sales	£ 6200

However, NS, in this case, would represent a theoretical value. Although it considers all the orders that were neither cancelled nor returned, and subtracted of all taxes and other margins, it shows the potential money transacted and not the real flow. Therefore, the Financial Net Sales (FNS) takes the same rationale behind this calculation, but considering a finance date: This date covers: (i) Send date – The moment when the order was shipped to the customer and it was not cancelled nor returned; (ii) Refund date –which registers the moment when the customer receives the money back from either cancellation or return. So, in NS point of view, an order can be cancelled (cancel date) or returned (return date) without it necessarily meaning that the customer was refunded.

Following the equation (10) it is possible to reach the FNS amount, which is based on NS but has other categorizations:

$$FNS = \text{Gross Sales} + \text{Adjustments} - \text{Refunds} - \text{Returns} - \text{Promo Codes} \quad (10)$$

Gross sales is equal to the amount that the customer paid for the items (already excluding shipping costs and duties), for all the orders shipped. Additionally, the tax values are subtracted to this amount. Taxes can either be Value-Added Tax (VAT), which is an

European tax, or US Sales Tax, exclusive for the United States. Both taxes are applied over the prices that the customer paid for the items.

After getting the real value of the items without taxes, refunds and returns that were done are then subtracted. Thus, finishing off with the value of promo codes (in case of a US sale, the promo code is subtracted before deducting the sales tax). The final value corresponds to the real sales value transacted during the period. The comparison between NS and FNS is important as section 4.4 later exposes.

In a normal company, this value would then be used to deduct the net profit later on. However, since this is a service provider, it is essential to calculate the commission over the FNS to obtain the real revenue that the company gets as revenue. This is going to be called Effective FNS (EFNS), resulting in the summation of the categories explained in section 3.4 and structured in Table 17 that represent the total revenue obtained.

Table 17 - EFNS structure calculation

Revenue	Jan	Feb	Mar	Apr	May	Jun	YTD
Effective Commission	£500	£400	£200	£100	£400	£500	£2100
Discounts Co-Payments	0	-£500	0	0	-£200	0	-£700
Partner Shipping Contribution	0	0	0	0	0	0	0
Special Payments	-£100	0	0	0	0	0	-£100
EFNS	£ 400	-£ 100	£ 200	£ 100	£ 200	£ 500	£ 1300

It would be simpler if the commission would only depend on FNS. However, as it was mentioned in section 3.4.1, not all the effective commissions are reserved for net shipped orders. This way, the EC value will depend on the characteristics of each brand's revenue model described in section 3.4.1. In the end, EFNS is the summation of all the revenue sources.

Cost of Goods Sold

This is also called the cost of sales. The direct costs that are attributable to the production of goods sold by the company are inserted in this category. Although this is a retail company, it is at the same time a service, and, thus, does not infer any cost of goods sold. Accordingly, in this particular case, the gross margin will be straightforwardly equal to EFNS.

Selling and Administrative Expenses

This type of expenses can be separated in two types: selling and administrative. Focusing on the selling expenses (SE), these usually account for expenses related to order taking and fulfilling. Thus, the expenses incurred can be direct or indirect to the sales. Therefore, the selling expenses will have a lot of different specifications. As it can be seen in Table 18, the costs described will be included in different departments and activities, but joined in one single category. These categories are the Transaction Fees, TPFT fee, Chargebacks, Communication Costs, Training Sessions, Software Licenses, Shipping (temporarily) and Duties.

Table 18 - Selling expenses

Revenue	Jan	Feb	Mar	Apr	May	Jun	YTD
Transaction fees	-£50	-£40	-£30	-£40	-£30	-£40	-£230,00
TPFT	-£50	0	0	0	0	0	-£50,00
Chargebacks	0	0	0	0	0	-£50	-£50,00
Communication	0	-£10	-£20	-£10	-£20	-£10	-£70,00
Training Sessions	0	0	0	0	0	-£10	-£10,00
Software Licenses	-£10	-£10	-£10	-£10	-£10	-£10	-£60,00
Shipping	-£10	-£10	-£10	-£10	-£10	-£10	-£60,00
Duties	-£10	-£10	-£10	-£10	-£10	-£10	-£60,00
Total SE	- £130,00	- £80,00	-£80,00	- £80,00	-£80,00	-£140,00	- £590,00

Regarding general and administrative expenses (AE), these compose all operating expenses that are not directly associated with the sale of goods. This means that, in this section, overhead expenses are included. Previously mentioned in Section 3.5.9, the general and administrative expenses are wages, rent, office equipment, food & beverages and transportation.

Table 19 - Administrative expenses

Revenue	Jan	Feb	Mar	Apr	May	Jun	YTD
Wages	-£10	-£10	-£10	-£10	-£10	-£10	£60,00
Rent	-£20	-£20	-£20	-£20	-£20	-£20	£120,00
Transportation	0	-£10	0	-£10	0	0	£20,00
Office Equipment	0	0	0	0	-£20	-£10	£30,00
Food & Beverages	-£5	-£5	-£5	-£5	-£5	-£5	£30,00
Total AE	-£35,00	-£45,00	-£35,00	-£45,00	-£55,00	-£45,00	-£260,00

After calculating all expenses, the Net Operating Profit (NOP) comes in. This is calculated by subtracting the selling and administrative expenses from the gross profit (in this case, EFNS), according to equation (11).

$$NOP = \text{Gross Profit} - \text{Selling and Administrative Expenses} \quad (11)$$

Net Profit

Finally, the Net Profit would dictate if the company is being profitable or not. The Net Profit is usually calculated by subtracting the federal income taxes from the estimated sales revenue amount. However, the EFNS was already calculated after deducting taxes, since the value of the commission has to be calculated without counting them. This means that, when assessing the real profitability of the company, the Net Operating Profit is equivalent to the Net Profit, since it already considers all the revenue that B&W receives and subtracts all the operational costs identified and taxes.

At the end of each month this detailed cost report is prepared. The report provides a detailed presentation of the direct costs and indirect costs incurred for each event order during the period chosen.

4.3.1 Brands Adapted Statement

This statement can be further adapted to the own nature of the company. Through the new designed and developed P&L model, it is possible to create a framework dedicated to each brand and not just the whole company itself. This gives a visibility over B&W clients, in order to analyse which are the main operational factors that need to be focused on. This is fundamental for developing a tool of client profitability analysis, which will consider each brands' own necessities and intrinsic business characteristics. This means that the Net Profit can vary depending on the brand chosen, which can bring many changes in the conclusions taken. All the revenues and expenses will be categorized the same way but specifically to the brand chosen. This is going to be important as it gives flexibility to the model to be able to reproduce to future brands.

4.4 Overall Reporting Model

At one glance, the creation of the P&L statement provides the overall summary of the most important activities for B&W. Compiled on a regular basis, the income statement will help evaluate and make adjustments to operations as desired. However, out of the growing need of the business, it was needed to join the financial and operational perspectives. This requirement leads to building executive reports flexible enough that, chosen a given period, show the performance of the company and, at the same time, relate to the financial status. Since the reports are to be used internally, it is important that they are defined according to reason and aligned with the strategy of the company. Thus, two types of reports were identified as fundamental to show the operational accounting and metrics, which are distinguished by the date that is considered. These reports are:

- Business Overview Report (BOR);
- Profitability Report (PR).

The BOR is focused on the development of the business in a broad sense. This report focuses on studying the drill-down from the gross merchandising value (it starts with all the orders that were transacted during the day) until the net sales (which counts the net orders stripped from everything else). This has a global overview since the date considered is the order date, so it means that it has a perspective of when the orders were placed and what potential outcome there could be if everything was fulfilled during that day. On the other hand, the PR will be the basis of the development described in section 4.2 and section 4.3, showing the revenues and costs and also the financial ratios utilized, either profitability or cost metrics. Both reports will be subjected to the same template, respecting both integrity and scalability of the reports, as well as not sacrificing any important information that is of their own nature.

4.4.1 Business Overview Report

This report will focus on resuming an overview for the company. The report can be divided in three parts: Filters, Metrics and Analysis. The full report can be seen on Appendix D: Business Overview Report.

Filters

This section is available to bring some variety analysis over the performance and metrics. The essential part is the date filter. The date filter allows to choose the year, quarter, month, week and day ranges. It is also possible to choose Month-to-Date (MTD) and Year-to-Date (YTD) periods, which are important to use over the metrics. The date chosen on this filter will

coincide with the order dates (the moment they were created). There is also a brand filter as well. This allows to choose all the brands together or target single brands in order to analyse the performance and metrics separately from the rest. This is an important filter since it will create the profitability brand report tool with ease. Finally, there is a filter that switches the parameters considered in some graphics over the performance area. This filter switches between considering number of orders or the value transacted (in GBP). Since this is a luxury business, one order can be worth a lot in GBP. This way, it is possible to have an overview of the number of orders and not neglect opportunities just by considering the value transacted during the chosen period. The layout of the filters can be seen in Figure 11.

Figure 11 - BOR filter composition

Metrics

As explained in Section 3.3, some metrics are already being considered on the Farfetch business, which are adapted to these internal reports and were constructed from scratch. These metrics are focused on Operations point of view and related to financial ratios that directly or indirectly influence the company's profitability. All the metrics are calculated in a MTD or YTD basis, and based on the date filter that is described in the filter section.

- **GMV**

Previously described in section 3.3.3, the GMV refers to the total sales volume transacting through the portal during a defined time. Although it does not represent the net sales, it serves as a starting point for other analyses. Since GMV includes everything, the value is then drilled-down according to the needs.

- **NTV**

Also mentioned in section 3.3.3, it is calculated with the same rationale as GMV but it does not include orders nor products that have been returned or cancelled in the meantime. This value is closer to the real value of Net Sales, but it still includes the shipping fees and duties that the customer paid, as well as the taxes.

- **Net Sales**

The Net Sales metric is calculated by taking the orders that were not cancelled or returned, subtracted the duties and shipping fees, as well as any tax paid and also promo codes used by the customer.

- **AOV**

The AOV is calculated as shown in section 3.3.2. There is also the Net AOV that is equal to the main metric, but, once again, does not consider the orders that have been cancelled or returned or any fees, taxes or discounts. This is at the same level as the net sales metric.

- **Conversion Rate (CR)**

Although this might seem a commercial metric, it is important to see how many customers that visit a certain website actually order. Since this is intimately related to the sales, it will be considered in this report for an overview. This metric is as shown in equation (12).

$$\text{Conversion Rate} = \frac{\text{Number of Orders}}{\text{Number of Visits}} \quad (12)$$

Analysis

The analysis will be separated into two segments. The first segment provides a detailed information of everything that is included inside the GMV. Inside this table, it is possible to see the values of each title for the period chosen. This table contains the same display as shown in Table 16. The first analysis aims to study how much of the NTV is represented in GMV. This means that the values are shown from GMV to NTV and then the relative difference between GMV and NTV is shown in the line. This is important to analyse, as the company can assess whether it is having too many cancellations or returns. Speaking of which, the second part is focused on these two parameters – returns and cancellations. It is scrutinized the values for all types of cancellations and also returns, whether it be in value or number of orders. As this report can be adapted to mono-brand analysis, it might be important to see inside each category which one registers higher values. After that, there is an analysis related to the CR metric. It shows the number of visits versus the number of orders over time. This analysis can be seen in Figure 12.

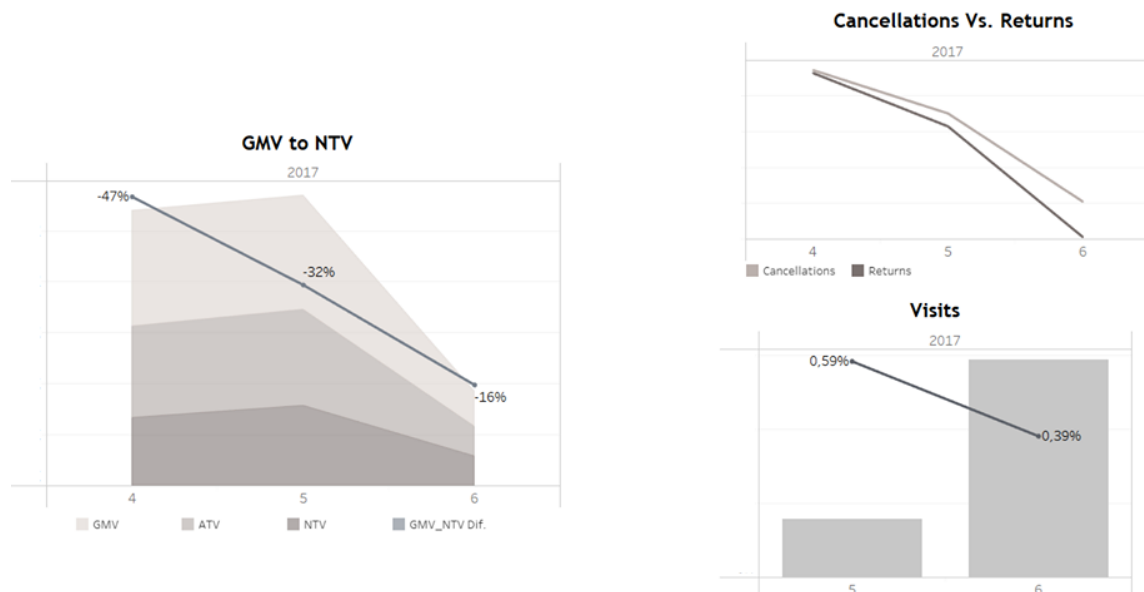


Figure 12 - Business Overview analysis graphics

4.4.2 Profitability Report

Considering what was done until now, the profitability report will sum up all the important financial ratios of the business and promote additional operation analysis over them.

Filters

The filters used are based on the ones used on BOR. In this case, the date filter depends on the financial date, as described in section 4.3. This date differs from the BOR since maintaining the real occurrence of the fulfilment process is a must when it comes to determining the real profits and losses in a financial point of view. There are other additional filters that are going to be specific for each report made in this section.

Metrics

The explanation of the metrics on section 3.3 will be considered here, to some extent. Moreover, more metrics are considered over this segment, in order to fully understand the profits and losses developments. Applying the same rule as before, all the metrics are calculated in a MTD or YTD basis and based on the financial date filter.

- **P&L Metrics**

As shown in section 4.3, these will be the main metrics that were calculated beforehand until reaching the Net Profit. Since the Gross Margin equals the Net Sales, this metric is irrelevant for the Report. The metrics used are the Net Sales and Net Profit.

- **Delivered Contribution per Order**

Also declared as cost-to-serve, this metric is calculated by exclusively subtracting the variable costs to the EFNS. This is to ensure how much margin is left to cover up for the fixed costs.

- **Cost-per-Person (CPP)**

This cost refers to the ratio between the costs allocated to a certain pool and the number of people in it. This parameter will have lots of variations due to the cost centre chosen.

- **Cost-per-Order (CPO)**

Also known as Cost-per-Acquisition, the formula for this KPI is described below. This sums up all the costs and divides it by the number of portal orders or boutique orders. This is an important KPI since it takes into account all the Operations processes and dictates whether it is important to focus on some costs or not. This can be dismantled to cost-per-order per department, as it can be important to analyse the cost of each department within the fulfilment process.

Analysis

The analysis breakdown is done in three parts, namely Profitability Result, Revenue Overview and Cost Overview. The Profitability Result, shown in Figure 13, will contain the model that was described in section 4.3, which changes dynamically depending on what the

user wants to see. The main goal of this dashboard is to rapidly see the NOP value of the whole B&W or to a specific brand. It is also possible to see the profits and costs value over time, as well as the costs allocated to the cost centres (there is a filter called “Drill-Down?” which allows the user to see the costs by cost centres or the titles of each cost).

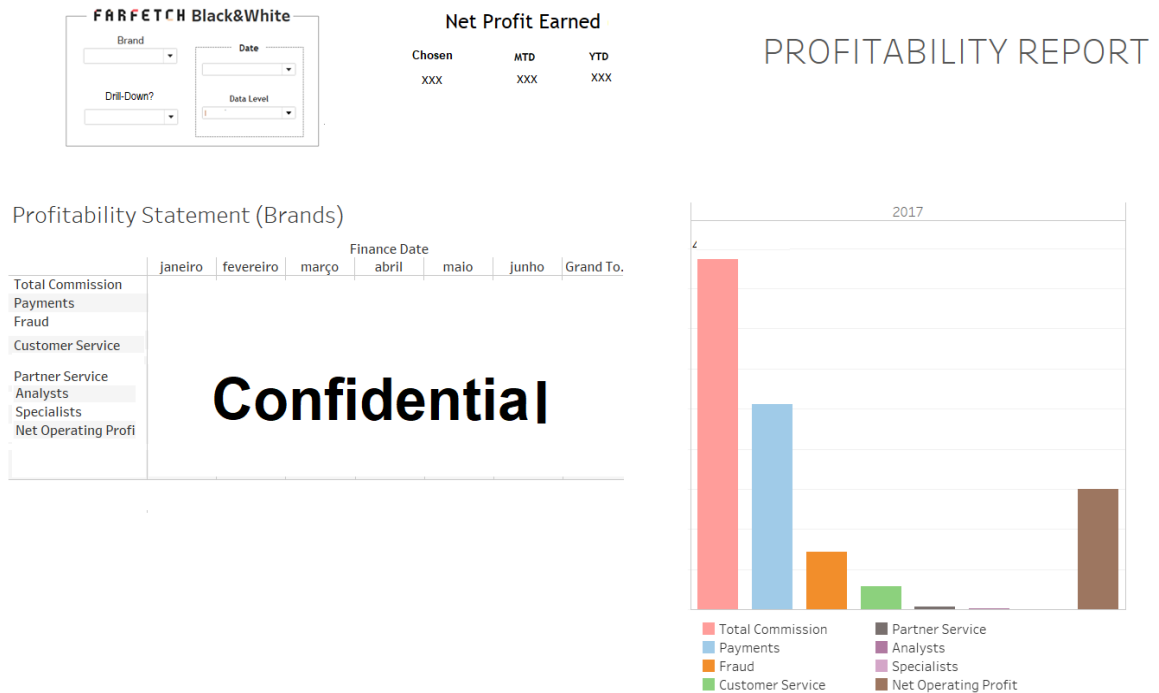


Figure 13 – Profitability Result analyses

For the revenue overview, the EFNS drill-down is shown. It is possible to quickly check how the commission is distributed and change its percentage. This is to let the user, in a faster way, change the values of the commission to test out what the outcome can be. There are also two types of analyses available (Figure 14). The first graphic evidences a relationship between the potential Net Sales versus the Real Net Sales. As mentioned before, the parameter that is different from both values is the date considered. The potential Net Sales shows what would be possible to make in a certain period if everything was decided promptly. This way, by calculating the percentage of how far the real Net Sales is from the perfect state can give an overview of how the processes can be improved in an operation performance level. The other graphic represents an analysis over order commission. Considering the most common situation, where the commission comes mostly from orders, this analysis records the total commission that B&W might have earned if the orders didn't result in cancellations or returns. This is also important to analyse how the order commission weighs out when comparing to others.

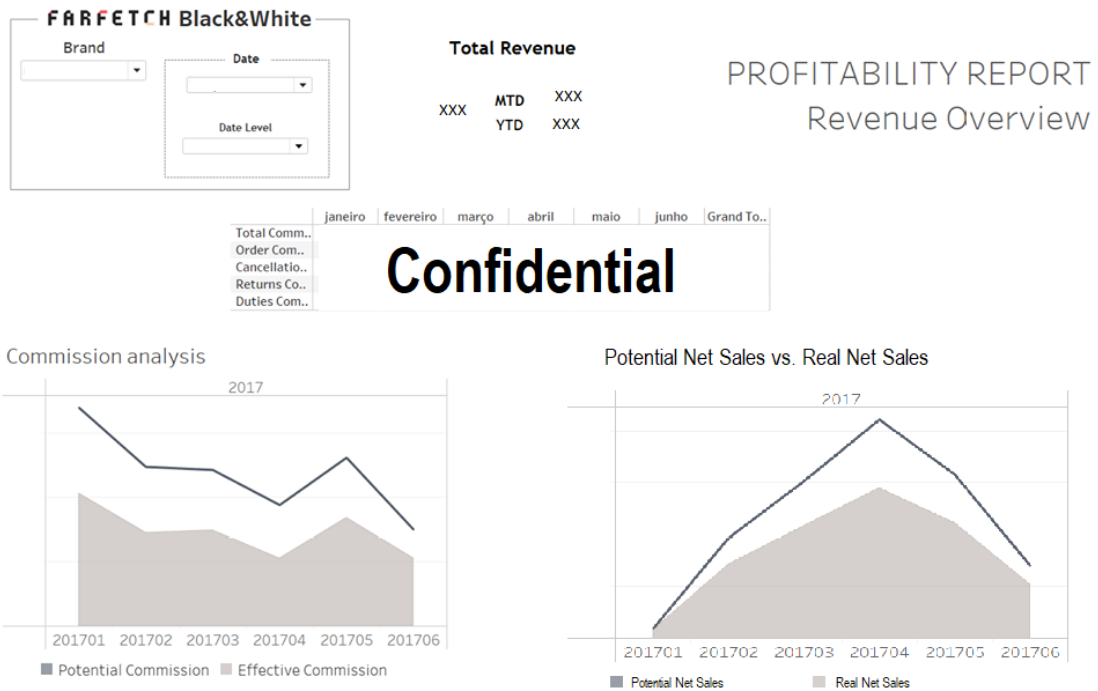


Figure 14 – Revenue Overview analyses

Finally, there is also the report focused on costs, which is the Costs Overview Report, partially shown in Figure 15. This allows the user to travel through the different operational costs and analyse them in the desired period. This report also allows the user to analyse the cost metrics over time. Moreover, in this report in particular, there is a filter called “Department” which enables the selection of the graphics according to the department chosen, which presents a dynamic choice.

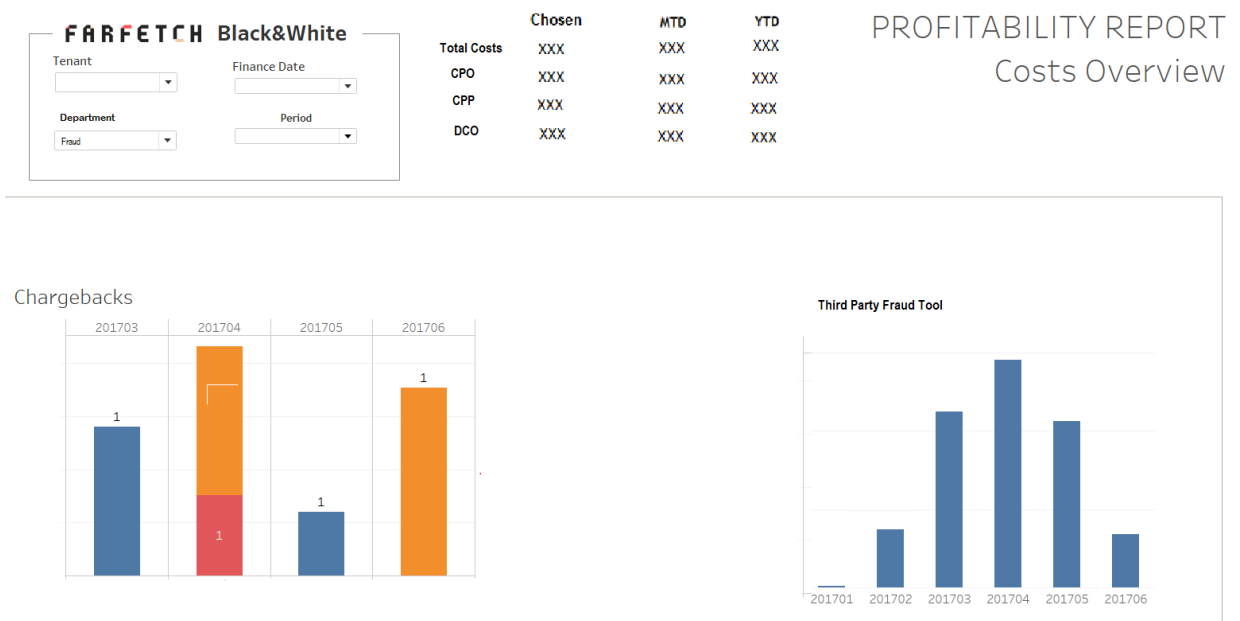


Figure 15 – Cost Overview analyses

4.5 Result benchmark

Since it was the first time these reports were defined and later executed, there was no available information regarding profits or costs for B&W. Therefore, it was now possible to track the performance of the company in terms of financial development. One of the interesting outcomes of this project was to compare B&W's with Farfetch performance. This is important since B&W is still a fresh business and needs some references that can define if the company is on the right track. For the metrics studied before, it will not be possible to compare the KPI's that include absolute values, since the maturity of B&W does not step up to what Farfetch is today. For that reason, it was decided to benchmark the percentual values between B&W and Farfetch. The developed PR also includes the Farfetch actual percentual values, so the comparison can be done quickly. This comparison was mostly focused on the CPO metric. It was possible to reach the conclusion that the CPO's values registered for B&W are not so far away from Farfetch's, as shown in Table 20. For some departments it is lower and in others higher, but mainly stabilized. The only outlier that was detected was the CPO for the Customer Service Department. The deviation of this value compared to Farfetch poses the necessity of further analysis. It was possible to see that the CPP was also high for this Department. Therefore, it was decided to study the CS department as a last phase of this study, in order to understand how it is possible to optimize the number of agents in this department.

Table 20 - CPO benchmark values

Company	Customer Service	Partner Service	Payments	Fraud
Farfetch	3,57	1,22	2,4	3,2
B&W	4,2	1,3	2	3,3
Difference	42%	6%	-20%	3%

4.6 Customer Service Agents Optimization

The importance of this project relies on implementing an effective future management control over the profits and losses, in order to track and improve the profitability of the company and, consequently, make it grow. This constant tracking might lead to critical points that can be analysed in depth to study the potential impact it can have over profitability.

In this case, it was decided to broaden the analysis over Customer Service. With an increasing number of services provided by the Customer Service, its complexity is ever growing. This growth is naturally accompanied by the increase in the orders placed per day. Thus, this means more customers to deal with. Therefore, it is fundamental to build up the service quality to reach an excellent level.

Staffing levels are critical to keep a desired service level alignment - specially for CS, since the customers are the basis of any business. The developed tool will be able to quantify the impact of this logic and optimize the staff levels depending on the necessities that each brand has. The model itself aims to study the volume of each ticket created, their time to process (either phone call or e-mail) and time needed to resolve them. In the end, this will help determine the average number of staff required for the given volume.

4.6.1 CS Flow Design

It is essential to firstly understand how the call flow model is structured to analyse how it can affect the costs. As of this moment, the team of customer service is mainly based in the

United Kingdom (UK) and the United States (US), as seen in Table 21. Both these teams have English and French languages (although the necessity of increasing the number of spoken languages is growing). This dispersion of agents around the globe is due to two main reasons – the very different time zones around the globe and the availability of Customer Service agents, within regular working hours.

Table 21 - B&W phone lines structure

City	Headcount	Working time	Timezone	Languages
London (UK)	14	9:00h – 18:00h	GMT +0	English and French
Los Angeles (US)	20	9:00h – 18:00h	GMT -7	English

CS agents are also allocated depending on the brand partners. This means that there can be mono-brand agents, or agents allocated to multiple brands. The agent must modify their approach according to the brand they are allocated to, but always keeping in mind that the customer must leave with a decisive answer and satisfied. The phone numbers are independent for each brand.

Software Z and Software C are the drivers of all the customer service process. When a certain contact comes from email, the process is initiated in Software Z automatically. It can also come as an email through the contact form that is present in each brand’s specific websites. In case of a phone call, the agent must create a ticket manually at the end of the call, filling in the spaces with the information needed. Furthermore, the tickets can also come from internal needs, as the internal teams can use the software to communicate internally.

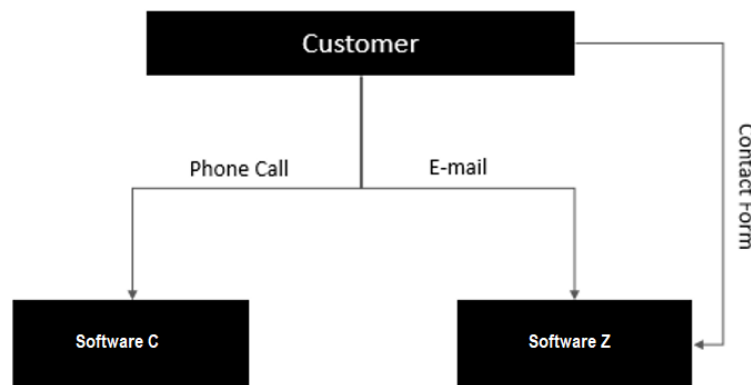


Figure 16 - Customer Service workflow

Having the process layout defined, it is now necessary to understand how each channel works, namely phone calls and emails, which is discussed in the following segment.

4.6.2 Direct Labour Requirements

The anticipated load for each submission channel depends on the labour required to process them and resolve them. Therefore, it is vital to understand how the channels work.

E-mail and Contact Form

These two channels can be mapped together as they are linked through the integrated Software Z. The contact form can normally be found under the “Contact Us” on the website.

Every e-mail or contact form is received on the tickets platform, generating what is called new ticket. This ticket is then filled with messages exchanged between CS and the customer, or between CS and internal teams, namely the couriers, Partner Service, Production, Refunds Team, Order Support and Boutiques. Depending on the category of the ticket, once the matter is solved, the agent is responsible for filling in some information fields to register the ticket in the database, generating their records. However, before reaching any closure, there are different statuses that a ticket can go through:

- **New** – The ticket is not yet assigned to any agent, waiting to be picked up by a CS agent;
- **Pending** – Corresponds to tickets that are not solved because the agent is waiting for the external response;
- **On-Hold** – Tickets that are also not yet solved because the CS agent was not able to decide on an internal answer to send;
- **Solved** – Tickets that are expected to have the messages exchanged ended since the situation is solved;
- **Open** – Tickets that are waiting for the CS agent to answer;
- **Closed** – Solved tickets that are closed automatically after 30 days. It is not possible to change any definition on this ticket once it is closed.

It was now vital to calculate two types of direct labour requirements: Resolution Time (RT) and Unsolved Time (UT). The RT is, therefore, the total time taken (in hours) to solve tickets.

$$RT = \sum Time\ Tickets\ Solved + Time\ Tickets\ Closed \quad (13)$$

Consequently, the total time for unsolved tickets will result in the summation of tickets that were not solved neither closed yet. The total required time sums up both titles, as seen in Table 22.

Table 22 – Tickets resolution and unsolved times

Ticket Types	1st Quarter
Number of solved tickets	4000
Resolution Time	2711,3
Number of unsolved tickets	1500
Unsolved Time	1161,9
Total Required Ticket Time	550

Phone Calls

The phone calls provider records all the data related to calls, whether inbound or outbound. The difference between these two types of calls is its origin. Inbound calls take place when customers call CS through the phone number available on the website. Contrarywise, outbound calls are the ones where the CS agent calls the customer, when the contact is requested to clarify a specific subject. Some of the brands' websites show the time range when the agents are available to answer phone calls. The hours displayed on the website must be defined according to the possible availability of agents.

Just like with e-mails, there is also a RT and UT for phone calls, but this is more straightforward. The total RT of phone calls is composed by total inbound plus outbound that were successfully answered and solved (the call connected successfully and the problem was resolved). The UT total will just correspond to tickets from phone calls that are still ongoing and waiting to be solved. The table registering phone calls has the same structure as Table 22.

After calculating the time for both channels, the Total Required Time (TRT) will be the summation of all the RT and UT.

4.6.3 Potential Direct Labour Hours Available

This represents the potential hours that an agent has during work time. It is based on two perspectives: the theoretical time versus the real time (Table 23). The CS agents have to comply with 40 working hours during a week, and considering there are 52 weeks in a year, it is assumed that an agent works 2080 theoretical hours per year. Since this is not linear, the theoretical time will be affected by several factors, namely company holidays, vacations, sick leaves (when the agent cannot come to work for illness matters), training sessions and meetings. Subtracting these hours to the theoretical time it is possible to achieve the real and total potential time per agent per year (and also per month), that will be used to calculate the optimization rate of the agents as presented in the next section.

Table 23 – Potential Direct Labour Hours

Ticket Types	1st Semester
Hours per week per agent	40
Number of weeks	26
Theoretical hours/semester available	1040
Company Holidays	6
Vacations	20
Sick Days	5
Training Sessions	5
Meetings	2
Potential hours/agent/quarter	1002
Potential hours/agent/month	167

4.6.4 Utilization Rate

The level of service required for the agents determines an “appropriate” utilization rate (UR). This rate is a sensitive number as it reflects the capacity of each agent to deal with the various channels. The main objective here was to understand the real occupation of the agents. For that reason, the UR is demonstrated in equation (14),

$$Utilization\ Rate = \frac{Direct\ Labour\ Time}{Potential\ Time} \quad (14)$$

where the Direct Labour Time (DLT) is the part of the Potential Time (calculated beforehand) that the agents actually work with. It is important to underline the fact that the same agent can be allocated to different brands. Therefore, the number of agents is always higher or equal to the actual number of distinct agents. In order to take this multiple choice into the equation, the DLT is calculated according to the formula presented below,

$$Direct\ Labour\ Time = \frac{Total\ Required\ Time}{Number\ of\ agents} \quad (15)$$

where the number of agents depends on the mono-brand agents, or agents that are allocated to two brands (tier two, $N = 2$) or three brands (tier three, $N = 3$). For multiple agents, it is considered that their real time is divided by the number of brands they are allocated to. The calculation of the number of agents can be seen below.

$$\text{Number of agents} = \text{Number of distinct agents} + \frac{\text{Number of multiple agents}}{N} \quad (16)$$

This way, on the first iteration, the utilization rate for each of the brands was calculated, as seen in Table 24.

Table 24 – Initial iteration results

Brands	Number of distinct agents	Number of multiple agents (tier two)	Number of multiple agents (tier three)	TRT	DLT	UR
Brand A	7	2	0	1202,4	150,3	90%
Brand B	5	1	0	901,8	163,9	98%
Brand C	3	3	0	700,2	155,6	93%
Brand D	2	1	0	200,4	70,73	42%
Brand E	8	1	1	868,4	98,34	58%

It was possible to assess that most of the capacities of agents for each brand varied a lot. It was necessary to analyse what UR values truly meant for each one of the partners. According to a study made by Murtagh (1993), the optimum UR to start with is seventy percent. On the one hand, Murtagh (1993) states that utilization rates above eighty percent might cause long hold queues, high call-abandon rates, and low customer satisfaction. On the other hand, rates that figure below sixty percent can indicate an overstaffed operation and, consequently, underutilized workforce. Considering this assumption, it is possible to reach the gross staffing level. Various layouts were studied, in order to find the best UR value for each brand, one close enough to seventy percent. After some iterations, a different combination was reached regarding the optimum number of agents for each brand, considering there were no new agents or agents fired.

Table 25 – Agent possible optimization result

Brands	Number of distinct agents	Number of multiple agents (tier two)	Number of multiple agents (tier three)	TRT	DLT	UR
Brand A	9	1	0	1202,4	120,2	71%
Brand B	6	1	0	901,8	138,73	83%
Brand C	3	3	2	700,2	135,44	81%
Brand D	1	1	0	200,4	133,6	80%
Brand E	6	1	0	868,4	108,55	76%

The solution this tool provides shows that some agents could be allocated more efficiently. This kind of analysis is helpful in many ways. It can provide both operational and financial perspectives on the problem. The primary objective was to find the best UR value so that all customers' requests can be answered on time and perfectly. However, more restrictions might be added to this study in order to find an even better balance. For example, a certain brand might want only CS agents that can speak French allocated to its service. This would allow for a more segmented distribution of the agents. Another restriction might be the possibility of bonus rewards for agents who are allocated to more than one brand, for having extra work. This would affect costs directly and, therefore, change the scenario completely. There will always have a trade-off between the UR ratio and the cost expenditures. So, depending on the goal that the company wants to achieve, this model can be flexible enough to suffice either financial or operational perspectives.

5 Conclusions and Future Work

The launch of this newly fresh e-tailing business is not something built over a day. As the company starts its activities, its focus is to expand its business as much as it can in order to increase its revenue. As the company grows and reaches maturity phase, the objectives, vision and milestones of the company start to change. It starts being aware of its surroundings and begins analysing the best options that give the best outputs in the business. B&W was born out of a necessity of bringing multichannel e-commerce solution API's to luxury fashion brands, taking over some of the expertise from Farfetch. In order to thrive in the future, this service provider must measure how much they can actually help the brands. Out of the natural process of a growing business, the track of profits and costs started to get out of control. The aim of the project was to answer that need. The main objective was to define and implement a management control that was focused on creating the new accounting system for the Operations team, and to assign and categorize the costs. The fact that the costs were not being tracked resulted in potential losses that would be essential to study. Nevertheless, this would allow the subsequent structuring of profits and, thus, measure the profitability of the business through a Profit and Loss Statement. The new statement would then tell how the company is doing in terms of Operations daily basis, and, through the measurement of metrics, it would also be possible to analyse a cost in particular – in this case, it was chosen to analyse the CS department and study the optimization of the number of agents.

Since this project would start from scratch, the primary objective was to understand the business that is built around Operations daily work. Getting to know the structure of the Operations team was essential to start recognizing profits and costs. This came with a lot more ease through understanding the already existent expertise at Farfetch, but there was still a lot of data to prepare. Some of the data was already available, but other had to be entirely collected and stored manually. As a result of this, it was possible, at a first glance, to understand the fulfilment process at B&W and how it interacted with the various Operations Departments.

After that, it became crucial to assign costs to those same departments. This was the newly introduced concept in the company, called service accounting system, which allowed the creation of project costing models through brands. For each brand, there would be a part defined by revenue gains (studying how the layout of the commission is planned out) and also the assignment of direct costs and indirect costs to the different activities defined for each Department. This allowed for a more precise and quicker way to allocate costs efficiently and get to know all the aspects that are involved directly and indirectly in the fulfilment process.

Therefore, it was also important to analyse profit and losses altogether – which was the purpose of the Profit and Loss Statement. Produced on a regular basis, this was created to have a first glance of all the Operations Unit and see if it was being profitable or not. It was also possible to have this statement adapted to each brand, so it was possible to see which brands were profitable or not as well. The results have shown that almost all brands are being profitable, except for one which is explained by its low margin of commission percentage, associated with an overall low number of orders per day. In order to deeply study these cases,

it was necessary to not only assess this in a financial point of view, but also develop reports that could have an Operational insight over the defined finance metrics.

Hence the creation of the Business Overview Report and Profitability Report. The first one was a more globalized report focused on metrics that show the overall performance of the company taking into account the date when the fulfilment orders are created. This means this report only shows the potential growth that the company can have if everything were to happen in the period chosen. As the normal course of the company flows, the Profitability Report is the current statement of the Operations that reflects the actual dates of the orders as they happened, in order to account the true financial dates. For both reports are defined metrics that are benchmarked to Farfetch Operations – especially when it comes to cost-per-order metric. The integrity and scalability of the reports had to be consistent with B&W business and, at the same time, create opportunities to benchmark with Farfetch and establish targets to reach. According to the benchmark made, the cost-per-order over CS department in B&W presented a concerning value that had to be analysed further. This was done by creating a model that studies the optimization of the workforce over the CS department, allocating the right number of agents for each brand. The result of this allowed for the decrease of the cost metrics and, therefore, costs in general, getting closer to what Farfetch does today.

The purposed objectives of the project were accomplished, which was to build a Profit & Loss model considering the operational costs, which were assigned to relevant cost centres, thus, coming up with a cost per order model and taking into account the commission that B&W is getting from each brand.

Nevertheless, there is always work to be developed and that can improve the project itself. First, the way the data is collected and stored is not automatic yet, and it might have the need to be improved in terms of efficiency and organization. In the future, a database framework should be developed with all the data regarding the costs and profits which can be extracted in a flexible and faster way. Second, the report was only focused on the Operations team. Throughout its development phase and design, it was done in a way so that, in the future, it can be adapted to further teams that are included in B&W, namely Commercial and Tech Departments. As of now, the privileged detailed accounting system of Operations is important and can be scalable to the other areas as well. This way, it would be possible to have a more concrete idea of the actual Net Profit not only from Operations but from all the organization itself. Another future work would be to account the tests done by B&W when launching the brand. The constant interaction with the brand leads to testing orders and its services throughout the experimentation phase, even when the brand is already online. Most of the internal test costs are accounted altogether with the rest. So, it would be important to find a way to track these tests and understand the actual percentage of costs it represents. Another requirement that can be interesting to look further into is the analysis over the return rates. When a certain order is returned even before reaching the client (usually called return to origin), the value refunded to the client will include the total value he paid. This means that the duties that the client paid are returned, and B&W will not receive those duties back, resulting in a cost. Keeping track of this cost might be relevant as the returns make a big part of the business model of both Farfetch and B&W.

All in all, the future work for this project is well defined. In the short term, the most important task is to continue implementing and testing the proposed model and assess the results financially and operationally. The main objective is to develop a model that can be robust and at the same time complex, that can be drilled-down through various categories and know the true nature of profits and losses.

References

- Abtan, O, A Achille, JM Bellaiche, Y Kim, V Lui, A Mall, A Mei-Pochtler, and S Willersdorf. 2014. "Shock of the new chic: Dealing with new complexity in the business of luxury." *Boston, MA: The Boston Consulting Group*.
- Amed, Imran, Achim Berg, Leonie Brantberg, Saskia Herdrich, Jonathan Leon, and Robb Young. 2017. "The State of Fashion 2017." McKinsey&Company, accessed March 2017.
- Babad, Yair M, and Bala V Balachandran. 1993. "Cost driver optimization in activity-based costing." *Accounting review*:563-575.
- Baum, Markus B. 2013. "Design and development of a costing approach." In *Service Business Costing*, 74-92. Springer.
- Bin, Cao, and Ye Qiang. 2007. "B2C E-Commerce's Customer Relationship Management Based on the Long Tail." *Management Science and Engineering*, 2007. ICMSE 2007. International Conference on Management Science & Engineering (14th).
- Bjørn-Andersen, Niels, and Rina Hansen. 2011. "The adoption of Web 2.0 by luxury fashion brands." *KMIS & Conf-IRM International Conference 2011: Service Management and Innovation with Information technology*, Auckland.
- Bornia, Antonio Cezar. 2010. "Análise Gerencial de Custos: Aplicação em Empresas Modernas." In, ed Editora Atlas. São Paulo.
- Brun, Alessandro, Federico Caniato, Maria Caridi, Cecilia Castelli, Giovanni Miragliotta, Stefano Ronchi, Andrea Sianesi, and Gianluca Spina. 2008. "Logistics and supply chain management in luxury fashion retail: Empirical investigation of Italian firms." *International Journal of Production Economics*:554-570. doi: 10.1016/j.ijpe.2008.02.003.
- Callahan, Kevin R., Gary S. Stetz, and Lynne M. Brooks. 2007. "Project Management Accounting: Budgeting, Tracking and Reporting Costs and Profitability." In. Canada and Hoboken, New Jersey: John Wiley & Sons, Inc.
- Catena, Marco, Benjamin Durand-Servoingt, and Nathalie Remy. 2015. "Digital inside: Get wired for the ultimate luxury experience." *Mckinsey & Company*, accessed March.
- Choo, Ho Jung, Heekang Moon, Hyunsook Kim, and Namhee Yoon. 2012. "Luxury customer value." *Journal of Fashion Marketing and Management: An Internation Journal* 16 (1):81-101. doi: 10.1108/13612021211203041.
- Clark, Graham, Robert Johnston, and Michael Shulver. 2012. "Service Operation Management: Improving Service Delivery." In, ed Pearson: Pearson Education Limited.

- Clemons, Eric K., and Paul F. Nunes. 2011. "Carrying your long tail: Delighting your consumers and managing your operations." *Elsevier (Decision Support Systems)* (51):884-893. doi: 10.1016/j.dss.2011.02.007.
- Cooper, Robin, and Robert S Kaplan. 1992. "Activity-based systems: Measuring the costs of resource usage." *Accounting Horizons* 6 (3):1.
- Dearden, John. 1977. "Cost accounting comes to service industries." *Harvard business review* 56 (5):132-140.
- Deloitte. 2015. Global Powers of Luxury Goods 2015: Engaging the future luxury consumer.
- Doss, Farrell, and Tammy Robinson. 2013. "Luxury perceptions: luxury brand vs counterfeit for young US female consumers." *Journal of Fashion Marketing and Management: An International Journal* 17 (4):424-439. doi: 10.1108/JFMM-03-2013-0028.
- Du, Hongwei, Albert Lederer, and Jiming Wu. 2010. "Trust in Electronic Commerce: Definitions, Sources and Effects." In, ed Lee In. Hershey, PA, USA: IGI Global: Encyclopedia of E-Business Development and Management in the Global Economy.
- Durán, Orlando. 2004. "Engenharia de custos industriais." In, ed Passo Fundo: UPF Editora.
- Epsilon. 2014. The new face of luxury: Breaking down the myths and stereotypes of the luxury shopper. (March 2017).
- Evans, Cain. 2001. "An E-Strategy for Online E-Business." *Information Systems Management* 18 (4). doi: 10.1201/1078/43198.18.4.20010901/31461.2.
- Gardner, Mona J, and Lucille E Lammers. 1988. "Cost accounting in large banks." *Strategic Finance* 69 (10):34.
- Garrison, Ray H, Eric W Noreen, and Peter C Brewer. 2003. *Managerial accounting*: McGraw-Hill/Irwin New York.
- Gering, Michael. 1999. "Activity based costing and performance improvement." *MANAGEMENT ACCOUNTING-LONDON-* 77:24-25.
- Gray, Colin, and Salvatore Zappalà. 2006. "Impact of E-commerce on Consumers and Small Firms." *Social Science Computer Review (Ashgate Publishing)*:2. doi: 10.1177/0894439307304516.
- Hasty, Ronald W., and Iryna Pentina. 2009. "Effects of Multichannel Coordination and E-Commerce Outsourcing on Online Retail Performance." *Journal of Marketing Channels* 16 (4):359-374. doi: 10.1080/10466690903188021.
- Hines, Tony, and Margaret Bruce. 2007. "Fashion Marketing: Contemporary Issues." In, ed BH: Elsevier Ltd. (accessed March 2017).
- Hussain, Mostaque, and A Gunasekaran. 2001. "Activity-based cost management in financial services industry." *Managing Service Quality: An International Journal* 11 (3):213-226.
- Júnior, José Hernandez Perez, Luis Martins de Oliveira, and Rogério Guedes Costa. 1999. "Gestão Estratégica de Custos: Textos, Casos Práticos e Testes com Respostas." In, ed Editora Atlas.
- Kapferer, Jean-Noël, and Vincent Bastien. 2009. "The specificity of luxury management: Turning marketing upside down." *Journal of Brand Management* 16 (5-6):311-322. doi: 10.1057/bm.2008.51.
- Kaplan, Robert S, and Steven R Anderson. 2007. "The innovation of time-driven activity-based costing." *Journal of cost management* 21 (2):5-15.

- Ko, Eunju, and Carol M. Megehee. 2012. "Fashion marketing of luxury brands: Recent research issues and contributions." *Journal of Business Research*:1395-1398. doi: doi.org/10.1016/j.jbusres.2011.10.004.
- Kourdoughli, Aurélie, and Anne-Flore Maman Larraufie. 2014. "The e-semiotics of luxury." *Journal of Global Fashion Marketing: Bridging Fashion and Marketing* 5 (3):197-208. doi: 10.1080/20932685.2014.906120.
- Kubr, Milan. 2002. *Management consulting: A guide to the profession*: International Labour Organization.
- LaLonde, Bernard J, and Terrance L Pohlen. 1996. "Issues in supply chain costing." *The International Journal of Logistics Management* 7 (1):1-12.
- Lanen, William N, Shannon W Anderson, Michael W Maher, and David T Dearman. 2010. "Fundamentals of cost accounting." *Issues in Accounting Education* 25 (4):791-792.
- Lee, In. 2012. "B2C Online Consumer Behavior." *Electronic Commerce Management for Business Activities and Global Enterprises: Competitive Advantages*:166-201. doi: 10.4018/978-1-4666-1800-8.ch005.
- Mirescu, Silviu Vlad. 2010. "The premises and evolution of electronic commerce." *Journal of Knowledge Management, Economics and Information Technology*.
- Mohapatra, Sanjay. 2013. *E-commerce Strategy: Text and Cases*. 1 ed, *Springer Texts in Business and Economics*: Springer US.
- Mowen, Maryanne M, and Don R Hansen. 2011. *Introduction to cost accounting*: South-Western Learning Cengage.
- Murtagh, Steven J. 1993. "Staffing, Scheduling and Workforce Planning (Help Desk Institute)." In: Help Desk Institute (January 1, 1993).
- Niranjanamurthy, M., N. Kavyashree, Jagannath S., and Dharmendra Chahar DR. 2013. "Analysis of E-Commerce and M-Commerce: Advantages, Limitations and Security issues." *International Journal of Advanced Research in Computer and Communication Engineering* 2 (6):10.
- Okonkwo, Uché. 2007. Luxury fashion branding: trends, tactics, techniques. 1. doi:10.1007/978-0-230-59087-8.
- Okonkwo, Uché. 2009. "Sustaining the luxury brand on the Internet." *Journal of Brand Management*:302-310. doi: 10.1057/bm.2009.2.
- Pruzhansky, Vitaly. 2012. Luxury goods, vertical restraints and internet sales. *European Journal of Law and Economics* Accessed March, 2017. doi:10.1007/s10657-012-9335-2.
- Qin, Zheng, Yang Chang, Shundong Li, and Fengxiang Li. 2014. *E-commerce strategy*: Springer.
- Schneider, Gary P. 2015. "Electronic Commerce." In, ed Cengage Learning. Quinnipiac University (accessed March, 2017).
- Soliman, Mark T. 2008. "The use of DuPont analysis by market participants." *The Accounting Review* 83 (3):823-853.
- Straub, Detmar W. 2002. "Validating Instruments in MIS Research." *Management Information Systems Research Center, University of Minnesota* 13 (2).

- Sun, Fuquan, Ruixin Li, and Xiaoyu Zhao. 2015. "Big Data Era for Small and Medium-Sized Enterprise E-Commerce Outsourcing Problem." *Scientific Journal of E-Business* 4 (2):10-17.
- Tian, and Stewart. 2007. "History of E-commerce: Concepts, Trends and Challenges." In *Encyclopedia of E-Commerce, E-Government, and Mobile Commerce*, ed USA) Mehdi Khosrow-Pour (Information Resources Management Association: Idea Group REFERENCE (accessed March, 2017).
- Tynan, Caroline, Sally McKechnie, and Celine Chhuon. 2010. "Co-creating value for luxury brands." *Journal of Business Research* 63 (11):1156-1163.
- Viceconti, Paulo Eduardo V., and Silvério das Neves. 2010. "Contabilidade de custos: Um enfoque direto e objetivo." In, ed Walter Oliveira Teixeira Varejão and Ariane Alvares.
- Walters, Jeannie. 2016. "SXSW Spotlight: The conflict between digital democratization and luxury brands.". Retail Customer Experience, accessed March.
- Whitt, Sue Y, and Jerry D Whitt. 1988. "What Professional Services Firms Can Learn From Manufacturing." *Strategic Finance* 70 (5):39.
- Wielman, A. 2009. "Driving down cost." *L.: Nicholas Brealey Publishing*.
- Zeller, Thomas. 1990. "New investing and financing activity ratios from the statement of cash flows enhance traditional ratio analysis in assessing future cash flows." *Mid-Atlantic Journal of Business* 26 (2).
- Zhu, Kevin, and Kenneth L Kraemer. 2002. "E-commerce metrics for net-enhanced organizations: Assessing the value of e-commerce to firm performance in the manufacturing sector." *Information systems research* 13 (3):275-295.

Appendix A: Farfetch Profit and Loss Statement

Balance	Title	Value
+	Commissions	£ 8000
+ / -	Net Credit Card Charges	£ 200
+ / -	Net Packaging	(£ 500)
-	Net Shipping	£ 200
+ / -	Net Duties	£ 100
+ / -	Net Others	£ 100
Total	Gross Profit	£ 7700
-	Search	£ 500
-	Affiliates	£ 200
-	Display	£ 300
-	Promotions	£ 500
-	Other	£ 500
Sub Total	Online Marketing	£ 2000
-	Marketing Allocated	£ 1500
-	3rd Party Marketing	£ 2000
Total	Profit After Marketing	£ 2200
-	Production	£ 500
-	Customer Service	£ 200
-	Customer Compensation	£ 100
-	Account Management	£ 100
Sub Total	Semi-Variable Overheads	£ 900
Total	Profit after Semi Variable Overheads	£ 1300
+	Advertising Revenue	£ 3700
-	Gross Staff Costs (Tech)	£1000
-	Capitalized Staff Costs (Tech)	£ 500
-	Net Staff Costs (Tech)	£ 500
-	Staff Costs	£ 200
-	Marketing offline	£ 500

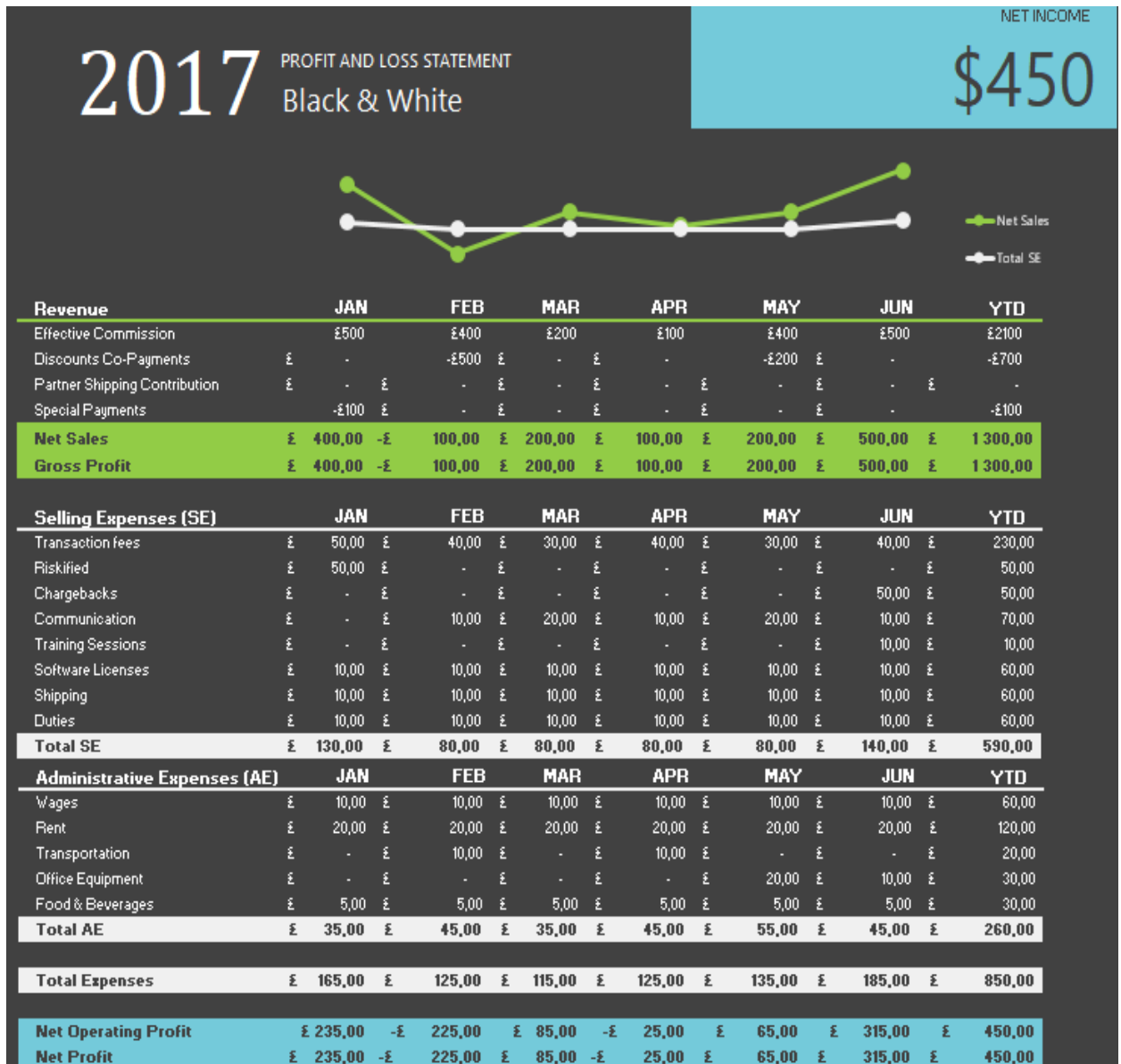
Development of a Profitability Report for a Luxury Fashion Service Provider

-	Office Costs	£ 300
-	IT Costs	£ 500
-	Capitalized IT Costs	£ 500
Sub Total	Fixed Overheads	£ 2500
+	Net Profit	£ 1500

Appendix B: E-commerce Overview Statement

Balance	Title	Value
+	Gross Merchandising Value	£ 10000
-	Cancellations	£ 1000
+	Actual Merchandising Value (ATV)	£ 9000
-	Returns	£ 2000
+	Net Merchandising Value (NTV)	£ 7000
-	Duties (DDP)	£ 300
-	Sales Tax	£ 200
-	VAT	£ 100
+	NTV Without Tax	£ 6400
-	Shipping Value	£ 200
-	Extra Margin	£ 100
+	Net Sales	£ 6100

Appendix C: B&W Profit and Loss Statement



Appendix D: Business Overview Report

