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Brand Portfolio Management in the Norwegian Brewing Industry

An assessment of external and internal factors influencing the brand portfolio management of large established breweries in Norway.

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Problem description

The thesis is twofold and aims to uncover how large established firms within the Norwegian brewing industry should assess external and internal factors affecting brand portfolio management in order to achieve a strong position in the market and maintain a successful brand management strategy. A survey consisting of 674 respondents constitute the consumer dimension of the thesis and is used to identify consumer demands in the industry. The results are applied to identify how the various factors of brand management; brand, market, business and consumers, relate to each other and how brand managers should align these to acquire a competitive advantage.

Preface

This paper constitutes the conclusion of the authors' M.Sc. degree in Industrial Economics and Technology Management at NTNU in Trondheim. The master thesis was written during the spring of 2018 and is the completion of the specialization within Strategy and International Business Development. The purpose of the study is to investigate the factors affecting brand portfolio management of established Norwegian breweries.

We would like to thank Tyson Weaver and Øyvind Bjørgum, at the Department of Industrial Economics and Technology Management, for valuable guidance and constructive feedback throughout the work of this thesis.

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Abstract

Brand portfolios of established Norwegian breweries have become increasingly paramount for firms to manage successfully. Due to an extensive history of consolidations and acquisitions, a large amount of brands are currently present under firms' corporate umbrellas, fighting each other for resources and market share. The study of this thesis is twofold and contributes to the salient topic of brand portfolio management in breweries. Firstly, we set out to elaborate on the factors affecting firms' brand portfolio management and how brands in turn should be assessed to enhance firm performance and achieve a strong competitive position in the marketplace. Secondly, due to legal restrictions in the Norwegian brewing industry, firms are not able to achieve market growth and increased financial performance through advertising. Breweries are therefore dependent on strong positioning in the market to reach out to the customer base. The second feature of investigation is therefore how established firms within the Norwegian brewing industry should utilize consumer data to identify buying patterns and consumer demand in order to successfully manage their brand portfolios.

Quantitative and deductive research methods were applied to address the second research question of this study. We developed and administered a survey resulting in a data sample of 674 responses. The thesis attempts to empirically identify the consumer behavior and demand of Norwegian beer consumers through analyses utilizing descriptive statistics, correlation and non-parametric methods. The findings were further applied to aid the brand portfolio strategy of firms.

The study finds four factors which should be evaluated when assessing the brand portfolio strategy of breweries in the attempt to increase financial performance and growth; *the brands, market conditions, business objectives* and *consumer demand*. These factors lay the foundation for a brand restructuring process where brands are deleted, retained, expanded or created depending on explicit criteria presented in the thesis. The results of the empirical analyses of Norwegian beer consumers also reveal multiple measures for brand portfolio management in terms of geographical presence, product differentiation and product positioning in distribution channels.

The study provides significant implications at the firm level for managers of Norwegian breweries and contributes to a greater knowledge of internal and external factors affecting the performance of brand portfolios in a highly regulated industry. Finally, the research illuminates the significance of firm-specific data to successfully adapt the framework presented in this thesis to the respective breweries in the industry and suggests directions for future research of brand portfolio management in the Norwegian brewing industry.

Sammendrag

Merkevareporteføljen til etablerte norske aktører innenfor bryggerinæringen har blitt stadig viktigere for ledere å styre vellykket. Grunnet en omfattende historie med konsolideringer og oppkjøp, er en stor mengde merkevarer i dag tilstede i bedrifter og kjemper om de samme ressursene og markedsandelene. Denne masteroppgaven er todelt og bidrar til det fremtredende temaet om porteføljeforvaltning i norske bryggerier. For det første har forfatterne utforsket faktorene som påvirker bedrifters merkevareporteføljestyring og hvordan merkevarer skal vurderes for å øke bedriftens ytelse og oppnå en sterk konkurranseposisjon i markedet. For det andre, på grunn av statlige reguleringer i den norske bryggeribransjen, kan ikke bedrifter oppnå markedsvekst og økt finansiell ytelse gjennom reklame og markedsføring av sine produkter. Bryggerier er derfor avhengige av sterk posisjonering i markedet for å nå ut til kundene. Den andre funksjonen i undersøkelsen er derfor hvordan etablerte bedrifter i den norske bryggerinæringen skal anvende forbrukerdata for å identifisere kjøpsmønstre og forbrukernes etterspørsel for å kunne håndtere sine merkevareporteføljer.

Kvantitative og deduktive forskningsmetoder ble anvendt for å svare på det andre forskningsspørsmålet i denne studien. Vi utviklet og administrerte en spørreundersøkelse som resulterte i et representativt datagrunnlag bestående av 674 respondenter. Avhandlingen forsøker å empirisk identifisere forbrukeradferd og etterspørsel fra norske ølforbrukere gjennom analyser ved hjelp av beskrivende statistikk, korrelasjons- og ikkeparametriske metoder. Resultatene ble videre anvendt for å støtte bedrifters merkevareporteføljestrategi.

Studien finner fire faktorer som bør vurderes i merkevareporteføljestrategien for bryggerier i forsøket på å øke økonomisk ytelse og vekst; *merkevarene, markedsforholdene, forretningsmålene* og *forbrukernes etterspørsel*. Disse faktorene legger grunnlaget for en omstruktureringsprosess for merkevaren der merkene fjernes, beholdes, utvides eller opprettes avhengig av eksplisitte kriterier presentert i avhandlingen. Resultatene fra de empiriske analysene av norske ølforbrukere avslører også flere tiltak for merkevareporteføljestyring med hensyn til geografisk tilstedeværelse, produktdifferensiering og produktposisjonering i distribusjonskanaler.

Studien gir betydelige implikasjoner på bedriftsnivå for ledere av norske bryggerier og bidrar til økt kunnskap om interne og eksterne faktorer som påvirker utførelsen av merkevareporteføljer i en høyt regulert industri. Avslutningsvis belyser masteroppgaven betydningen av bedriftsspesifikk data for å vellykket kunne tilpasse rammeverket som presenteres i denne avhandlingen til de respektive bryggeriene i bransjen, og foreslår retninger for fremtidig forskning av merkevareporteføljestyring i norske bryggerier.

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1 Introduction

1.1 Background

One of the most frequent issues faced by large companies today is the management of brands and brand portfolios (Uggla and Lashgari, 2012; Burmann et al., 2017). Strong brands have become increasingly paramount to the success of companies due to increased competition, globalization, information availability and corporate consolidations (Eisenhardt and Zbaracki, 1992; Aghazadeh, 2015). According to Burmann et al. (2017), 2.99 million brands were registered in 2013 alone, a number which reflects the magnitude of increased competition present in the global market. In order to compete with one another, firms are introducing new brands and products at an alarming rate making some of these brands superfluous and neglecting the positive synergistic effects that can arise between these brands. Building and maintaining brand portfolios that fulfill a high degree of consumer awareness and product uniqueness is thus critical to ensure brand strength, sustained competitiveness and high financial performance (Lee, 2015; Barney, 1991).

As markets and industries have become confronted with fluctuating trends, varying demands, increased competitive intensity and a large number of overlapping brands, brand portfolios have become challenging to manage successfully. Consumers demand a high degree of product and brand differentiation to satisfy their needs and firms are consequently required to keep up.

The management of brand portfolios has especially become a challenge in the Norwegian brewing industry. Multiple breweries currently control a range of brands and products due to an extensive history of corporate consolidations and continuous introduction of new brands and products to meet consumer demands. In addition, many small-scale producers and international actors have penetrated the Norwegian market at a rapid pace, increasing the number of brands and competitors in the market (Bryggeri- og drikkevareforeningen, 2017b). This has imposed a threat for large breweries and forced established actors to partake in specialty and craft beer product development. However, in markets where firms are required to supply an endless spectrum of products to meet customer demand, the collection of products and brands in the brand portfolio will in some cases overlap, fighting each other for resources and market share (Petromilli et al., 2002). These consequences contribute to inefficient brand portfolios. Further, the brewing industry in Norway is unique in the sense that it is under strict regulations regarding the advertisement of alcoholic products. Firms are therefore not able to influence consumers through traditional marketing and need to position their brands and brand portfolio in the marketplace strategically to stay competitive. Brand portfolio management should thus be an important strategic focal point for business managers in the Norwegian brewing industry

as solid brands and their strong interrelationships assist the company in creating market identity and a strong customer base (Douglas et al., 2001; Aaker, 1996; Kapferer, 1997; Keller, 1998).

1.2 Research questions

In order to successfully develop and position brands, previous literature suggests that firms need to evaluate the external and internal factors related to brand management (De Chernatony, 1999). On the internal side, brand management concerns the *business* strategic objectives and the *brands* which are present within the brand portfolio. On the external side, it concerns the management of how the firm communicates its brands to its *customers* and how the brands are positioned in the *market* (ibid). To our knowledge, no previous research has emphasized the reciprocal relationship between the four identified factors holistically in the Norwegian brewing industry. The gap mainly concerns how breweries should assess the four dimensions; brand, business, customers and market to become successful in the marketplace and cultivate a strong brand portfolio.
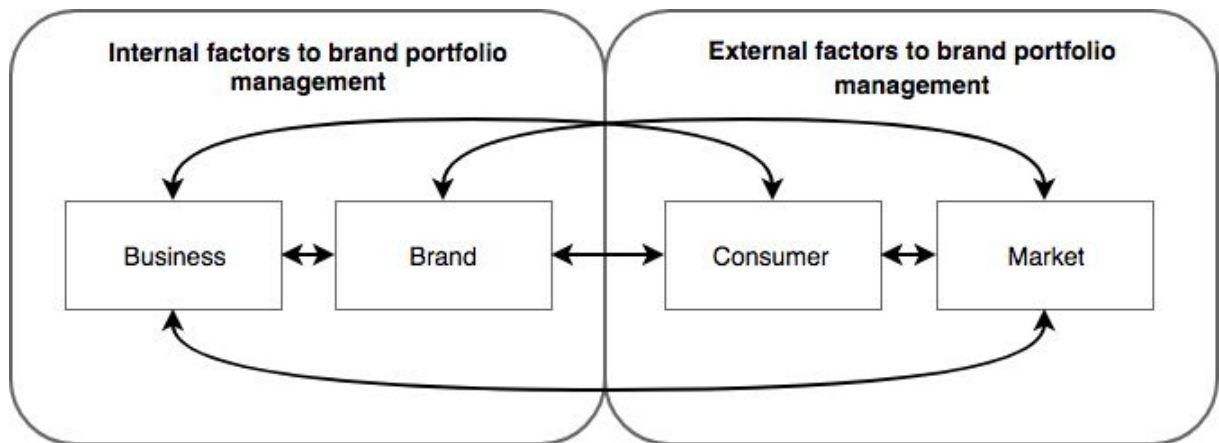
Figure 1: Four factors of brand portfolio management

All of the influential factors of brand portfolio management presented in Figure 1 are present in most industries and are therefore transferable to the Norwegian brewery industry. The first research question will thus aim at identifying how firms can assess each of these elements to gain a better understanding of how they impact the brand portfolio management[1], the firm and consequently, how they affect each other mutually. The first research question thus reads;

Research Question 1: *How should established firms within the Norwegian brewery industry evaluate the factors affecting brand management to achieve and acquire a successful brand management strategy?*

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[1]The terms brand management and brand portfolio management will be applied interchangeably throughout this thesis.

Further, as pointed out in Figure 1, consumer data is one of the external constructs to brand management and should outline how firms communicate their brands and products to their customers (De Chernatony, 1999). Ultimately, consumers decide the success of each brand (Petromilli et al., 2002) and necessary consumer data should thus come from the marketplace. Consumer data is especially vital for the Norwegian brewery industry as firms are required to position their products in line with the Norwegian law of alcohol. This law restricts firms to advertise for their products (Lovdata, 2017) and consequently, breweries do not have the possibility to monitor the strategic measures of demand and positioning associated with each of their products. Consumer data can however be collected from market trend data, competitive analysis, customer satisfaction studies and sales forces to monitor sales, demand and buying patterns. To support the data collected, firms should collect additional information from focus panels, internet surveys, customer reviews and targeted quantitative and qualitative research (Petromilli et al., 2002; Churchill Jr, 1979). The data assemblage will strengthen firms to reap opportunities and avoid risks in the process of further developing the brand management strategy in a dynamic market.

A study of consumer behavior in the Norwegian off-trade beer market may provide breweries with an elaborate understanding of the nature of purchasing decisions and uncover the determinants of consumer behavior for beer. To the authors knowledge, no previous study has collected information about consumer behavior and demand in the Norwegian market for beer and little information is available through public sources. This information is valuable for brand managers in the Norwegian industry because it directly affects the business and strategic measures for the firm's future growth and financial performance. The consumer insight which is gained in the quantitative questionnaire of this study will thus be applied in the investigation of how businesses should manage their brand portfolio and position its brands and products to attract new customers while retaining the current customer base. Further, the data will provide a better fit to the three remaining constructs; business, brand and market. With the basis of a consumer data collection in the Norwegian brewing industry, the second research question seeks to identify consumer trends and purchasing behavior in relation to brand portfolio management. Research question 2 of this thesis therefore reads;

Research Question 2: *How should established firms within the Norwegian brewing industry utilize consumer data to identify buying patterns and consumer demand in order to successfully manage their brand portfolios?*

1.3 Definitions

Definitions of frequently applied terms throughout this thesis are provided below in table 1 to give the reader a clear sense of the employed terminology.

Table 1: Definitions of frequently applied terms

Small-scale producer	All producers of beer with an annual production volume of less than 3 million liters (Bryggeri- og drikkevareforeningen, 2017b). Microbreweries fall under this category.
Large established brewery	Beer producers with an annual production volume above 3 million liters. This paper mainly refer to the four largest brewery groups in Norway; Ringnes AS, Hansa Borg AS, Mack and Aass Bryggerier.
Regular/standard beer	Lager and Pilsner beer produced by large established breweries.
Specialty beer	Beer which differs from the standard beer such as IPA, Porter, Bayer, Wheat etc.
Craft beer	Beer produced by small-scale producers and microbreweries.

1.4 Structure

This thesis paper is organized into four main parts. Firstly, a literature review is presented in order to give a theoretical background of the four factors affecting brand portfolio management; business, brand, consumer and market. The three prior will be based on previous research and literature, while the latter will employ empirical data and officially available information to suit the paper to the Norwegian market for beer. The literature review constitutes the basis for the hypotheses which will be developed in chapter 2.8. Subsequently, quantitative data from a survey distributed to beer consumers by the authors consisting of 674 respondents will be analyzed in order to properly evaluate the proposed relationships of the hypotheses to adequately answer research question 2. The methods used for these analyses are presented in chapter 3. Ultimately, the results of the analysis in chapter 4 will, together with the identified frameworks for the evaluation of brand strategies, constitute the foundation of the brand portfolio management strategies of the largest breweries in Norway presented in chapter 5. The latter part of this thesis contains appendices for additional information relevant to the survey, the thesis and the results of the analyses.

2 Literature review

The main objective of this chapter is to gain an adequate amount of background information regarding the four factors affecting brand portfolio management identified in chapter 1.1. The following sub-chapters will introduce the reader to central theoretical concepts and previous research literature concerning business strategy, market forces, consumer behavior and brand restructuring. The latter part of the chapter will present a set of hypotheses based on the theory with the objective of identifying core factors for consumer behavior and demand exhibited by Norwegian beer consumers in line with research question 2.

2.1 Brand portfolio management

It is widely accepted in management and marketing literature that brands are vital intangible assets in a company which can provide considerable influence on a firm's performance (M'zungu et al., 2010; Day, 1994; Hunt and Morgan, 1995). A *brand* is defined as the name, term, design, symbol, or any other feature that identifies one seller's product distinct from those of other sellers (American Marketing Assocation, 2017). Rare and unique brands have the capability to increase firms' assets which can contribute to generate a comparative advantage to competitors in a consumer driven market (Barney, 1991). The collection of different brands a company in a consumer market owns, markets (Morgan and Rego, 2009) and make strategic decisions about is grouped into a *brand portfolio* (Aaker, 2004; Dacin and Smith, 1994; Laforet and Saunders, 1999). Brand portfolios vary in scope and positioning depending on the size of the firm, the brand architecture and the market segments in which the firm operates in. Brand management is defined as *a strategy which aims to transform the brand values and its equity into something with a superior market performance compared to its competition* (Louro and Cunha, 2001).

When the management of the brand portfolio is successful, firms hold an advantageous position where they can acquire superior financial performance (ibid). However, a firm's performance is dynamic of nature and depends on the fluctuating relationship between the external and internal market opportunities, consumer demand and firm offerings. On the internal side, brand management concerns the culture of the firm, its management and the brands which the firm possesses. On the external side, it concerns the management of how the firm communicates its brands to its customers in a market (De Chernatony, 1999). Because the brand portfolio strategy is driven by a business strategy that is dynamic, there is an ongoing necessity to modify, augment and change the portfolio and its strategy (Aaker, 2014). Although the majority of firms recognize both sides as important, few firms have in fact harmonized overall business objectives with brand portfolio objectives (Urde, 2003). This includes the alignment of vision, development and growth processes of

both business and brand portfolio (ibid). According to Uggla (2015), this alignment will succeed if firms understand the importance of strategic factors based on the intersection between business strategy, brand portfolio strategy and market opportunities and act upon it.

To gain insight into this intersection, Petromilli et al. (2002) suggests that firms should undergo a critical re-evaluation of how the different brands in the brand portfolio fit together with each other, the business strategy, consumer demands and the market opportunities. Petromilli et al. (2002) identified three steps in this re-evaluation in order to enhance brand portfolio management and ultimately the performance of a firm. A fourth step, number 3 in the table below, is added by the authors in order to differentiate the consumer and market aspect. The steps are outlined below and constitute the basis for the following chapters in the literature review.

Table 2: Four steps of brand portfolio evaluation

1. Align the brand portfolio strategy with the *business* strategy
2. Collect *consumer data* to understand buying behavior affecting brand positioning and firm performance
3. Evaluate the brand portfolio in relation to *market* dynamics to reap opportunities and avoid risks
4. Evaluate the *brands* in the portfolio individually based on financial and strategic measures

2.2 Business

This chapter will elaborate on the business construct of brand portfolio management as previously identified. The business aspect concerns one of the two internal sides to brand management, more specifically with regards to the culture and strategic objectives of the firm. The first step in the re-evaluation model of Petromilli et al. (2002) is to align the brand portfolio strategy with the overall business strategy. This implies that firms should evaluate the implications the composition of brands in the brand portfolio might have on the business, the firm's capabilities in relation to the brand portfolio strategy and the to what degree the brand portfolio reflects business image and vision (Uggla, 2015). This chapter will apply theory which aims to guide business and brand managers to screen and embellish the mutual relationship between brand and business. The following two sections will elaborate further on the importance of the business side to brand management.

2.2.1 Business vision as an umbrella for future business and brand management

A business should define a clear vision, a set of core values and key objectives to coherently state its underlying purpose (Uggla, 2015). The business vision is crucial because it affects managers' strategic decision-making which shapes the present and future state of the firm.

These strategic decisions are both short-term and long-term and revolves around the state of where the firm wants to be in a specific point of time, what products it seeks to offer and how it desires to be perceived from a consumer point of view (ibid). Strategic fit between business and brand portfolio activities is imperative to a sustained competitive advantage because it is able to offer something unique and perform activities differently than competitors (Porter, 1996). When these activities are complementary, rivals will face greater challenges imitating the firm unless they are capable to match the whole system successfully (ibid). By continually overlooking the brand portfolio in relation to strategic business priorities, the management of brands can guide the firm in the desired direction.

To ensure that the business and brand portfolio objectives navigate in the same direction and maintain a sustained position, the business vision should be elastic enough to function as an umbrella for all business units despite fluctuating market conditions. Firms which pursue to alter their business vision or brand portfolio independently according to market trends risk losing track of business objectives and consequently end up with a lower performance (Porter, 1996). To ensure that business priorities are met, the brand portfolio objectives thus need to be in line with the firm's objectives. Business priorities vary from company to company, but involve matters like (1) which industry branches do we want to operate in, (2) do we have any growth ambitions - if so, to what extent, (3) are we capable of making a new successful brand from scratch or is it more expedient to acquire an existing brand and develop it from there, (4) do we wish to focus on the local, national or global market and (5) to what degree to we wish to export our products abroad? Porter (1996) make a clear point that the answers to such questions concerning business activities should fit inherently with the brand portfolio strategy the firm chooses to pursue and which it deliberately chooses not to. In the end, competitive business activities is about being different from competitors (ibid).

2.2.2 Brand architecture as a foundation for business strategy

The way in which a brand portfolio is structured, managed and interrelated in order to create shareholder value is called *brand architecture* and constitutes an important part of brand management (Petromilli et al., 2002). A brand architecture should align with the overall objectives and goals of a business because it in some way represents the business strategy to end consumers. This means that the brand architecture of a firm needs to be modified with respect to the dynamics of the firm and its objectives, the brand portfolio scope and the market (Keller, 1998; Varadarajan et al., 2006). The two most common brand architectures are *branded house* and *house of brands* (Petromilli et al., 2002; Muzellec and Lambkin, 2009; Aaker and Joachimsthaler, 2000). Petromilli et al. (2002) state that neither of the two architectures are better than the other and many firms

employ a mixture of these two in order to manage their brands in an efficient manner. Which brand architecture a firm chooses to pursue should be determined by the range of market segments the firm operates in, the number of brands and products in the portfolio and the business growth ambitions. However, managers should be aware of the risks and opportunities of each architecture when building a brand and business strategy to nurture the strengths of the firm. The two are illustrated in Figure 2 and further explained in the paragraphs below.

(a) House of brands   (b) Branded house
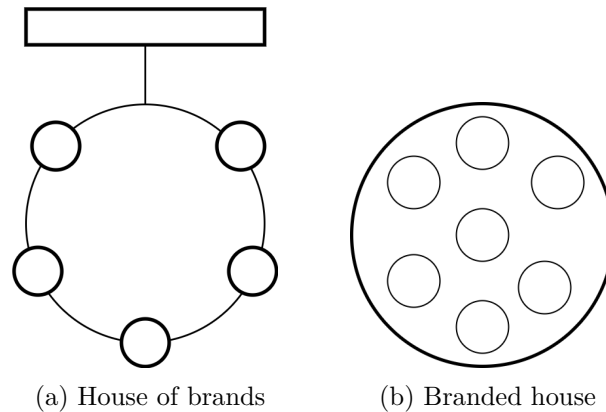
Figure 2: Brand architecture structures of businesses. (a) House of brands. The top box represents the parent brand name with circles representing independent brands. (b) Branded house. The outer circle represents the parent brand name, consisting of sub-brands related to the parent brand.

Branded house

A *branded house*-architecture operates with a single parent brand name which offers a series of products, often with sub-brand names that gives clarity in what the offering contains (Petromilli et al., 2002). The sub-brands are related to each other in terms of product segment and the corporate brand drives the product brand associations among its customers (Saunders and Guoqun, 1997). Aaker and Joachimsthaler (2000) claim that a branded house has the advantage of stronger synergies between the product and the corporate brand. This is because there is a clear association with the products, increasing the value of the company and ultimately laying a foundation of credibility among consumers. In addition, products associated with the master brand are more visible and allow better efficiency in the producer-customer communication. However, Loken and John (1993) and Kirmani et al. (1999) identify that there is a possible danger linked to the branded house strategy as all the products are visibly related to the parent brand. If the parent company falls victim to a bad reputation, it will consequently affect all the sub-brands. For example, when the branded house Danone Corporation decided to shut down two of its factories after a going through a re-branding process, consumers began boycotting all of its products as a reaction. This boycott had a great negative impact on the firm's results as all of the corporation's products shared the same parent brand name (Klein et al., 2004). A brand's emotional attachment of consumers may in some occasions

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thus be a burden on the corporate level in a branded house architecture.

House of brands

In contrast to a branded house, a *house of brands*-architecture employs a range of *independent* brands under a corporate umbrella as illustrated to the left of Figure 2. The corporate brand name is often unrelated to the sub-brands and each brand operates to maximize its own market share and financial return independently (Petromilli et al., 2002). The belief is that the performance sum of each brand yield better results than if all brands were managed under a common brand name (ibid). This strategy allows a corporation to diversify its products, emerge into new markets and product lines and avoid any association between the brand and the corporate name (Muzellec and Lambkin, 2009). Houses of brands are therefore often involved in various product segments, which further target various customer segments (Douglas et al., 2001). Resonating with a wide range of consumers is easier to achieve through a house of brands architecture as the firm is better suited for diversification across country borders and customer preferences (Petromilli et al., 2002).

2.3 Consumer Behavior

This chapter will elaborate on the consumer construct of brand portfolio management as previously identified. Consumers constitute one of the two external sides to brand management, more specifically the management of how the firm communicates its brand and products to the consumers. Ultimately, the consumers decide the success of each brand (Petromilli et al., 2002). The second step in the re-evaluation model of Petromilli et al. (2002) is to collect consumer data to understand how buying behavior affect brand positioning strategies and firm performance. The consumer construct is further described in the following section.

2.3.1 Consumer choice

Consumer choice is a process where knowledge is combined as a means to evaluate two or more purchasing alternatives and select one (Peter et al., 1999). The aggregated sum of all consumer choices in a market affects the performance of the firms operating in it. It is therefore in the interest of these firms to influence the consumers to ultimately choose their products and brands.

A product related choice depends on the motivation of the consumer and the social setting where the consumer plans to consume the brand or product at hand (Yang et al., 2002). Changes in the consumer's environment have shown to affect the consumer's motivation which leads to a change of desired product attributes (Kim and Chintagunta, 2012).

Malone and Lusk (2018) state that the consumer choice of a specific product depends on the perceived taste of the product and the degree of brand familiarity that the consumer holds with regards to the product. The effects of brand familiarity on consumer choice have been studied by Laroche et al. (1996) who found that brand familiarity enforces the consumer's confidence with the given product. The concept of confidence is explained as *the buyer's subjective certainty in making a judgment on the quality of a particular brand* (Howard, 1989). Said confidence affects their intention to repeatedly buy the same brand at a later time (ibid).
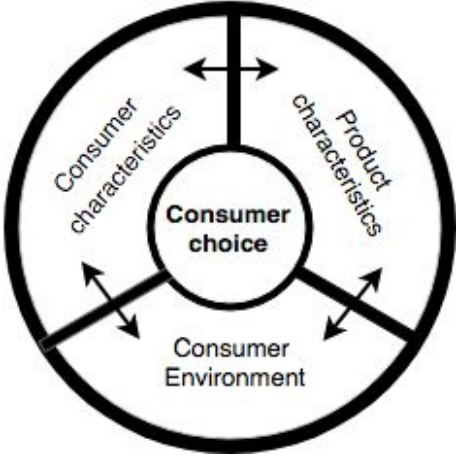
Figure 3: Factors influencing consumer choice. Model inspired by Peter et al. (1999).

In the beer segment, Aquilani et al. (2015) found two main factors which affect the consumer choice of beer. The first factor concerns *product characteristics* of beer consisting of taste, foam, aroma, carbonation among others. Products further inhibit characteristics related to brand, price, availability in the on-trade market (bars, pubs and restaurants), availability in the off-trade market (stores, retail) and packaging. The second factor concerns a set of circumstances which are directly related to the *consumer environment*. This factor focuses on how a consumer's consumption behavior is affected by the social setting that the consumer is currently in and what the occasion of the social setting is for. A third factor which is vital in a consumer choice is *consumer characteristics*. This is validated by Peter et al. (1999) who claims that different groups of consumers (age, gender, residence, income etc.) will influence the choice of brands and products. These three factors lay the foundation for the purchasing decision and is illustrated in Figure 3, which is heavily inspired by a similar model created by Peter et al. (1999). Moreover, these factors should be acknowledged by brand managers in a holistic evaluation of brand portfolio management.

2.4   The Norwegian market

The *market* was identified as one of the four factors affecting brand portfolio management in chapter 1.1. The third step, added by the authors, listed in section 2.1 is to evaluate the brand portfolio in relation to market dynamics to reap opportunities and avoid risks. This implies that firms should identify the forces which drives the market, recognize industry players and answer to consumer demand. This chapter will apply publicly available information about the Norwegian market for beer to uncover the market forces through a Porter's Five Forces analysis, present industry players and briefly elaborate on the unique marketing prohibition of alcoholic beverages which permeate the industry.

2.4.1   The Norwegian beer market in numbers

The beer market includes all retail sales of non-alcohol beer, specialty beer, standard lager and craft beer. Beer has for centuries had a central position in the Norwegian culture which has led to high national consumption rates of products produced by both small and large-scale breweries (Trollsås, 2010). The Norwegian market is mainly dominated by four large industry players: Ringnes AS (owned by the Carlsberg Group), Hansa Borg Bryggerier[2] AS, Aass Bryggerier and Mack. These brewery groups accounted for 92.2 % of the total market volume of beer in 2016 and consist of several brands which have been acquired throughout a history of consolidations, acquisitions and sales agreements with foreign breweries (Nome, 2017). Small-scale producers capture 4.7 % of the market (ibid) and consist of producers such as Berentsens Brygghus, Lervig Aktiebryggeri, Arendals Bryggeri, Kinn Bryggeri and Ægir among many. Figure 4 displays the market shares of the largest breweries in Norway and their respective production levels.

The Norwegian beer market volume have increased in recent years. Figure 5 shows the beer volume sold from 2009-2017 in millions of liters in addition to the annual growth rate of the market volume (Bryggeri- og drikkevareforeningen, 2017b). Numbers prior to 2013 does not include all import beer and are therefore not directly comparable to more recent years. Nevertheless, the market has seen a positive annual growth rate beginning in 2013 to its peak in 2016. The main reason for the market growth is the increase in the craft beer and import beer segment. Table 3 portrays the development in each segment based on the period of March 2015- March 2016 and March 2016- March 2017. The small-scale and import beer segment experienced a strengthened position in the market, and thus contributed to the 2.51 % increase in the total sales of beer in Norway during the time period. The aggregated production of Norwegian breweries, however, had a decrease in sales of -0.71 %.

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[2]Bryggerier is the Norwegian word for breweries
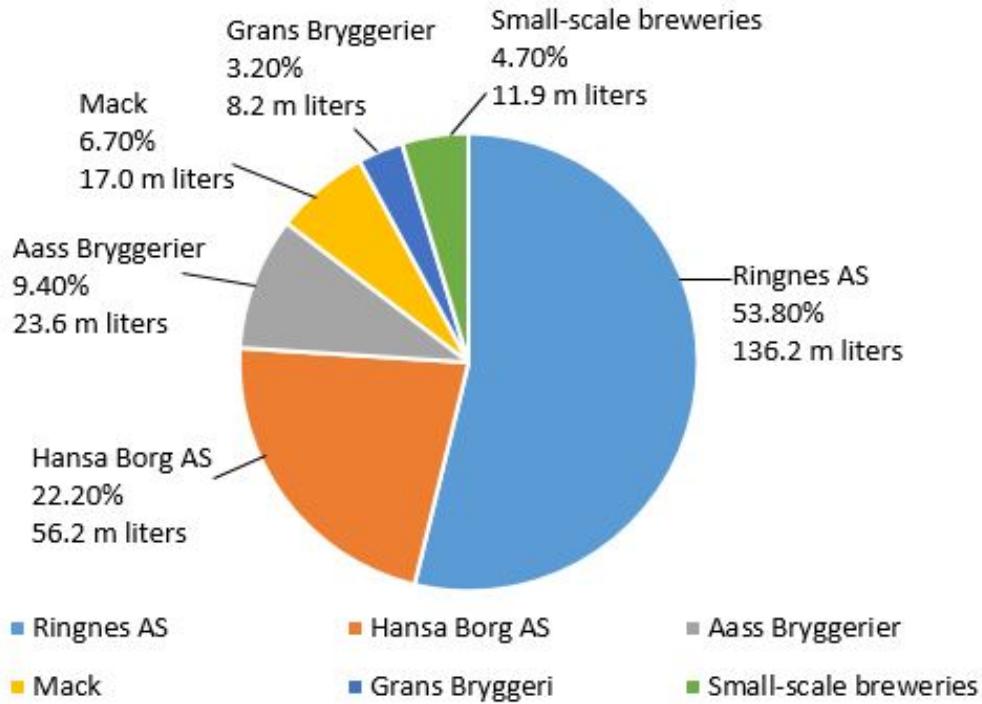
Figure 4: Market share and production levels of Norwegian breweries in 2016 (Nome, 2017)

The largest segment of beer consumed is standard lager beer accounting for 63.7 % of the total market value. Premium lager[3] equates to 23.6 % and the remaining share consist of consumption in the specialty and craft beer segment (MarketLine, 2014).

Table 3: Development in the volume of beer sold in the Norwegian brewing industry (Drikkeglede, 2018)

Sales development in the Norwegian brewing industry	March 2015-March 2016	March 2016-March 2017	% change
Norwegian-brewed beer	230 652 254	229 007 551	-0.71
Of which are small-scale breweries	8 589 644	10 419 117	21.30
Import beer	26 063 307	34 155 859	31.05
Total sales of beer	256 715 561	263 163 370	2.51

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[3]Premium lager is a lager which is differentiated from the standard lager based on higher quality and price.
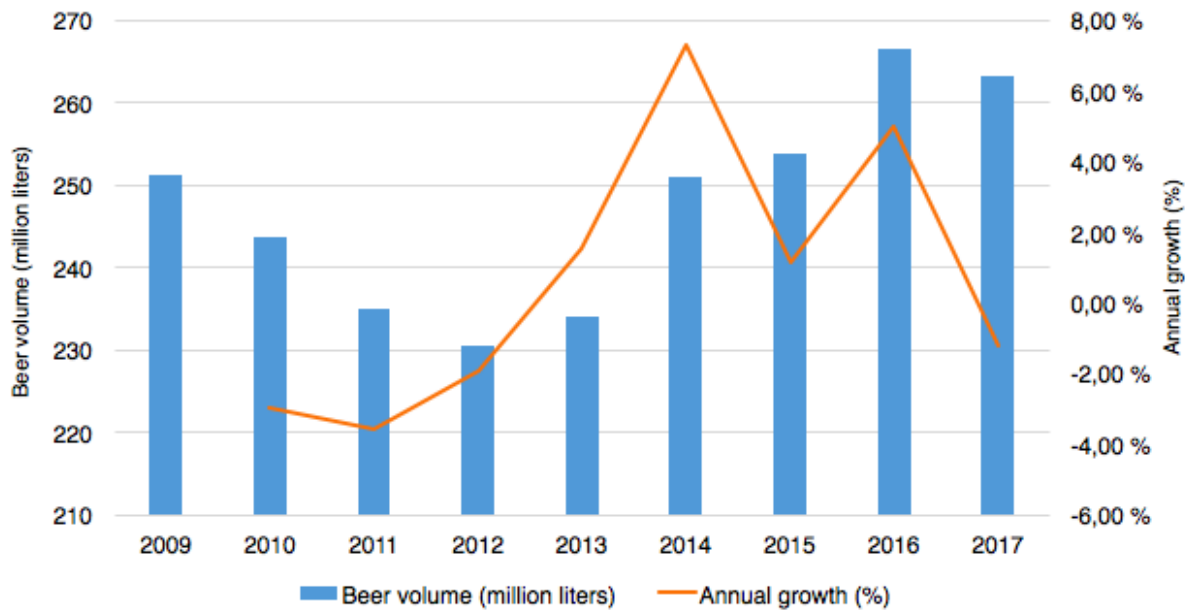
Figure 5: Norwegian beer market volume (million liters) and annual growth rate (Bryggeri- og drikkevareforeningen, 2017b). Numbers from before 2013 does not include all import beer and are therefore not directly comparable to more recent years.

The brand portfolio of the two largest breweries in Norway, Ringnes AS (Carlsberg Group) and Hansa Borg Bryggerier AS is presented in the two top columns of Figure 6. The lower box presents some of the largest independent breweries within the market. Import brands have not been included in the figure as they are not directly produced domestically by the corporate brand, with the exception of Tuborg, Carlsberg and Heineken. However, international brands are present in the brand portfolio of Ringes AS and Hansa Borg Bryggerier AS through sales agreements of the imported brands such as Brooklyn, Budweiser, Corona, Kronenburg and Stella Artois and Sol, Tiger and Murphy's, respectively.

Figure 6: Norwegian breweries and brand portfolio of Hansa Borg AS and Ringnes AS

2.4.2 Porter's Five Forces analysis of the Norwegian brewing industry

Section 1.1 stressed the importance of how the market affects the brand portfolio management of a firm. Many managers solely define the market and the competition as the direct competitors of the firm in the industry (Porter, 2008). However, Porter (1979) identified four additional competitive forces in an industry which drives profitability. These are, in addition to industry rivalry; threat of new entrants, threat of substitutes, buyer power and supplier power. In order to get an overview of and understand the competitive forces driving profitability in the Norwegian brewery industry, an analysis of Porter's Five Forces is utilized. Large established breweries are the target actors and beer is the target product for the purpose of this analysis. The geographic scope of the industry is limited to the Norwegian market. A summary of the analysis is presented in table 4 on page 20 at the end of the chapter.

2.4.2.1 Buyer Power - High

The buyers in the brewing industry can be divided into two distinct groups; the business-to-business segment (B2B) and the business-to-customer segment (B2C). The B2B buyers of beer constitute all on-trade (pubs, bars and nightclubs) and off-trade (Vinmonopolet and the grocery-segment) distributors. The total sales in terms of volume in the two segments amount to 29 % and 71 %, respectively (MarketLine, 2014). This skew distribution between the two buyer segments leads to a high buyer power in the off-trade segment as there are only three main large-volume buyers; Norgesgruppen (Meny, Bunnpris, KIWI, Joker), Coop (Coop Mega, Coop Prix, Coop Obs) and Reitangruppen (REMA 1000) (Konkurransetilsynet, 2009). These are highly concentrated across Norway giving them the power to negotiate good terms from producers. In addition, the brewing industry is characterized with high fixed costs due to capital investments and the pressure to produce and sell products at the production capacity is therefore high. Low switching costs due to undifferentiated industry products between producers amplifies this momentum and makes breweries vulnerable to competition. Buyer power is considered high.

2.4.2.2 Supplier power - Low

Norwegian breweries are mainly dependent on the supply of malted barley and hops to produce beer. Independent hop growers are many and their product serves a limited number of industries (MarketLine, 2014). Consequently, hop growers depend heavily on breweries for its revenues which undermines the supplier power. Barley growers, however, are able to serve a range of industries such as animal feed, food production and raw material for spirit manufacturers (MarketLine, 2014). This increases the leverage of negotiating power of barley producers, but as large breweries have an established purchasing history

and strong supplier contracts with these actors, the overall supplier power in the industry is of little threat and therefore considered as low.

2.4.2.3 Threat of new entrants - Moderate

The threat of new entrant in the brewing industry is a force composed of many factors. One factor is the required capital to enter the market. Large-scale production of beer require high capital investments (Unger, 2004), high fixed costs and low costs per unit of beer produced. The brewing industry is therefore categorized as a typical supply-side economies of scale industry where firms produce larger volumes in order to spread fixed costs over many units. Large capital investments therefore inhibit new competitors in the mass-production segment (Porter, 2008). However, entrenched competitors have shown to be attractive market players even on a small scale as observed in the increased market share of microbreweries the recent decade (Bryggeri- og drikkevareforeningen, 2017b). On this production scale, the capital investments are substantially lower. The number of active microbreweries in the Norwegian market grew from 3 to 124 between 2007 and 2014 (ibid). The entry of these actors have, despite market growth in the craft beer segment, stabilized which moderates the threat of new entry of small-scale producers in the industry. Further, microbreweries face the disadvantage of unequal access to the same distribution channels compared to more established breweries. Retail channels become a barrier to entry because shelf space designated to each brewery is limited. One example of this was the joint venture between Hansa Borg and the microbrewery Nøgne Ø to strengthen Nøgne Ø's position in distribution and sales (Hansa Borg, 2013). Large breweries which have strong wholesaler connections thus face an advantage in the distribution of their products. Another factor which might increase the barriers to entry of new competitors in the industry is the incumbency advantage of breweries with a strong brand identity in geographical areas. Beer brands have shown to have deep roots in local culture which limits the potential profitability of new actors in these areas (Schnell and Reese, 2014). Lastly, it is worth mentioning that small-scale producers might acquire an advantage the upcoming years as the Norwegian government is considering to remove a portion of the taxes on breweries with a production of less than 500,000 liters annually (Ramseng, 2018). If the tax reduction is approved, potential entrants might find the industry more attractive as small-scale producers are able to capture higher margins in the market. This will ultimately impose a greater threat of entry to established large-scale breweries.

The threat of new entry is also dependent on the newcomers' expectations of incumbents' retaliation if entry actually were to occur (Porter, 2008). To illustrate, small-scale breweries were for years able to operate in the beer market without a vigorous response from larger breweries. This might be one reason for the continuous entry of new small-scale actors. When Ringnes AS, Hansa Borg AS, Mack and Aass begun competing in the craft

beer segment, the rate of entry decreased and entry barriers increased. In addition, the growth in the brewing industry is slow as end consumer consumption is relatively stable. This means that in order for new entrants to profit from producing beer depends on the degree to which they manage to gain volume by taking it from established breweries. This lowers the barriers to entry. Taking all the factors above into consideration, the threat of new entrants in the Norwegian brewing industry is moderate.

2.4.2.4 Threat of substitutes - Moderate

The threat of substitutes is high if the substitute can offer an attractive price-performance trade-off to beer and if the buyer's switching cost is low (Porter, 2008; Stigler and Becker, 1977; Tremblay and Tremblay, 2005). The main substitutes to beer are other alcoholic beverages such as wine, spirits and cider, and non-alcoholic beverages such as soft-drinks.

Alcohol is an expensive good in Norway as a result of government regulations through high taxations (Lovdata, 2017). Consequently, consumers have become more aware of price differences between the various products available. However, the continuous price increase due to taxations has not affected the volume consumption of alcohol in Norway in a significant way, but rather influenced the choice of alcoholic beverages (Bryggeri- og drikkevareforeningen, 2017b). Vinmonopolet is by law the only supplier in Norway which provides beverages with an alcoholic content above 4.75 % in the off-trade segment (Lovdata, 2017). The end consumer thus faces more difficulties in purchasing stronger beverages such as wine and spirits due to lack of availability. In addition, the opening hours are more limited in these retail channels compared to retailers who exclusively sell alcohol within the limit of 4.75 %. This amplifies the consumers' switching costs. Furthermore, consumers have become more health aware and opt for healthier options in order to quench their thirst such as non-alcoholic beer (Wig, 2018). This contributes to a rise in the threat of substitutes. A further growth in sales regarding non-alcoholic beer might reduce the sales of alcoholic beer. Taking all the factors above into consideration, the threat of substitutes is moderate.

2.4.2.5 Industry rivalry - High

Industry rivalry is high if industry growth is slow (Porter, 2008). Slow growth accelerates fights for market share because the aggregated profits remain relatively stable over time (ibid). Competitors are therefore dependent on seizing market shares from its competitors to grow, driving down profitability.

Figure 7 shows the stable beer consumption and the slow industry growth in the Norwegian

market the recent seven decades which have led breweries to undergo several strategic measures in order to grow. One such measure is the multiple mergers and acquisitions which have become common in the industry. Eliminating rivals has let both Ringnes AS and Hansa Borg Bryggerier AS to grow and expand within the market, and has increased rivalry among the largest four breweries. Another factor which increases industry rivalry is the difficulty of competing in terms of price due to strict government regulations. Because taxes are high and breweries desire to capture market share by diminishing prices, margins ultimately converge to zero and producers thus become dependent on selling large volumes to cover fixed costs. Government involvement is however neither inherently good or bad for industries when it affects all actors (Porter, 2008). However, if taxes on beer produced by small-scale breweries are reduced, microbreweries will obtain a relative advantage to established breweries in the price-competition further increasing industry rivalry. Industry rivalry is considered high.
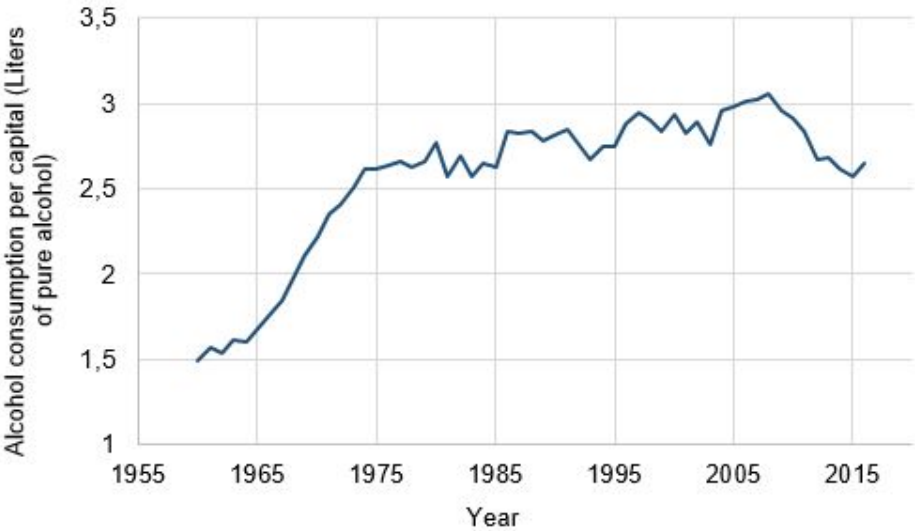
Figure 7: Alcohol consumption of beer in Norway 1960-2016 in liters of pure alcohol per capita (SSB, 2017)

2.4.2.6 Legal aspects of the Norwegian brewing industry

The Norwegian government enforces a strict alcohol policy to prevent abuse of alcohol and injuries related to it. This is done through restrictions on sales hours, age regulations, high taxes and fees and a marketing prohibition. The marketing prohibition was however altered and put into effect November 1st, 2015 (Helsedirektoratet, 2015). Previously, it was illegal for firms to display information regarding their products in both stores and on Norwegian websites. This law has been lifted, leaving firms with the possibility of giving their consumers a larger insight into their product and brand portfolio (Nome, 2017). The changes allow firms to:

1. Provide product and brand information on defined platforms where consumers themselves need to actively pursue.

2. Provide information (text and images) which is factual. Breweries can not spread positive messages related to alcohol.

The exceptions are made to give consumers who seek information access to limited facts and not to give producers an opportunity to market its products (Helsedirektoratet, 2015). Moreover, the possible effects that these changes might have on the breweries is furthered discussed in section 5.7.

The alcohol fee is eight times the mean in Europe, excluding taxes and fees regarding packaging (Nome, 2015). For a can of beer at the cost of 25 NOK, 16.50 NOK are directly related to taxes and fees. The remaining 8.50 NOK covers costs for the breweries, wholesalers and stores, transport, pay for employees, investments and dividends (Bryggeri- og drikkevareforeningen, 2017a). Small margins make it hard for breweries to compete in terms of price and drives down profitability in the industry. Since the implementation of the alcohol-law in 1975, there have been significant changes in how information is distributed through marketing, social media, TV and other communication channels. However, international actors are not as affected by these laws. They have the option to market their brand through international channels, which increases the competition for Norwegian breweries (Nome, 2011).

Table 4: Summary of Porter's Five Forces Analysis (Porter, 2008)

Porter's Five Forces Analysis of the Norwegian brewing industry

Threat of new entrants	Moderate
Supply-side economies of scale	x
Demand-side economies of scale	
High switching costs	x
Capital requirements	x
Incumbency advantages independent of size	x
Unequal access to distribution channels	x
Restrictive government policy	x
Incumbents have previously responded vigorously to new entrants	
Industry growth is small	x
Supplier power	Low
Suppliers are more concentrated than breweries	x
Supplier group depends heavily on breweries for revenue	
Breweries face switching costs in changing supplier	
Buyer power	High
There are few buyers which purchase large volumes	x
Breweries need to sell large quantities to cover fixes costs	x
Industry products are standardized or undifferentiated	x
Buyers face few switching costs in changing vendors	x
Threat of substitutes	Moderate
The substitute offers attractive price-performance trade-offs	
to the industry's products.	
The buyers cost of switching is low	
Consumers have become more health aware opting for healthier choices	x
Industry rivalry	High
Industry growth is slow	x
Legal aspects	Highly regulated
Marketing prohibition inhibits brand promotion	x
High taxes and fees drives down margins	x

x = Present in the Norwegian brewing industry

2.5   Brand

This chapter will elaborate on the brand construct of brand portfolio management as previously identified. The third step in the re-evaluation model of Petromilli et al. (2002) is for managers to look at the brands individually based on financial and strategic measures. The ultimate aim is to increase the overall brand portfolio value for the firm. This step is discussed in the following section.

2.5.1   Brand positioning

A merger wave during the 90's led several firms to aggressively acquire companies and expand brands in order to grow (Petromilli et al., 2002). However, the acquisition and expansion tactics rarely took the firms' existing brands into consideration which in many cases resulted in brand portfolios consisting of a large number of brands with an overwhelming amount of overlapping and similar products (ibid). Authors such as Knudsen et al. (1997), Hill et al. (2005), and Laforet and Saunders (1999) state that firms which hold large brand portfolios are inept as they decrease the level of manufacturing and distribution economies of scale. Furthermore, this brand proliferation can be a source of misfortune as it could lead to a loss of brand loyalty and harsher price competition within the markets where the firm is present (Bawa et al., 1989; Quelch and Kenny, 1995). However, Kekre and Srinivasan (1990) and Lancaster (1990) state that a firm which is in possession of a large amount of brands is prone to please a wide range of different consumer preferences and inhibit new competitors from entering the particular market.

According to Morgan and Rego (2009) there are three key characteristics when it comes to the brand relations of a firm's brand portfolio. The first is called *scope* and is a tool used to determine the amount of brands owned by the firm and the amount of markets in which the firm is active. The second is known as *positioning* which determines the quality and price of the firm's brands as perceived by the consumer (Aaker and Joachimsthaler, 2000; Chintagunta, 1994; Porter, 1980). The third is known as *intra-portfolio competition* which determines the extent of which brands within the firm's portfolio compete against each other through similar positioning and how they appeal to the consumers.

As firms' portfolios continue to grow, the likelihood that brands within the portfolio are positioned similar to one another and compete for the same consumers spending increases (Morgan and Rego, 2009). Wang et al. (2015) state that firms should add more brands in segments where the consumers favour new experiences as a means to reduce the customers switching behavior and attract consumers who seek variety. However, even though consumers switch among brands, they do not necessarily switch to a competitor's brand and so, it ultimately does not affect the corporate brand's market share (ibid). Nevertheless, previous research claim that by providing the consumer with more choices,

the likelihood that consumer purchasing a specific product is drastically reduced (Malone and Lusk, 2018). This phenomena is known as the excessive choice effect (ECE). In cases where the consumers are faced with too many choices, he/she would most likely choose a product within the existing repertoire of brands (ibid).

2.5.2 Brand evaluation

As previously stated, firms' brands are intangible resources which provides a basis for a firm's financial performance (Hunt and Morgan, 1995; Day, 1994). Financial figures such as historical sales data, production and sales costs, profitability margins and current market share are common methods to estimate the value of a particular brand (Varada-rajan et al., 2006; Avlonitis and James, 1982). Kumar (2003) uncovered that a majority of the profits earned by businesses stem from a small number of brands within the brand portfolio. She estimates that firms earn between 80% and 90% of their profits from fewer than 20% of the brands. The remaining 80% of the brands were found to either barely break even or generate negative results (ibid). Hunt and Morgan (1995) also found that a large majority of a firm's brands have a negative impact on the bottom line. According to Shah (2015), financial measures are important decision makers, but are not alone able to paint a holistic picture of the brand's value to the firm. Vyas (1993) argues that coming to terms with the course of action regarding the individual brands is a complex matter which should be combined with non-financial internal and external factors such as strategic positioning in the brand portfolio, business objectives and consumer related indicators.

Jones and Slater (2014) emphasized the importance of non-financial factors in a brand evaluation and state that the brand is an essential firm resource which have the power to retain consumers. According to Peter et al. (1999), these consumers are characterized as brand loyal and are more willing to pay a higher price for the given product as they perceive the brand as being able to meet their specific demand (Jacoby, 1978). Brand loyalty stems from a sense of trust and reliability to the brand which can lead to greater market shares in the market and a security in the brand's future position (Chaudhuri and Holbrook, 2001; Assael, 1984). Furthermore, researchers agree that brand loyalty can generate firm advantages such as reduced marketing costs (Chaudhuri and Holbrook, 2001), positive firm reputation (Sutikno, 2011), increased profitability of the business (Kabiraj and Shanmugan, 2011) and a competitive market advantage (Iglesias et al., 2011). Hence, in order to reap financial benefits, firms should strive to achieve high levels of brand loyalty and customer retention rate. In order to achieve the latter, companies could either increase customer satisfaction or increase switching barriers (Fornell, 1992). This is however challenging as it is quite difficult to cultivate and maintain high switching barriers (Augusto and Torres, 2017). Nevertheless, it is still important for the firm to

establish a high level of customer satisfaction.

In order to ensure that the balance between the trade-offs of financial and non-financial factors in the brand evaluation remains sustainable and profitable, Kumar (2003) suggests that firms utilize a spreadsheet to monitor the aggregated brand results. Prior to the spreadsheet being filled out, Kumar (2003) argues that groups comprised of senior executives should be placed in joint audits and discuss the current status of each brand. This is necessary as a large majority of executives are unaware of which brands are profitable and which are not (ibid). The profitability of each brand can be measured by allocating the fixed and shared costs. The financial results are then combined with the market position of each brand as a means to categorize the brands as strong, moderate or weak on a national level and a local level. The financial positioning of each brand in the respective geographic areas will uncover the regions where the brands have a strong, moderate or weak position. This will guide brand managers to allocate the right amount of resources, both financial and strategical, according to the brand's positioning. If the brand generates a large share of the firm's profits in a given area, the brand should be retained and possibly expanded. In regions where a brand reaps low financial results, managers should endure a second evaluation process and consider the strategic importance of that brand in the specific region. Furthermore, the brands' positioning should be evaluated. This entails uncovering the characteristics that describe the brand such as *quality, value, fun, adventurous etc.* This can be acquired through data gathered by surveys, customer reviews and focus groups. Brand and top managers should collect this data and subsequently debate the level of strategic importance of each brand. Strategic importance can be measured in terms of how it fits strategically in relation to the brands in the portfolio, how the brand relates to the business objectives and values, and whether its presence in the market is of importance to beer consumers in the respective segments (Shah, 2015). Finally, the executives discuss each brand's profitability and uncover whether the brand is a cash generator, cash neutral, or cash user. This is done by analyzing the brands' percentage of sales and its percentage of profit relative to the aggregated sum of the firm's activities. These three steps should consequently decide the future strategy for the particular brand. The following information should then be placed in a brand audit sheet as the one in table 5.

As can be seen in table 5, brand A has the largest market share of the presented brands and has strong financial results in terms of profits and sales. The brand accounts for 17% of total sales and 20% of the total profits of the firm. All these factors combined make brand A a *cash generator* for the firm. Brand C on the other hand has primarily weak results in both categories. Furthermore, it results in 1% of the total sales and -0.2% of the total profits placing it in the *cash user* category. In counties where brand C scores low on all categories, brand managers and top executives should consider to divest the brand. This process is further explained in the following chapter.

Table 5: Evaluation of financial results and strategic importance of each brand in the brand portfolio in various geographic regions by Kumar (2003)

Brand		A	B	C
Global market share		15 %	7 %	3 %
Regional presence	**Region 1**	Strong/ Fun	Weak/ Value	Medium/ Fun
	Region 2	Weak/ Fun	Weak/ Value	Medium/ Fun
	Region 3	Medium/ Fun	Strong/ Value	Medium/ Fun
	....	Market position/ Brand positioning	Market position/ Brand positioning	Market position/ Brand positioning
Percentage of sales		17 %	4%	1 %
Percentage of profits		20 %	10 %	-0.2 %
Cash status		Cash generator	Cash neutral	Cash user

2.6 Brand portfolio restructuring

Section 2.5 described the brand evaluation process where managers view the financial performance and strategic importance of brands. According to Shah (2015), *conventional wisdom and a logical decision would be for firms to discontinue weak brands based on poor financial performance.* However, weak brands might be strategic significant for the firm and have importance for the firm objectives, consumers and the brand portfolio (ibid). In such situations, firms shouldn't necessarily divest weak brands despite their poor financial performance (ibid). The aspects of financial performance and strategic importance require firms to juxtapose the assessment of brands in the decision regarding brand retention or brand deletion.

When firms have classified all the brands in their portfolio into the three categories *strong*, *moderate* or *weak* as described in section 2.5.2, based on financial and strategic criteria, brand managers need to restructure the current brand portfolio to fit with the new objectives. An overview of the brand restructuring process is illustrated in Figure 8. The brands which have high performance according to the financial and strategic measures should be retained and does not need augmentation unless there is a market or growth opportunity present. These brands will function as core brands and the company should maintain the resources allocated to these brands to continue a high performance level. If the brand is in a position of potential growth, the brand can be further extended through a line, category or geographical extension. The process of extending or deleting a brand is however more complex and will be described further in the sections below.
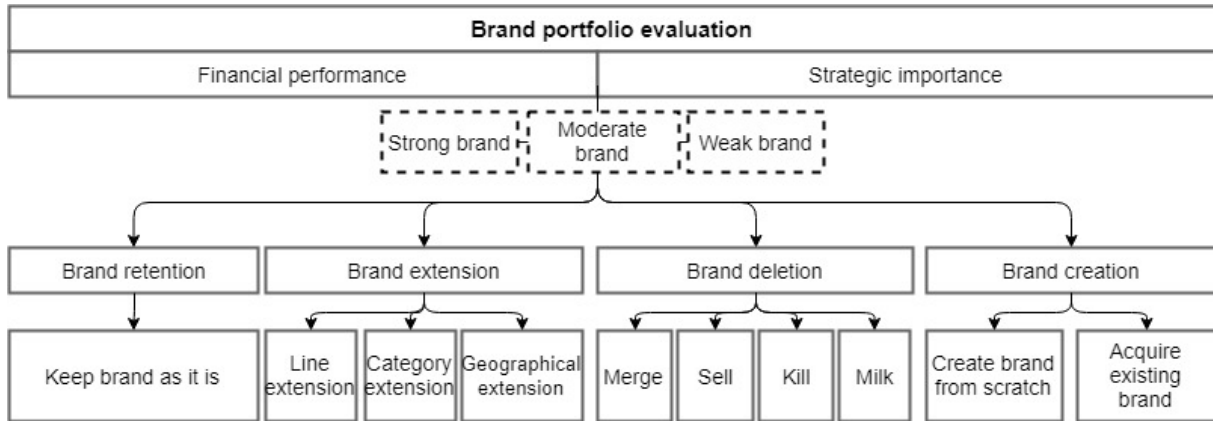
Figure 8: Brand restructuring model based on financial and strategic measures

2.6.1 Brand deletion

Brands which are classified as weak financially and weak strategically in the brand assessment process should be re-evaluated by executives to undergo a brand deletion and further placed in the categories *merge*, *sell*, *milk* or *kill* (Kumar, 2003). The complexity of the four categories range from the most intricate to the simplest to carry out. The logic behind a second assessment is the impact a brand deletion will have on the brand portfolio. Ultimately, brand modification will affect the brand portfolio holistically and subsequently firm performance as resources are released and transferred to other parts of the brand portfolio and business units. The brand deletion processes mentioned are each explained briefly below;

- **Merge brands:** According to Kumar (2003), firms tend to merge brands in cases where the brands targeted for deletion capture more than a few customers or acquire potential growth in niche segments. The merger process reallocates strong product characteristics or the value-offering from the brand up for elimination to the brand which the firm plans to keep. The objective is to make customers shift their spending's to the newly merged brand. However, merging brands can be challenging because it requires consumers to actively replace the old brand with the new. It is therefore of importance that the two brands which are merged operate in the same product category and are not too dissimilar in their consumer proposition. There are several strategies to make consumers migrate to the merged brand. One alternative is to develop a completely new brand identity which signals innovative capabilities. Another alternative is to abandon one of the two brand names where the stronger brand remains. In cases where the two brands are uniformly strong, firms can deploy a gradual merger process by using both brand names for a given time period before they let go of one of the brand names after a while (ibid). This will facilitate the transition between products from a consumer point of view.

- **Sell brand:** Brands which does not fit with the business strategy or business values, supported by the theory presented in section 2.2, should be sold despite resistance within the organization (Kumar, 2003). Such a decision should be executed if the brand objectives do not aid the company in reaching strategic business goals or support business values. Firms should however make sure that the brand up for sale does not become a future competitor for the company.

- **Milk brand:** If the brand is not suitable for mergers or sales, companies can milk the brand by ending all financial support for the brand with the exception of production and distribution costs. This will enable the brand to generate profits for the firm, but inhibit sales growth. When sales decrease, the firm can ultimately eliminate the brand from the portfolio.

- **Kill brand:** Brands with few consumers, a low or negative financial performance and a negative influence on the company image can in most cases be eliminated without consumer resentment (Burmann et al., 2017; Kumar, 2003). Killing a brand will free firm resources which can be invested into other, more powerful brands and hence potentially increase firm performance (Varadarajan et al., 2006). Firms should not, however, kill a brand if it operates with a branded house architecture unless it seeks to reignite itself with a new firm brand name.

2.6.2 Brand extension

Brands which are classified as moderate/strong financially, moderate/strong strategically and with a growth potential in the brand evaluation should be considered to endure a brand extension process. According to Burmann et al. (2017), *brand extension strategies refer to the expansive restructuring of brands* where the aim is to exploit business and market opportunities and deploy these in the brand portfolio strategy. The expansive restructuring activities can be either (1) line extensions (vertical prolongings of the brand where new products are added within the product portfolio of the brand), (2) category extensions (the brand introduces products in new or relevant product categories) or (3) geographical extensions (the brand penetrates new geographical markets) (ibid). Brand extensions of the core brand has the potential to rapidly construct consumer brand awareness and positive ideas in a profitable way because consumers are in most cases already familiar with the brand (Abratt and Motlana, 2002). Sattler and Völckner (2007) and Völckner (2003) found four main determinants of successful brand extensions; *fit* between the brand and the new product, *marketing support* of the extension, *retailer's acceptance* of the extended brand/product and the *consumer's involvement* in the core brand. In addition, consumers' perceived value, price and quality of the product and brand play a role in the consumers' attitude toward the extension (Gale, 1992; Smith and Park, 1992). A strategy which is found effective in a brand extension process in order to serve customer

demand, increase market share and fill portfolio gaps is *hyper-differentiation* strategies described in the following section.

Hyper-differentiation and resonance

Hyper-differentiation and resonance anticipates that highly differentiated products will generate the greatest fit among consumers and therefore ultimately become the preferred choice of purchase (Clemons et al., 2006; Clemons and Spitler, 2004). As consumers have a wide range of preferences, a firm's brand and product portfolio should provide an equally wide range of offerings if it has the capabilities to do so. This can be done through brand extension by offering new product lines or product categories under an existing brand.

Clemons and Spitler (2004) suggest a business strategy in which a company will be better suited to meet changes in consumer endowment while increasing profits. Traditionally, companies have tried to capture the whole market by offering products produced in large volumes. Mass-production promoted economies of scale which made consumers willing to sacrifice their preferences because of little available information regarding the products that would satisfy their desires and needs to a greater extent. Hence, this sacrifice would lower the willingness to pay for a product. Today however, the availability of information has made it easier for consumers to discover the perfect fit. This allows companies to capture higher margins because of consumers' willingness to pay the additional premium (ibid). However, hyper-differentiating products to fit perfectly with all consumer preferences is a costly process. The extension of product lines decreases the benefit of economies of scale and product efficiency. Clemons and Spitler (2004) counters this issue and state that the increased earnings due to higher margins from premium products will *more than offset the costs of reduced operating efficiency and economies of scale*. With higher margins in each market segment, the total profit will surpass the low margin in the core business. Furthermore, the theory of Barney (1991) anticipates that differentiated products are able to inhibit the threat of substitutes and direct competitors because the product itself is highly contrasted and unique compared to what competitors offer.

2.6.3 Brand creation

If brand managers identify portfolio gaps in the brand portfolio during the evaluation of brands, and the introduction of products in this segment is appropriate according to the business vision, the firm can create a new brand to fill portfolio gaps. There are mainly two ways to introduce new brands in the portfolio; create a new brand from scratch or acquire an existing brand partly or wholly. The brand architecture of a firm will influence the brand-creation process, depending on whether the firm employs a house of brand or branded house strategy. If the firm holds a branded house-structure the new brand should be merged with the old brand. In a house of brands architecture, the new brand

can maintain the brand name. One strategy to achieve market awareness of the respective brand among consumers and increase market profitability is co-branding of the old brand with the new.

Co-branding

Co-branding is employed as a strategy where a firm introduces consumers to new products or brands through familiar brands among the consumers in the market (Abratt and Motlana, 2002). According to Abratt and Motlana (2002), *co-branding [...] involves the long-or short-term association or combination of two or more individual brands, products, or other distinctive proprietary assets to form a separate and unique product. The brands can then be represented physically or symbolically through the association of brand names, logos, or other proprietary assets of the composite brand.* One of the main reasons behind co-branding is brand portfolio extensions through acquisitions (Abratt and Motlana, 2002) and creation of new brands. The newly acquired products often arrive with *a rich archive of brand heritage* which could potentially boost consumer awareness of the brand and increase sales. New product arrivals in markets have a higher risk of being questioned by its legitimacy. This risk decreases through the use of co-branding with an established brand. Levin and Levin (2000) state that co-branding has the highest probability of success and assimilation when one of the firms is *not well defined.* This entails that consumers have no specific opinion towards that brand. However, the quality of products of the lesser known brand should be equal or higher to that of the more known brand. Even though a product might be new, the consumers have already established a relationship with the brand which helps them make a decision in regards to the co-branded product. This is a factor which should be taken into consideration if there is little or no prior information present about the product. Consumers' opinions regarding alliances, acquisitions or joint ventures can further influence the opinions of individual products in both a positive and negative way (Washburn et al., 2000). This is often in cases where a company tries to conceal its ownership of a specific brand, also called masked ownership, or if a larger firm acquires a smaller firm (Whittington, 2017). Further, firms which utilize co-branding strategies have a higher possibility of their brand being perceived as something of higher quality compared to new products or brands entering the market by self-promotion (Park et al., 1996). Due to the high cost related to entering a new market, more firms are utilizing co-branding with established brands as a tactic to *form a synergistic alliance* (ibid).

2.7 Overview of literature

This chapter has discussed the four identified factors affecting brand portfolio management; business, brand, consumer and market. Each construct influence each other as they are dynamic and should thus be monitored by firm executives with frequent time intervals

and aligned with each other. When the external and internal factors are assessed, the evaluation should further be applied in an overall brand portfolio assessment and restructuring process. The decision of brand strategy were presented in section 2.6.1, 2.6.2 and 2.6.3. Brand retention and brand extension involves brand growth in terms of volume and product line expansion. Brand deletion led to the decisions of mergers, selling off the brand, milking the brand and killing the brand.

The four alternatives to brand restructuring depend on the financial performance and strategic importance of the particular brand in alignment with the brand portfolio as a whole. The brand restructuring will ultimately affect firm performance in terms of financial and growth indicators. An overview of the literature presented in this chapter is shown in Figure 9 on page 30.
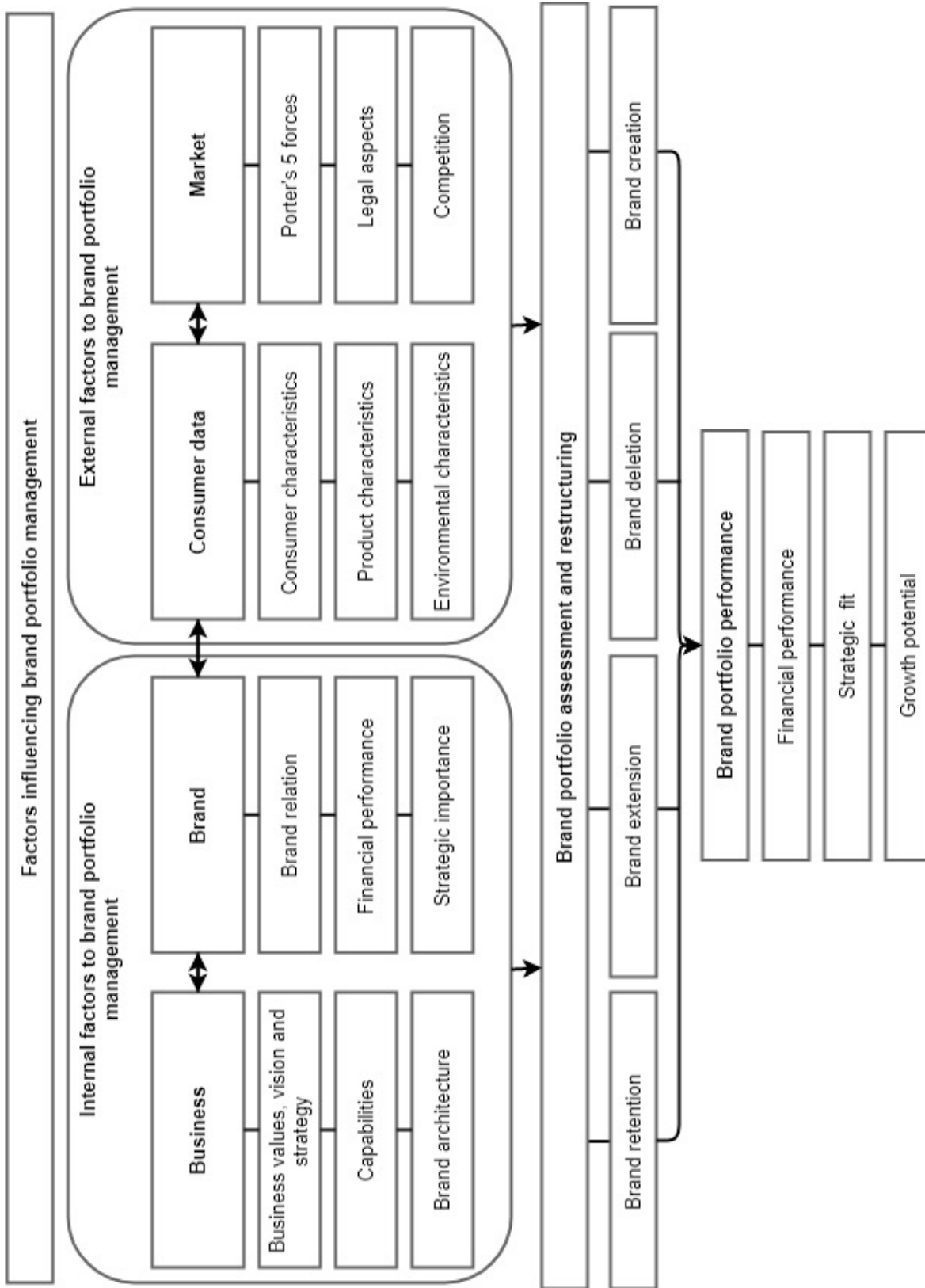
Figure 9: Overall model of the theoretical framework

2.8 Hypotheses development

The following section will deduce hypotheses based on the theory presented so far, with the main focus on the consumer dimension of brand management and hence the second research question of this study; *How should established firms within the Norwegian brewing industry utilize consumer data to identify buying patterns and consumer demand in order to successfully manage their brand portfolios?* Chapter 2.3 identified three factors affecting consumer choice of a product or brand; *consumer characteristics, consumer environment* and *product characteristics.* These factors are in accordance to the ones presented by Tremblay and Tremblay (2007) whom state that *economic theory predicts that an individual consumer's demand for beer is a function of the price of beer, the prices of substitutes and complements, the consumer's income, the product's characteristics, and the consumer's level of consumption capital.* The aim for the hypotheses postulated in this study is to uncover how consumer characteristics, product characteristics and environment affect the buying behavior and demand of Norwegian beer consumers and how this choice in turn should lay the foundation for the consumer dimension of brand portfolio evaluation. Ultimately, the evaluation should lead to a brand management restructuring where brands are either retained, extended or divested in line with business objectives, brand objectives and market opportunities. A simplified conceptual model of the assessment of consumer behavior is illustrated in Figure 10.
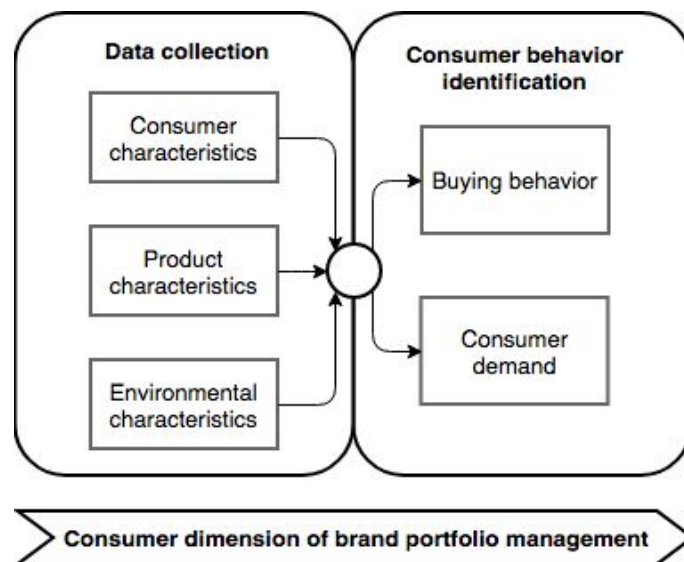
Figure 10: Simplified model of the data collection of influential factors for consumer demand and buying behavior identification.

2.8.1 Consumer characteristics

Consumer characteristics are important influential constructs which affect consumer purchasing decisions. It is therefore paramount for firms to base a market segmentation on

demographic consumer dimensions such as age, gender, geographical location and income as different consumer groups tend to prefer and buy different products and brands (Peter et al., 1999).

Throughout their experiments, Galizzi and Garavaglia (2012) managed to unravel that consumers' preferences towards a product are in fact affected by specifics such as product and brand. The preference for a brand is positively correlated with the degree of the positive relationship between the consumer and the brand. Furthermore, as Norwegian breweries are continuing to expand the brand portfolio and product offerings, the end consumers are more exposed to a larger variety of products to choose from within the firm's brand portfolio. This growth of products and brands is identified on a global scale, causing Norwegian consumers to be faced with a wide range of international beer products alongside Norwegian brands. Location bias has not yet been studied in Norway to the knowledge of the authors. It has however been studied in the U.S where Lopez and Matschke (2007) found a clear location bias in the American market where the studied population obtained a strong bias toward beers that where domestically produced. We seek to discover if this domestic bias is transferable to the Norwegian market and postulate the following hypothesis:

H^4 1a: *The majority of Norwegian beer consumers prefer Norwegian beer brands above international brands.*

The expansion of beer products could further possibly cause consumer groups to find themselves affected by the excessive choice effect (ECE) presented by Malone and Lusk (2018). The consumer would in such cases likely opt for products within the existing consumer buying repertoire of brands due to unfamiliarity to new products (ibid). In addition to the arrival of international and domestic brands in the Norwegian market, microbreweries have entered the market at a rapid pace (Bryggeri- og drikkevareforeningen, 2017b). The appearance of microbreweries have reignited the flame of what Schnell and Reese (2014) call *neolocalism* which in short terms is a movement dedicated to cultivating and promoting local ties and identities. However, neolocalism is not a particularly new movement in Norway as brands such as Mack and Hansa in the past have boasted the fact that they were, and still are, local brands. In the later years, these brands have been nationalized through distribution channels, but continue to maintain an important local presence in the regions where they originate from. It is therefore reasonable to believe that there exists some form of regional bias within the Norwegian beer industry. Furthermore, if the consumer in fact experiences ECE and opt for products within its existing repertoire of brands, one could assume that due to local ties, the consumer would prefer a local brand or product. Hence:

H1b: *Consumers who live in the same county as a large brewery are likely to purchase*

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[4]H- hypothesis. H is used throughout the paper prior to the hypothesis number.

the respective beer brand of that county.

Both the national and international beer industry has been plagued by consolidations the last decades where larger firms acquire smaller, successful firms (Howard, 2014). In more recent years, large breweries have targeted microbreweries due to a high growth in the demand for craft beer in comparison to regular beer (Howard, 2014). This pattern is quite present in the U.S. where the largest brewery group in the world, Anheuser Busch InBev (AB InBev), acquired several microbreweries such as Goose Island and Wicked Weed Breweries to cover the craft beer segment in its brand portfolio (DeJesus, 2017). However, after acquiring Wicked Weed, AB InBev was accused of attempting to mask its ownership of the newly acquired brewery which led several microbreweries to boycott an event arranged by Wicked Weed (Whittington, 2017). Furthermore, since consumers are becoming more informed due to information transparency (Clemons, 2008), one could speculate that consumers have become more aware of the business ownership aspects surrounding the breweries such as whether or not a brewery is owned by a larger corporation. Moreover, craft beer is heavily related to neolocalism (Schnell and Reese, 2014) as it tends to focus on factors like local ingredients and the geographical location of the brewery. An important factor for consumers might therefore be that these small-scale breweries remain independent. This is further presented by Patterson and Hoalst-Pullen (2014) whom stated that craft beer is different from regular beer as the former is more dependent on the ingredients of the brew, the location of the brewery and the style of the beer. As D'Aveni (2002) stated, there are several differences between the customers who prefer craft beer and those prefer regular beer. By combining these ideas, the following hypotheses are presented:

H2a: *Consumers who prefer craft beer brands value brewery independence.*

H2b: *Consumers who prefer standard beer brands are neutral to brewery independence.*

2.8.2 Product characteristics

As stated by Peter et al. (1999), a consumer is considered to be brand loyal if he/she continuously purchases the same brand. However, Ehrenberg (1988) discovered that a minority of consumers are 100% loyal to a specific brand. It is therefore interesting to seek to identify how Norwegian beer consumers are positioned with regards to brand loyalty and purchasing frequency of a particular brand. Based on the theory of Ehrenberg (1988), it is hypothesized that;

H3: *The majority of consumers have a multi-buyer purchasing orientation.*

As consumers become more informed about the products which exist in the market, they are more inclined to discover new flavours and find their perfect fit (Clemons et al., 2005).

Firms would consequently try to create products with diverse flavours in order to appeal to a larger consumer group. The prior strategy is known as hyper-differentiation described in section 2.6.2, and exploit product extensions based on diverse preferences (Clemons et al., 2006; Clemons and Spitler, 2004). Hyper-differentiation leads to a large variety of diverse products and choices in the market which for some consumers would be quite desirable. However, due to ECE, consumers might find it bewildering to constantly be faced with several new and unfamiliar products and ultimately end up with the brand or product within their existing repertoire. Currently, hyper-differentiation strategies are actively used within the Norwegian brewery industry, and have showed promising financial results for diverse flavours such as IPA, Bayer and other specialty beer types (Hansa Borg, 2014). However, this trend has enticed breweries to transfer the phenomenon of hyper-differentiation onto the well established lager segment. This has led consumers to be faced with an even larger supply of different products. If ECE results in the consumer opting for the status-quo when presented with new and unfamiliar products, we hypothesize that:

H4: *Hyper-differentiation within the lager segment does not resonate with the majority of Norwegian beer consumers.*

Due to the continuous growth of both brands and products within the national and international market, firms need to differentiate products to stay unique and hold a competitive advantage (Barney, 1991). According to Tremblay and Tremblay (2007), firms could achieve this by making the objective characteristics found in beer, such as alcohol content, calories, color and bitterness, distinct. Some consumers tend to believe that nearly physically identical products differ to a greater extent than the objective truth. The apparent perception of product differentiation is subjective and can according to Allison and Uhl (1964) be influenced by marketing. However, it is prohibited for Norwegian breweries to market their products. Moreover, product differentiation through information targeted for consumers needs to be distributed through a set of limited channels. Breweries can focus on creative and distinctive design, interesting flavours and tastes as a means to differentiate themselves from competitors. It seems as though Aquilani et al. (2015) builds on the idea presented by Tremblay and Tremblay (2007) as they state that there are two factors that affect the choice of beer; beer attributes and circumstances related to the purchasing process. Aquilani et al. (2015) found that among these factors, taste was the most important product attribute in a consumer purchasing choice. To uncover if this discovery is valid in the Norwegian beer market, it is hypothesized;

H5a: *Taste is the most important product attribute when consumers make a purchasing decision.*

Tremblay and Tremblay (2007) and Sester et al. (2013) further state that the willingness to pay is highly correlated with the preference for a specific product. The demand for regular

beer has seen minor changes in the Norwegian market the recent years (Nome, 2017; Bryggeri- og drikkevareforeningen, 2017b) and small margins present in the Norwegian brewing industry has made it difficult for companies to compete in terms of price as identified in section 2.4.2.6. This consequently affects pricing strategies in the regular beer segment because small margins drive firm profitability. This has led firms to offer products under different brands in the standard beer segment at a similar price. However, Toro-González et al. (2014) found that consumers are quite price elastic in the craft beer and the import beer segment. The studies revealed that consumers are willing to modify their consumption preferences from specialty beer to standard beer if the price of the product is perceived as high or income of the consumer is perceived as low. It then becomes imperative to understand how the price of a product affects the purchasing decisions of the consumers with regards to their income. Hence;

H5b: *Income affects the degree to which Norwegian beer consumers perceive price as an important factor in a purchasing decision.*

Craft beer is well known for its differentiated taste compared to regular beer (Clemons et al., 2006; Clemons and Spitler, 2004). The craft beer segment relies on a wide variety of flavours and beer types to satisfy consumers. Furthermore, craft beer breweries have been found to have multiple production lines in spite of small-scale production. This entails that they do not reap from the benefits of economies of scale. Higher costs per unit result in more expensive products for the consumers. Even though these products are more expensive, the firm and its brand might manage to meet the specific demand of individual consumers. As Peter et al. (1999) mentions, consumers who get what they specifically demand are more willing to pay a higher price for the given product. This statement is also brought forth by Toro-González et al. (2014). Hence;

H5c: *Consumers who prefer craft beer do not perceive price as an important purchasing attribute compared to people who prefer regular beer.*

Price elasticity of demand is a measure of the quantity demanded for a good in the advent of a change in price and applies to the beer market as it does for other typical consumer good markets. The following hypothesis seeks to investigate if there is a positive relationship between the number of units consumed each week and the degree to which consumers value price as an important product attribute. It is therefore hypothesized that:

H5d: *There is a positive correlation between the importance of the price of beer and the number of units consumed each week.*

2.8.3   Environment

Consumers' purchasing choices are highly affected by their surrounding environment and the situational context the consumers are in (Peter et al., 1999). Changes within the social setting affect the motivation of a purchase which leads to an alteration of desired product attributes (Kim and Chintagunta, 2012). Hence, the consumer is bound to a set of environmental conditions (Belk, 1974; Fennell, 1978). Kim and Chintagunta (2012) studies revealed that some brands were present to a greater extent in specific social context, while absent in other. If changes in the social setting and the surrounding environment alter the desired brand and product attributes, it is reasonable to believe that Norwegian consumers desire different types of beer in different situations. It is therefore hypothesized that:

H6: *Norwegian consumers buy different types of beer in different situational contexts.*

Table 6: Sales price of equal goods by breweries of different sizes. Prices are collected from Meny (2017).

	Producer	Brewery size	Price per liter
Pale Ale	Frydenlund	Large	78,60 NOK
	Aass	Large	75.00 NOK
	Nøgne Ø	Small	120.91 NOK
	Brooklyn	Small	120.85 NOK
Pilsner	Hansa	Large	55.80 NOK
	Aass	Large	55.80 NOK
	Lofotpils	Small	107.27 NOK

Basic microeconomic theory states that the relationship of demand between price and quantity are negatively correlated (Heilbrun and Gray, 2001). As price increases, there is a lower demand for a product. This concept can be applied in the consumer demand for beer. Moreover, specialty and craft beer products have a higher average price per unit compared to standard lager beer as seen in table 6. In addition, larger breweries can take advantage of economies of scale to a greater extent than small-scale breweries, and hence, be able to charge lower prices for their products. Small breweries or breweries which produce a product in lower quantities will have higher costs associated with the production process. Table 6 shows the prices of standard beer and specialty beer produced by breweries of various sizes. Due to price differences within different beer segments, it is reasonable to explore the relationship between the purchasing frequency of craft and lager beer with respect to the number of units a consumer plans to consume. Based on the argumentation above, we hypothesize;

H7a: *Consumers purchase craft beer or specialty beer when they plan to drink 1-2 units.*
H7b: *Consumers purchase standard beer when they plan to drink 6 or more units.*

According to D'Aveni (2002) craft beer appeals to the younger population and segments of high to middle income, while standard beer brands have remained attractive to the older population. The demand of the younger population could be used as an indication of future trends and demand for craft beer. It is not given that the prior statement is indeed supported in the Norwegian market and it is therefore hypothesized that;

H8a: *The younger Norwegian population prefer craft beer brands above regular beer brands.*

As previously mentioned by Patterson and Hoalst-Pullen (2014), craft beer products are known for their wide variety of flavours, targeting different consumer groups. Furthermore, the number of microbreweries in Norway grew from 3 in 2007 to 124 in 2014 (Bryggeri- og drikkevareforeningen, 2017b). Hence, consumers are faced with a large amount of different brands and products which can affect the consumer choice through ECE (Malone and Lusk, 2018). However, Clemons (2008) explains that in general, consumers are more informed due to the large amount of available information. Some of the information can be found on online forums where consumers share their previous experiences and thoughts of the product with fellow beer enthusiasts. Typically, the available information informs the consumers about product attributes. Furthermore, Abratt and Motlana (2002) and Clemons and Spitler (2004) specify that the consumer choice is based on the information which they have gathered from such online forums through their environment which has it has made it easier for the consumers to find the perfect fit. Hence, due to the availability of information found on the Internet, consumers are more able to discover their perfect fit all the while reducing the risk associated with choosing a product that does not meet their demand (Clemons and Spitler, 2004; Clemons et al., 2005; Clemons, 2008) Consequently;

H8b: *Consumers who prefer craft beer rely more on information than those who prefer regular beer when making a purchasing decision.*

2.8.4 Overview of hypotheses

Figure 11 gives an overview of the developed hypotheses and the assembly of factors constituting the collection of consumer data in the Norwegian brewing industry. The respective hypotheses are positioned next to each relevant theme presented as boxes in the figure. The data output will, alongside the market, brand and business constructs, be applied in the brand portfolio assessment and restructuring to answer research question 1. The process of brand portfolio assessment and restructuring was explained in chapter 2.6 and portrayed in Figure 8.
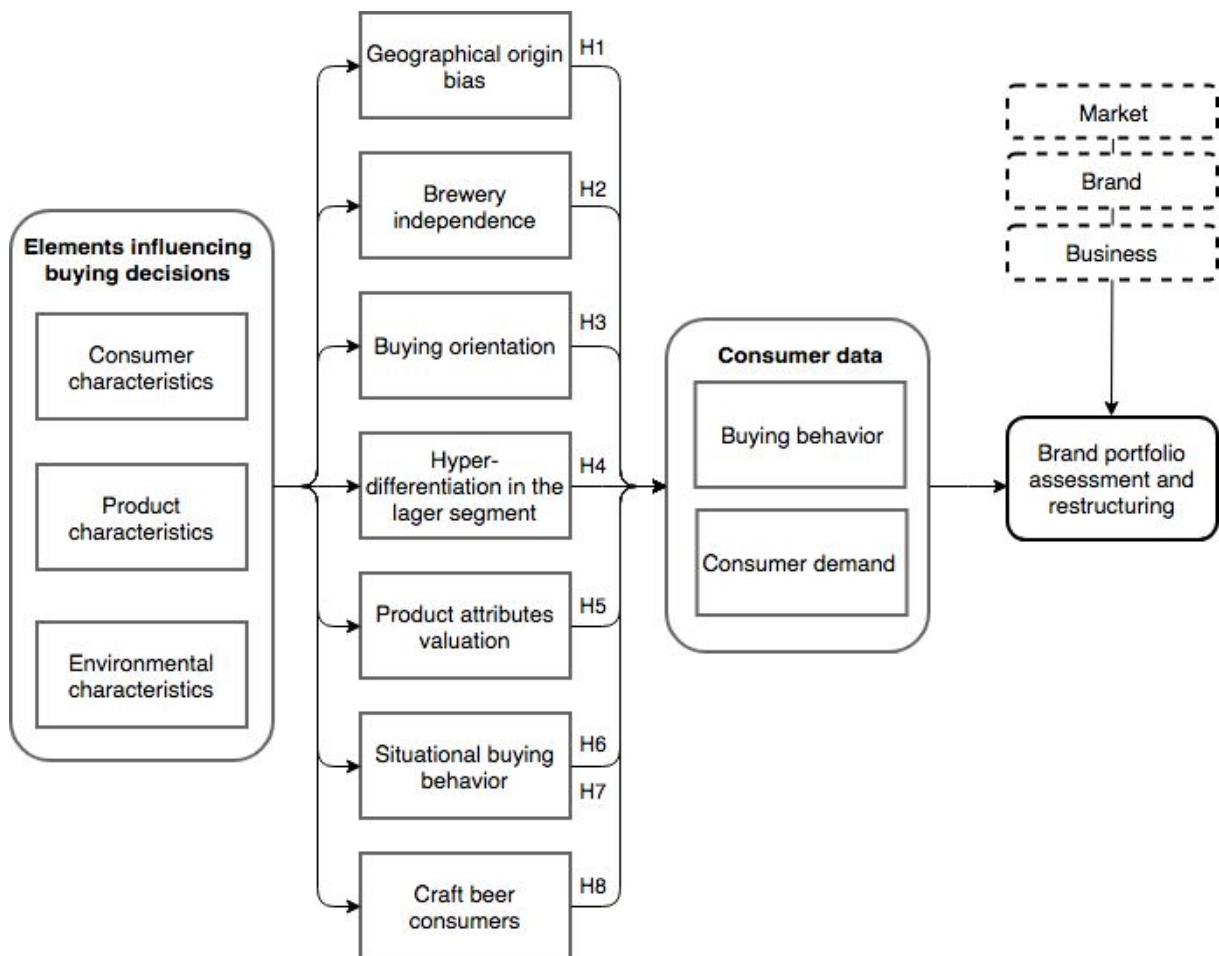
Figure 11: Conceptual model of hypothesized relationships.

3 Methodology

This chapter will outline the methodology applied to investigate the hypothesized relationships presented in chapter 2.8. The analysis of this study will focus on the consumer dimension of brand portfolio management presented in Figure 9 and Figure 10. Table 7 gives an overview of the applied research methods in this study.

Table 7: Principal methods applied in this study

	Research method
Strategy	*Quantitative*
Design	*Cross-sectional survey developed by the authors*
Data collection procedure	*Self-administered questionnaire* and publicly available data*
Framework for analysis	*Kruskal-Wallis H Test, Descriptive statistics, Spearman's correlation*

*The survey is printed in Appendix A.

3.1 Choice of research method

The study conducts a quantitative and deductive research approach in order to uncover whether the proposed hypotheses are supported through examination of possible relationships between various indicators. Authors such as Cronbach and Meehl (1955) substantiate this research approach by emphasizing the importance of deducing hypotheses based on relevant theory to the concept in question and to further analyze the relationships between the measures.

The quantitative approach encompasses statistical analyses of the obtained data sample and enables the researcher to project the findings onto a larger population through an objective process (Borrego et al., 2009). This contributes to greater reliability and validity of the measurements (ibid) and generalizing findings of a population is undoubtedly the object and nature of this study. The data collection is utilized through a cross-sectional research design which appropriates the assembly of data at a point in time (Bryman and Bell, 2015). Muijs (2010) encourages research through surveys because they hold the advantage of not being subject to interviewer biases and/or interviewer variability and the artificial situations which can arise in case studies and experiments.

As mentioned in section 1.1, successful management of brand portfolios can have significant implications for firm performance. However, the management of a vast amount of brands could have negative impacts on the firm if brand managers are unaware of the influential factors which affect it. Hence, it becomes increasingly vital to uncover the cogs that a brand portfolio is comprised of. Figure 1 identified four factors of brand portfolio management; business, brand, consumer and market. A satisfactory amount of

information regarding Norwegian businesses, brands and market is available online. However, limited information of Norwegian consumers' behavior and demand is accessible. Consequently, the aim of this study is to gather relevant information regarding the behavior and demand of beer consumers within the Norwegian market to create competitive brand portfolio management strategies for firms. The quantitative analysis of this paper therefore focuses on analyzing the consumer construct.

A quantitative research method inspired by Bryman and Bell (2015) was utilized to develop and answer the research questions in this paper. The approach of research is illustrated in Figure 12. Prior to the decision of specific research questions; the general idea of the paper, its motivation and the current state of the market was discussed in order to uncover gaps and any points of interest for managers within the industry. The discrepancies uncovered during this early stage led to the creation of the presented research questions in chapter 1.2. Subsequently, relevant literature was encountered and formed the basis for the hypotheses presented in chapter 2.8. These hypotheses have aided the construction of the survey. At last, we administered the survey and the data was analyzed to observe if the postulated hypotheses were valid.
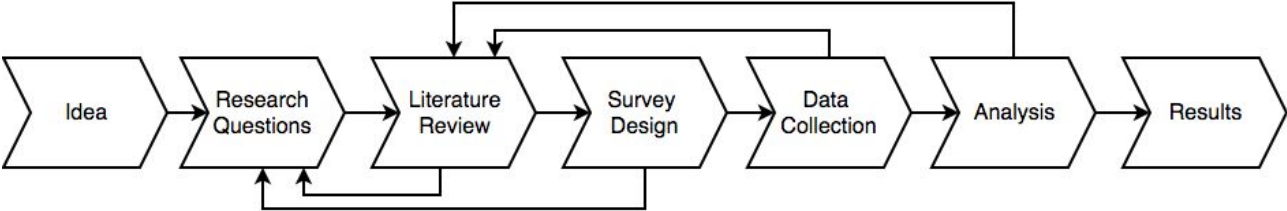
Figure 12: Quantitative research method of this study inspired by Bryman and Bell (2015)

3.2 Data

The data required to analyze the consumer construct of brand portfolio management was collected by inquiring a multi-source approach using both quantitative consumer data and publicly available information in the study. This chapter will describe the data originating from the questionnaire and the publicly available information comprised in the analyses.

3.2.1 Data selection criteria

Sample Size Criteria

In order to represent the target population of beer consumers in Norway, the sample population was required to be of adequate magnitude. Cochran (1977) addressed a method to determine an acceptable sample size consisting of (1) *margin of error* and (2) *the alpha*

level. The margin of error is the expected measure of the reduction in accuracy in an estimate of the sample population compared to the actual population studied (Jawlik, 2016). According to Cochran (1977) a 5% marginal error is acceptable for categorical data in the research sample. A 5% marginal error is thus found feasible in this study. The alpha level is the risk that the actual margin of error exceeds the acceptable margin of error (Cochran, 1977). Razavieh et al. (1996) state that the alpha level chosen in most research studies is found acceptable at the level of either 0.05 or 0.01, and 0.05 is thus chosen as the alpha level of this study. This implies a 95% confidence level and a z-score of 1.96 found in a z-table. The formula of Cochran (1977) is addressed in equation 1.

$$Samplesize^5 = \frac{\frac{z^2*p(1-p)}{e^2}}{1+(\frac{z^2*p(1-p)}{e^2 N})} \tag{1}$$

Table 8: Determination of an acceptable sample size

Population size	1,937,941
Margin of error	5%
Confidence level	95%
z-score	1.96
Acceptable sample size	**384**

The population size of Norwegian beer consumers were estimated to be 1,937,941[6]. This number have excluded the population in the age group 0-17 years, non-drinkers and the population which does not consume beer. Further, a margin error of 5% and a confidence level of 95% was found feasible to the extent of this paper. The latter yield a z-score of 1.96. Considering these figures, the acceptable sample size was found to be 384 respondents using equation 1. The numbers are summarized in table 8.

Respondent criteria
In order to ensure that the retrieved data depicted the Norwegian population in an accurate manner, the acquisition of data continued until the number of responses exceeded the required magnitude of the sample size population of 384 and until the interest for the survey died out. The sample population were required to meet the following three criteria: (1) the respondent is of age 18 or above, (2) the respondent lives in Norway and (3) the respondent is a beer consumer.

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[5]Population size = N | Margin of error = e | z-score = z | Percentage value = p
[6]The estimation of this number is found in Appendix B

3.2.2 Data collection

The data was collected from beer consumers in Norway in the age group 18-75 years through social media channels and by respondents targeted in grocery stores in the city of Trondheim and its suburbs. The grocery stores in Trondheim with the largest sales numbers of beer annually (Krokstrand and Dahle Moe, 2016) were selected to participate in the survey. At these sites, a random selection of customers were inquired to complete the survey.

The respondents completing the survey online received a shared link to the questionnaire through closed groups on Facebook. The selection of relevant groups was executed by evaluating the amount of group members, the age of group members and which part of Norway they resided in. Facebook groups with large audiences and a geographically dispersed population were chosen to partake in the study. Furthermore, the authors were careful to only target a minority of the Facebook groups inquired which were directly linked to craft beer, microbreweries and home brewing as this could disturb the sample population and consequently the representation of beer consumers in the Norwegian market. The process of dispersing the survey in various groups ultimately led to a sample population consisting of respondents from every county in Norway, all degrees of interest for beer and all legal age groups generating a representative population of the beer consumers in Norway.

All of the respondents were asked to complete the questionnaire consisting of 59 questions developed by the authors during February 2018. The survey was developed in the survey platform Questback and carried out in late February lasting until March 19th, 2018. A total of 674 respondents constitute the sample population who fully completed the survey.

3.2.3 Data material

A challenge that surfaced during the acquisition of the data was the lack of methods to validate the identity of the respondents. This could possibly lead some respondents to complete the survey more than once and alter the data accordingly. However, anonymity could possibly have contributed to increase the response count to a larger extent, ultimately generating more accurate results.

After terminating the survey, it was uncovered that only 41 respondents were in the age group *56-65 years* and 11 respondents in the age group *66-75 years*. The response count of the two groups was not of adequate magnitude to represent an accurate depiction of the population in these groups, which led them to being merged into a new age category; *over 56 years*. Furthermore, a single respondent from Svalbard was removed from the

sample population as it was the only respondent from this geographic area and hence not an accurate representative of the Svalbard population. Ultimately, the data sample consisted of 674 respondents.

An important aspect when gathering data is to ensure that the data is similar to the one present in the real world. Data from SSB[7] was therefore acquired so that it could be compared to the data gathered from the survey. However, some of the information gathered from the survey was not entirely present through SSB-sites and would therefore have to be supplied by Andreassen (2010) and KommuneProfilen (2018). The final data sample was representative of the Norwegian population. Moreover, the final overview of the Norwegian population from the aforementioned sources is found in table 38 in Appendix F.

Furthermore, as presented in section 1.1, brand portfolio management depends on four factors; business, brand, customers and market. Hence, data regarding all the factors affecting brand portfolio management had to be uncovered. The business data mainly stems from financial reports of the large established Norwegian breweries (Bedriftsdata-basen, 2017b,a; Hansa Borg, 2014). Brand data stems from information presented on the breweries' respective websites (Ringnes; Hansa Borg, 2017, 2013) and figures presented through Bryggeri- og drikkevareforeningen (2017b) have provided consumer data to some extent. Finally, market data was gathered through several news articles (Bing, 2017; NTB, 2017; Dalen and Lorch-Falch, 2017) and by emailing prominent actors within the industry (Nome, 2017; Devold Kolsing, 2017). This data material facilitates the understanding of the current status of the Norwegian market, industry players, the brands present, and the customers within the market. The data acquired from SSB and the survey results is printed in table 38 and table 9, respectively.

3.2.4 Empirical approach

The questions of the data sample was measured at three distinct levels; ordinal scale, nominal scale and open respondent question fields. The statistical analyses of this study through the use of IBM SPSS[8] utilize the ordinal and nominal scales. The levels of measurement used for the various hypotheses are listed in Appendix C. The qualitative data retrieved in the open question fields were used to support the findings. Typical examples of such questions were the "other" alternatives in some of the questions in the survey, in addition to the final question which asked the respondents to add additional information which could be valuable for the study. The open respondent question fields were primarily used to transform alternative answers to the given options into nominal variables. To illustrate, the respondents were asked to choose one of their preferred beer

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[7]SSB - The Norwegian Statistical Bureau

[8]IBM SPSS is a program which offers statistical analyses of data.

brands. If the preferred brand was not among the possible answers, the respondents were encouraged to submit their preferred brand in the *other* textbox. These results were then transformed into a nominal variable with two levels; 1 for regular beer and 2 for craft beer.

The majority of the questions in the survey relied on ordinal measurement using a 5-point Likert scale. The scale represented different parameters for various questions, but for most cases a score of 1 was assigned strongly disagree/never and a score of 5 was assigned strongly agree/always. A score of 3 was regarded as medium/neutral. Most values were reported between 2 and 4 as few respondents marked the extreme values of 1 and 5. The nominal scale was applied to map categorical respondent characteristics such as gender, age, sex and residence. These factors constitute the independent variables of the study. The remaining variables found in this study are considered as dependent variables.

3.3   Data analysis

As seen in table 7, three different methods were used to analyze the acquired data in this paper. The reasoning behind the choice of these methods and their applicability will be explained in the following paragraphs.

3.3.1   Descriptive analysis

According to Pallant (2013), descriptive statistics are useful tools to summarize a set of characteristics in the gathered sample population. Furthermore, descriptives can be applied to test whether the variables adhere to several assumptions related to different methods of analysis. Examples of such is normality, outliers which may distort the acquired data and the measurement level of variables. Typically, *mean score*, *standard deviation* and N^9 are measures that are used to characterize the studied population. The *mean score* of a data set is the average score of the values present in a specific group within the population (Pallant, 2013). The *standard deviation* measures the variation present within the studied group of the population. It measures to what extent the values of the acquired data differ from the mean score (ibid). Moreover, graphical representations of the data is according to Pallant (2013) another method to identify discrepancies which result in increased levels of reliability and validity of the results.

Descriptive analyses have been applied in this study to a large extent because there exists little information regarding the Norwegian consumers within the beer market. It is therefore suitable for the purpose of this paper to present these findings through descriptive

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[9]N - Number of respondents

statistics. The hypotheses that have been analyzed through descriptive analyses are *H1a, H1b, H3, H4, H5a, H6, H7a, H7b, H8a.*

3.3.2 Correlation analysis

The main aim of a correlation analysis is to uncover the relationship between variables. The statistics obtained during a correlation analysis is known as Pearson's product-moment correlation (ρ) which can range from -1 to +1 (Pallant, 2013). A positive correlation implies a causal relationship between two variables where the dependent variable increases when the independent variable increases. It is a common assumption that the variables that undergo a correlation analysis should be continuous. However, in cases where the data is categorical, Spearman's ρ can be used and deliver similar results to that of Pearson's correlation. The majority of the variables used in this paper are ordinal which entails that a Spearman's ρ had to be applied. The latter analysis method measures the monotonic relationship[10] between two variables (Pallant, 2013). This is different to Pearson's correlation analysis which measures the linear relationship between the variables. The hypotheses which have been analyzed through a correlation analysis are *H5b, H5d.*

3.3.3 Kruskal-Wallis H test

Several of the postulated hypotheses aim at comparing different groups in the sample population generated from the survey. Sample groups comparisons be done through a one-way ANOVA analysis method. However, the independent and dependent variables utilized in the analysis of this thesis are either ordinal or nominal (categorical). This entails that a one-way ANOVA analysis is inadequate due to the assumption of continuous dependent variables (Pallant, 2013). In order to overcome this problem, a Kruskal-Wallis H test have been employed. The test can be used when the analyzed relationship is comprised of an independent variable with two or more categorical groups and an ordinal dependent variable (ibid).

Kruskal-Wallis is a non-parametric technique. It differs from parametric techniques such as one-way ANOVA because it does not assume normality in the data and is less sensitive to outliers (ibid). However, the data needs to pass four assumptions of the Kruskal-Wallis H test to give valid results. These are (1) the dependent variable is measured at the ordinal or continuous level, (2) the independent variable consist of two or more categorical, independent groups, (3) the data consist of independent observations, and (4) the distribution in the groups of the independent variable have the same shape (the

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[10]A monotonic relationship is is where an increase in the independent variable causes an increase in the dependent variable (Pallant, 2013)

same variability). IBM SPSS provides the *K-independent samples* analysis to observe if there is a difference among the studied groups. However, this analysis does not pinpoint where the difference occurs nor the magnitude of the difference. This was solved by using the *Independent samples* analysis which checks whether there is a difference among the studied groups and furthermore presents these differences. In cases where there were more than two groups present within the independent variable, a *Pairwise comparisons of variable* was be executed. It has the same purpose as a post-hoc test and explicitly uncovers which sub-groups differ from one another. Furthermore, the Kruskal-Wallis H test calculates what is known as the degrees of freedom (**df**) and the significance level (**Asymp. Sig.**). If the significance level is less than 0.05, a statistically significance difference between the measured variables was present.

There are several outputs produced by the *Independent samples* test, such as boxplots. This graphical representation is beneficial to compare the distribution of scores of variables (ibid). Every distribution produced by the test is represented as a box with protruding lines, called whiskers (ibid). These represent the lowest and the highest scores registered in the sample population. The length of the box depends on the measured variables' interquartile range. Moreover, the horizontal line inside the box represents the median value which is a point that describes the exact centre of all the studied data values (ibid). Consequently, boxplots are useful comparison tools as they accurately represent the pattern of scores within the studied population which facilitate visual inspections. Some scores may be vastly different from the norm present in the population. These are represented as small circles and are known as outliers. If these are too dispersed, it is often recommended that they be removed as they might alter the results (ibid). The hypotheses that have been analyzed through a Kruskal-Wallis H test are *H2a, H2b, H3, H5c, H8b*.

4 Results

This study utilizes quantitative data collected from the survey developed by the authors to identify consumer buying characteristics, patterns and differences in demographic sample groups in the Norwegian beer market. The results are presented in this chapter and will be measured up against the hypotheses developed in chapter 2.8. The results can be studied in greater detail in Appendix D. The sample population will be presented at first, followed by statistical analyses in order to support or reject the hypotheses.

4.1 Sample characteristics

A demographic profile of the survey respondents is outlined in table 9. The profile exhibits the sample population's division of gender, age, income, beer consumption and home county residence. All of the categories represent a high degree of heterogeneity in the respective classes as illustrated below.

Table 9: Demographic profile of respondents

Gender	Response (%)	N
Male	56.8%	383
Female	43.2%	291
Age	Response (%)	N
18-25	35.6%	240
26-35	26.0%	175
36-45	16.5%	111
46-55	14.2%	96
Over 56	7.7%	52
Annual income (NOK)	Response (%)	N
0-150,000	27.6%	186
150,000-300,000	12.0%	81
300,000-450,000	16.9%	114
450,000-600,000	24.5%	165
600,000-750,000	8.6%	58
Over 750,000	10.4%	70
Beer consumption (Number of units per week[11])	Response (%)	N
0-3	50.7%	342
4-7	28.6%	193
8-11	12.0%	81
12-15	4.9%	33

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[11]1 unit = 0.5 liters

Over 15	3.9%	25
Home County	Response (%)	N
Akershus	13.1%	88
Aust-Agder	1.9%	13
Buskerud	3.3%	22
Finnmark	2.1%	14
Hedmark	1.6%	11
Hordaland	5.5%	37
Møre og Romsdal	2.5%	17
Nordland	14.8%	100
Oppland	1.2%	8
Oslo	14.8%	100
Rogaland	3.4%	23
Sogn og Fjordane	3.9%	26
Telemark	4.1%	28
Troms	4.3%	29
Trøndelag	11.7%	79
Vest-Agder	4.0%	27
Vestfold	6.1%	41
Østfold	1.6%	11
Total number of respondents	**100%**	**674**

4.2 Hypotheses results

The hypotheses were tested individually in IBM SPSS Statistics 25. A total of 15 relationships were inspected. Among these, 12 were supported, 2 were rejected and 1 was found inconclusive. The following paragraphs will elaborate further on each hypothesis and its respective results. The final results of the hypotheses testing is found in table 19 on page 61.

4.2.1 Geographical origin bias

H1a: *The majority of Norwegian beer consumers prefer Norwegian beer brands above international brands.* - **Not Supported**

Hypothesis *H1a* suggest that Norwegian beer consumers prefer Norwegian beer brands above international beer brands due to previous literature on domestic bias as presented in section 2.8. The findings reveal that the majority of the respondents are located in the lower and medium end of the Likert scale. 20.9 % of respondents reported *strongly disagree*

and 24.6% reported *disagree* on whether they prefer Norwegian beer above international beer. Only 8.6% of the respondents *strongly agree*. The results are displayed in table 10. The hypothesis is thus not supported as the higher end of the scale has a lower cumulative score than the lower end. Consumer's lack of preference towards domestic beer is not however, mutually exclusive with the preference of international beer as consumers might be indifferent between the two.

Table 10: Consumers' preference of brand nationality origin. Survey results of the statement *I prefer Norwegian beer before international beer.*

Value	N	%	Cumulative %
1 = Strongly disagree	141	20.9%	20.9%
2	166	24.6%	45.5%
3	213	31.6 %	77.2%
4	96	14.2%	91.4%
5 = Strongly agree	58	8.6%	100.0 %
Total	**674**	**100.0%**	**-**

H1b: *Consumers who live in the same county as a large established brewery are likely to purchase the respective beer brand of that county.* - **Supported**

Hypothesis *H1b* suggest that the preference for a specific beer brand among Norwegian beer consumers is affected by geographic location bias and loyalty to the nearby brewery. Table 11 exhibit the findings through a cross-tabular descriptive analysis of favorite brand and consumers' residence. The columns specify each county, the favorite brands reported by consumers living in that county and the percentage of consumers who prefers the respective brand. In all cases, the results uncover that Norwegian beer consumers favor the beer brand of the nearby brewery. It is therefore viable to characterize the consumer brand preference in each county with a location bias. Hypothesis *H1b* is therefore supported.

The results also show that consumers not living in a county with a large brewery favour the brands in the portfolio of the four largest breweries in Norway in the majority of the cases. This is a feasible argument as some of the top rated brands; Frydenlund, Tuborg and Carlsberg, are positioned in the portfolio of Ringnes AS. In cases where the respondents reported the alternative *other* when asked about their favorite brand, it was detected that none of the brands in this group accumulated a larger share of the top rated favorite brands than the ones in the portfolio of Ringnes AS, Hansa Borg AS, Mack and Aass Bryggerier.

Another finding is that the consumers in the regions of a large brewery make up a large share of the total consumer group of that brand. For example, 51.9% of Dahls consumers reside in Trøndelag, where the brewery is located. The same finding is valid for Mack in Troms (30.5% of Mack consumers reside in Troms), Hansa in Hordaland (25.6% of Hansa consumers reside in Hordaland) and Ringnes in Oslo (42.4% of Ringnes consumers reside in Oslo). Another interesting finding is that a large share of a brewery's consumers is made up by residents living in the neighbouring county. This was found to be the case for Nordland, whose beer consumers make up 22.0% of Mack consumers.

Table 11: Favorite brand(s) in each county

County	Favorite brand(s)	Share	Comment
Akershus	Frydenlund	25.0%	
Aust-Agder	Tuborg	15.4%	
	Dahls	15.4%	
	Other	46.2%	
Buskerud	Aass	27.3%	
	Frydenlund	22.7%	Aass brewery is located in Buskerud.
	Other	31.8%	
Finnmark	Mack	50.0%	
	Hansa	21.4%	
	Other	28.6%	
Hordaland	Hansa	54.1%	25.6% of Hansa consumers from Hordaland. Hansa brewery is located in Hordaland.
Møre and Romsdal	Dahls	29.4%	
Nordland	Frydenlund	19.0%	
	Carlsberg	16.0%	22.0% of Mack consumers from Nordland.
	Mack	13.0%	
	Other	25.0%	
Oppland	Aass	25.0%	
	Frydenlund	25.0%	
Oslo	Frydenlund	27.0%	42.4% of Ringnes consumers are from Oslo.
	Ringnes	14.0%	The breweries of Ringnes and Frydenlund are
	Other	27.0%	located in Oslo.
Rogaland	Hansa	17.4%	
	Other	39.1%	
Sogn and Fjordane	Hansa	38.5%	
	Carlsberg	23.0%	
	Tuborg	19.2%	
Troms	Mack	62.1%	30.5% of Mack consumers are from Troms. Mack brewery is located in Troms.
Trøndelag	Dahls	35.4%	51.9% of Dahls consumers are from Trøndelag.
	Frydenlund	20.3%	Dahls brewery is located in Trøndelag.
Vest-Agder	Tuborg	14.8%	
	Other	44.4%	

4.2.2 Brewery Independence

H2a: Consumers who prefer craft beer brands value brewery independence. - **Inconclusive**

H2b: Consumers who prefer standard beer brands are neutral to brewery independence.

- **Supported**

Hypothesis *H2a* seeks to identify if consumers who favor craft beer brands value brewery independence of the brand that they purchase. *H2b* seeks to investigate the equivalent concern for consumers who favor regular beer brands. Table 12 depict the results based on the two groups who favour regular beer brands and craft beer brands, respectively. The respondents were asked to rate the importance of product information on a Likert scale of *1: unimportant* to *5: very important*. The *Null hypothesis* produced by the Kruskal-Wallis H test measured a significant value of 0 which indicated a significant difference between the studied groups. Furthermore, the boxplot in Appendix D portrays that the median score for consumers who prefer regular beer is much lower than the one for consumers who prefer craft beer. As there were only two categories within the independent variables, a *pairwise comparison* was not necessary. Out of 674 respondents, 97 respondents (14.4%) favor craft beer brands and 577 respondents (86.6%) favor regular beer brands. As table 12 portrays, the consumer segment which prefer craft beer brands value independent breweries in a purchasing decision with a mean score of 2.93 out of 5. This is a significant difference from the previous group who scores 2.18. However, 3 on a Likert scale tends to indicate a sort of indifference with regards to the question. Furthermore, since the mean score for those who prefer craft beer is close to 3, one can not conclude that they value brewery independence. However, the mean score acquired for the consumers who prefer regular beer indicate that they remain somewhat neutral towards brewery independence. Hence, hypotheses *H2a* remains inconclusive while *H2b* is supported.

Table 12: Consumers' valuation of brewery independence on a 5-point Likert (1: *not important* to 5: *very important)* between those who prefer craft beer brands and those who prefer regular beer brands.

Beer brand preference	Mean Score	Std. Deviation	N
Regular beer brands	2.18	1.094	577
Craft beer brands	2.93	1.252	97
Total	**2.28**	**1.148**	**674**

4.2.3 Buying orientation

H3: The majority of beer consumers have a multi-buyer purchasing orientation. - **Supported**

In order to uncover whether the majority of the beer consumers have a multi-buyer purchasing orientation, a Kruskal-Wallis H test was executed. The respondents were asked to rate the importance of product information on a Likert scale of *1: unimportant* to *5: very important*. The Sig. value gathered from the *hypothesis test summary* was measured

at 0 which indicates that there indeed is a significant difference measures between the observed age groups. Due to the fact that there were more than two categories in the independent variable, a *pairwise comparison* was executed to uncover specifically where the difference occurred. The age-group *26-35 years* was found to be vastly different from the age-groups *18-25 years*, *46-55 years* and *over 56 years*. Furthermore, table 13 presents the the reported purchasing frequency of customers who favour a specific brand. The results show that none of the consumers reported *never* on purchasing frequency of their favorite brand, with the exception of 0.9% of consumers who rated Frydenlund as their favorite brand. Most of the consumers responded that they *often* (total mean average of 59.6%) buy their favorite brand, followed by the *occasionally* (20.6%) and *always*(16.9%). The results find that consumers have a multi-buyer (repertoire) purchasing orientation as the majority of the respondents seldom buy their favorite brand every time they complete a purchase. Hypothesis *H3* is therefore supported.

Table 13: Purchasing frequency for preferred brands

Favorite brand	Never	Seldom	Occasionally	Often	Always
Ringnes	0.0%	0.0%	27.3%	39.4%	33.3%
Hansa	0.0%	3.8%	25.6%	60.3%	10.3%
Frydenlund	0.9%	2.6%	18.1%	68.1%	10.3%
Aass	0.0%	2.4%	17.1%	65.9%	14.6%
Dahls	0.0%	3.7%	20.4%	61.1%	14.8%
Mack	0.0%	1.7%	15.3%	61.0%	22.0%
Carlsberg	0.0%	4.2%	32.4%	49.3%	14.1%
Tuborg	0.0%	3.6%	8.9%	71.4%	16.1%
Mean	**0.1%**	**2.8%**	**20.6%**	**59.6%**	**16.9%**

4.2.4 Hyper-differentiation within the lager segment

H4: *Hyper-differentiation within the lager segment does not resonate with the majority of Norwegian beer consumers.* - **Supported**

Hypotheses *H4* suggest that hyper-differentiation within the lager segment does not resonate with the majority of beer consumers in Norway. The survey results presented in Figure 13 illustrates the likelihood of a consumer purchase for various products in the pilsner segment. The products ranged in differences from standard pilsner 4.5% to non-alcoholic pilsner 0%, in addition to ecological and gluten-free pilsner. The respondents had the option to rate the likelihood of a purchase on a 5-point Likert scale where a score of 1 represents *highly unlikely* and a score of 5 represents *highly likely*. The final results show that the majority of the population (80%) find it *somewhat likely* or *highly likely* that they would buy pilsner 4.5%. It is observed that when the alcohol content decreases, the likelihood of purchase decreases. For non-alcoholic pilsner, the likelihood of purchase increases

somewhat.For the two additional categories, ecological pilsner and gluten-free pilsner, the likelihood of purchase is fairly low illustrated by the light blue segments alongside the orange and grey segments in Figure 13. Overall, the results suggest that Norwegian beer consumers prefer standard pilsner 4.5% above all of the other differentiated products in the pilsner segment. Hypothesis *H4* is therefore supported.
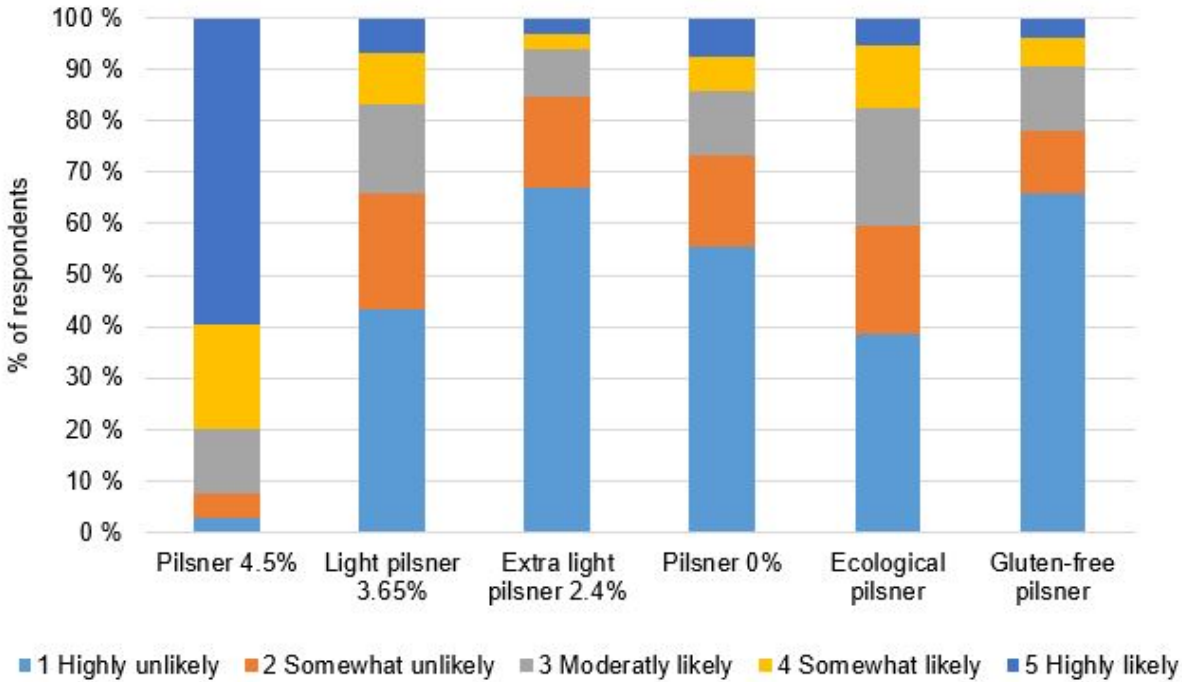

Figure 13: The likelihood of a consumer purchase for various products in the pilsner segment.

4.2.5 Product attributes valuation

H5a: *Taste is the most important product attribute when Norwegian consumers make a purchasing decision.* - **Supported**

Figure 14 illustrates the results of product characteristics valuation by consumers gathered from the distributed survey. The respondents were asked to rate a total of nine product characteristics of beer by a 5-point Likert scale. The results show that *Taste* is the characteristic with the highest rating of *very important* (55.6%) and the second highest rating of *somewhat important* (32.5%). Only 0.6% found taste to be *not important*. It is observed that none of the other product characteristics included in the survey are close to a similar valuation as taste. Hypothesis *H5a* is therefore supported. It is also observed that *price*, *temperature* and *beer type* are highly valued by consumers in a purchasing decision.
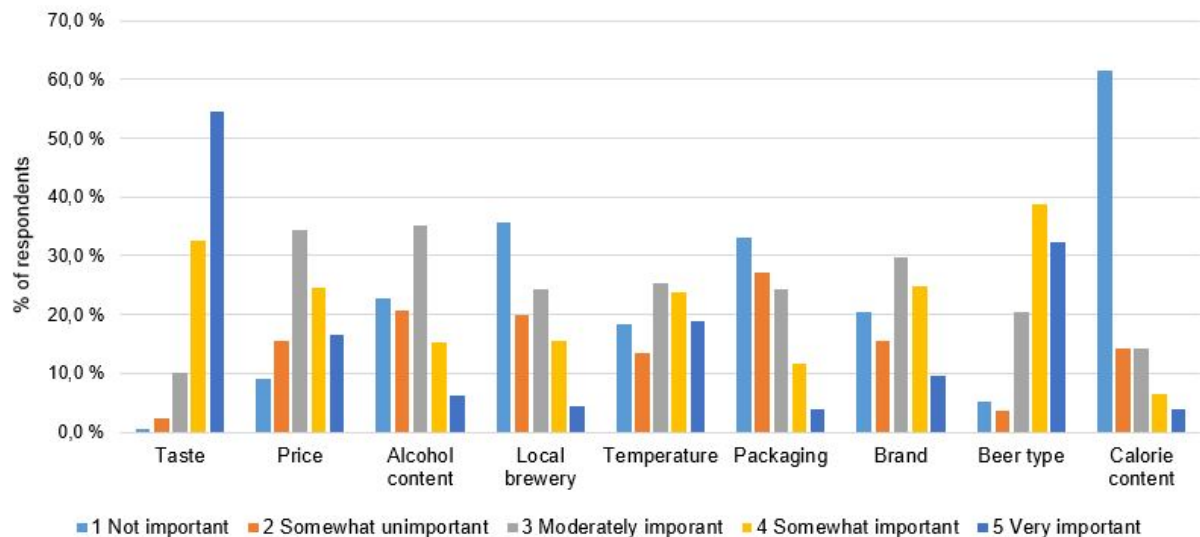

Figure 14: The respondent's scores on the importance of different product attributes

H5b*: Income affects the degree to which Norwegian beer consumers perceive price as an important factor in a purchasing decision.* - **Supported**

The aim of hypothesis *H5b* was to identify if there is a relationship between the annual income of consumers and to what degree consumers value price as an important characteristic during a purchase. Table 14 lists the respondents scores of the importance of price on a scale from *1: not important* to *5: very important* with regards to their respective annual income level. It is observed that higher income groups tend to find price less important in purchasing decisions relative to low income groups. A Spearman's correlation analysis was applied due to ordinal variables. The results obtained can be observed in greater detail in Appendix D. The Spearman's correlation between income and price was observed to be -0.386**. Correlation is significant at 0.01 level (2-tailed). It is clear

that as income increases, the importance of price decreases. Hypothesis *H5b* is therefore supported.

Table 14: The importance of price with respect to consumer income utilizing a 5-point Likert scale (from a score of 1: *not important* to 5: *very important*)

Annual income	Mean score	Standard Dev.	N
0-150,000	3.94	1.011	186
150,000-300,000	3.42	1.035	81
300,000-450,000	2.98	1.182	114
450,000-600,000	2.96	1.017	165
600,000-750,000	2.76	1.065	58
Above 750,000	2.66	1.214	70
Total	**3.24**	**1.169**	**674**

H5c: *Consumers who prefer craft beer do not perceive price as an important purchasing attribute compared to people who prefer regular beer.* - **Supported**

The aim of hypothesis *H5c* was to identify if there was a significant difference between the consumers who prefer craft beer and those who prefer regular beer with regards to price when purchasing a product. A Kruskal-Wallis test was executed to uncover if the prior hypothesis was supported. The respondents were asked to rate the importance of product information on a Likert scale of *1: not important* to *5: very important*. The significant value was measured at 0 which indicates a significant difference between the two studied groups. However, two outliers can be seen within the boxplot in Appendix D, but these are on each end of their scale and ultimately balance each other out. Hence, these are not removed. Since there were only two available categories in the independent variable, a *pairwise comparison* test was not necessary. Hypothesis *H5c* is supported.

Table 15: The importance of price with respect to beer type preference utilizing a 5-point Likert scale (from a score of 1: *not important* to 5: *very important*)

Type of beer	Mean score	Standard Dev.	N
Regular beer	3.34	1.144	577
Craft beer	2.62	1.122	97
Total	**3.24**	**1.169**	**674**

H5d: *There is a positive correlation between the importance of price of beer and the number of units consumed each week.* - **Supported**

Hypothesis *H5d* seeks to identify if there is a relationship between the reported number of units consumed per week and to what degree the respondents value price as an important factor when buying beer. It is hypothesized that the relationship has a positive correlation

as consumers' willingness to pay decreases with an increase in number of units consumed. A Spearman's correlation analysis was applied as one of the variables was ordinal. The correlation between price and number of units consumed per week was found to be 0.105**. Correlation is significant at the 0.01 level (2-tailed). This means that an increase in number of units consumed per week, the more the consumer values price as an important product characteristic. The mean scores are shown below in table 16. The leftmost column states the reported number of units per week followed by the mean scores of price importance ranging from *1: not important* to *5: very important.* Hypothesis *H5d* is therefore supported. It can also be observed that the majority of the respondents consume 0-3 units per week (50.7%), followed by 4-7 units (28.6%).

Table 16: Number of units consumed each week and the reported importance of price utilizing a 5-point Likert scale (from a score of 1: *not important* to 5: *very important*)

Number of units per week	Mean	Standard Dev.	N
0-3	3.14	1.150	342
4-7	3.22	1.171	193
8-11	3.48	1.119	81
12-15	3.64	1.168	33
Above 15	3.44	1.387	25
Total	3.24	1.169	674

4.2.6 Situational buying behavior

H6: Norwegian consumers buy different types of beer in different situational contexts. - **Supported**

Hypothesis *H6* aims to uncover if consumers buy different types of beer in different situational contexts. The survey respondents were asked to rate which types of beer they prefer in a given situation, with the possibility of checking off more than one alternative. The alternatives were pilsner/pale lager, specialty beer from microbreweries and specialty beer from established breweries. The results are shown in Figure 15. It is observed that pilsner/pale lager is highly preferred (86.1%) at the beach and at barbecues above specialty beer produced by both microbreweries and established firms. The preference for pilsner decreases in all the remaining categories. During holidays, the majority of consumers prefer specialty beer over pilsner (59.9% from microbreweries and 41.2% from established breweries). The results indicate that the majority of Norwegian beer consumers have a higher demand for specialty beer from microbreweries in comparison to specialty beer produced by established breweries in general. Overall, the fluctuating purchasing preference of beer type in different situational contexts is prominent and hypothesis *H6* is thus supported.
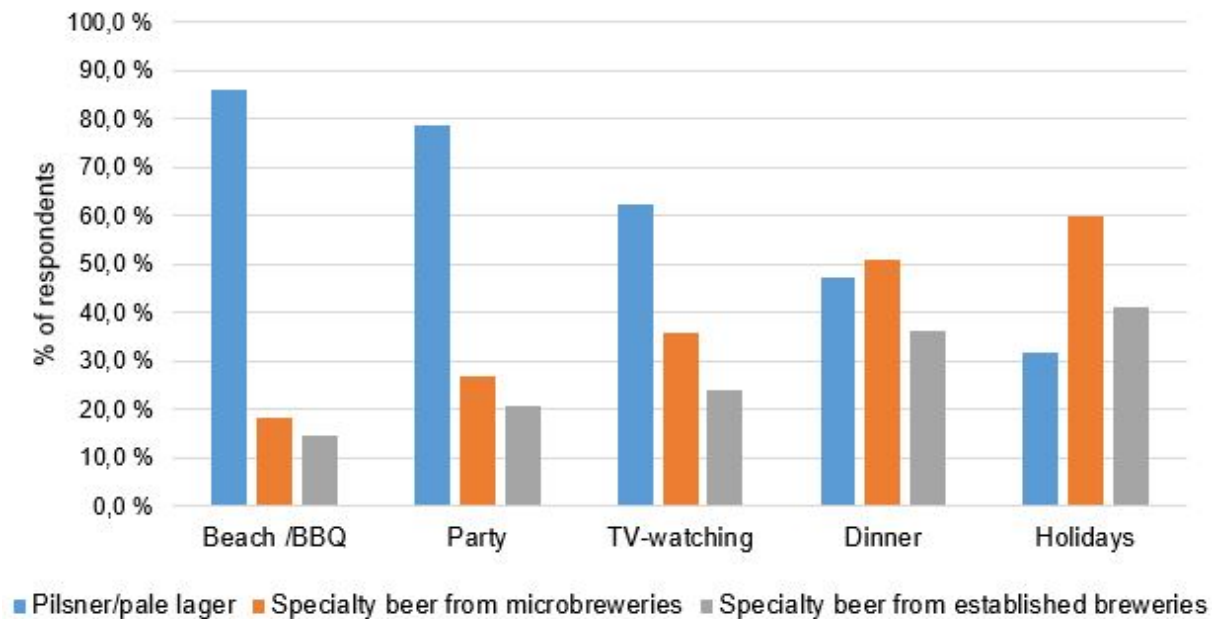
Figure 15: Beer preference of consumers in different situational contexts

_H7a:_ _Consumers purchase craft beer or specialty beer when they plan to drink 1-2 units._ - **Supported**

_H7b:_ _Consumers purchase pilsner/pale lager when they plan to drink 6 or more units._ - **Supported**

Hypothesis _H7a_ and _H7b_ seek to determine if consumers' preference for beer types vary by the number of units in which they plan to consume. The respondents were asked to rate which types of beer they prefer given a number of units, with the possibility of checking off more than one alternative in cases where the consumers prefer a mixture of beer types. The beer type alternatives given to the respondents were pilsner/pale lager, specialty beer from microbreweries and specialty beer from established breweries. Figure 16 shows the results. In situations where the consumers plan to drink few units, the majority of consumers prefer specialty beer from microbreweries (66.5%), followed by a somewhat indifferent attitude towards pilsner/pale lager (30.1%) and specialty beer from established breweries (33.0%). As the number of units increases, most consumers prefer pilsner/pale lager. This is especially notable in the _6-8 units_ (85.9% preference for pilsner/pale lager) and _Over 8 units_ (90.2% preference for pilsner/pale lager) segments. Both hypotheses _H7a_ and _H7b_ are supported.

4.2.7 Craft beer consumers

_H8a:_ _The younger Norwegian population prefer craft beer brands above regular beer brands._ - **Not supported**
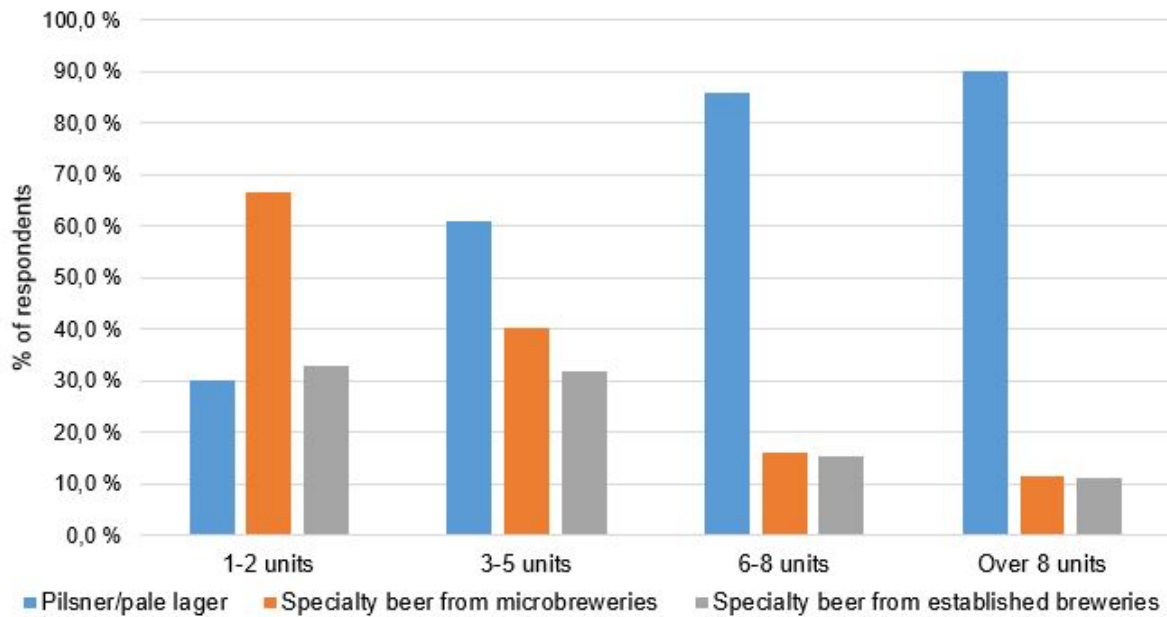
Figure 16: Beer type preference with respect to the number of units planned consume

Hypothesis *H8a* assumed that the younger consumer segment among Norwegian beer consumers had a higher preference toward craft beer brands compared to the elder population. The respondents were asked which brand they preferred among some of the larger Norwegian brands and some of the smaller. Moreover, if the preferred brand was not among the possible answers, the respondents were encouraged to write their preferred brand in the *other* text box. These results were then transformed into a nominal variable with two levels; 1 for regular beer and 2 for craft beer. As illustrated Figure 17, the majority of the respondents tend to prefer regular beer in comparison with craft beer. Furthermore, the average mean score measured for the age group *18-25* is the lowest among all the groups measured with a mean score of 1.08 which can be seen in table 17. Hence, hypothesis *H8a* is not supported.

Table 17: Preference for type of beer for different consumer age groups. A score of 1 is designated for regular beer and a score of 2 represents craft beer.

	Mean	Std. Deviation	N
18-25	1.08	0.277	240
26-35	1.19	0.392	175
36-45	1.23	0.420	111
46-55	1.13	0.332	96
Over 56	1.13	0.345	52
Total	1.14	0.351	674

H8b: *Consumers who prefer craft beer are more reliant on information when making a purchasing decision compared to those who prefer regular beer.* - **Supported**
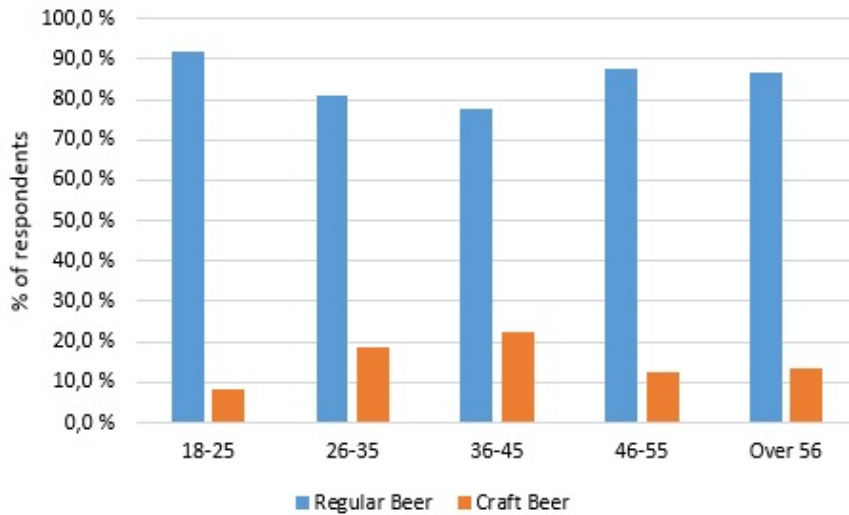
Figure 17: Beer type preference with respect to consumer age.

Hypothesis *H8b* seeks to investigate whether consumers who prefer craft beer are more reliant on information when making a purchasing decision compared to those who prefer regular beer. A Kruskal-Wallis H test was completed on the group who reported craft beer as their favorite brand and the group who favoured regular beer as their favorite brand. The respondents were asked to rate the importance of product information on a Likert scale of *1: unimportant* to *5: very important*. The significant value gathered from the *hypothesis test summary* was measured at 0.002 which indicates that there is a significant difference between the two groups. As one can see from the boxplot in Appendix D, an outlier is spotted in the group of consumers who prefer craft beer. Even though the respondent answered *1* on the specific question, it does not seem to affect the median result of the group. Hence, the outlier was not be removed. Furthermore, a *pairwise comparison* was not executed for this analysis due to the fact that there were only two levels within the independent variable. Moreover, the mean of the consumers of craft beer is higher than the mean of those who consume regular beer. Hence, hypothesis *H8b* is therefore supported.

Table 18: The importance of product information in a purchasing decision in the segments regular beer-preference and craft beer-preference utilizing a 5-point Likert scale (from 1: *not important* to 5: *very important*).

	Mean	Standard Dev.	N
Regular Beer	3.03	1.203	577
Craft Beer	3.43	1.145	97
Total	**3.09**	**1.202**	**674**

4.3 Overview of hypotheses results

Table 19 provides an overview of the hypotheses which were found to be supported, inconclusive and not supported. The results will be discussed in chapter 5.

Table 19: Results of hypotheses

	Results of hypotheses	
H1a	The majority of Norwegian beer consumers prefer Norwegian beer brands above international brands	Not supported
H1b	Consumers who live in the same county as a large local brewery is likely to purchase the respective beer brand of that county	Supported
H2a	Consumers who prefer craft beer brands value brewery independence	Inconclusive
H2b	Consumers who prefer standard beer brands are neutral to brewery independence group	Supported
H3	The majority of beer consumers have a multi-buying purchasing orientation	Supported
H4	Hyper-differentiation within the lager segment does not resonate with the majority of consumers	Supported
H5a	Taste is the most important product attribute when consumers make a purchasing decision	Supported
H5b	Income affects the degree to which Norwegian beer consumers perceive price as an important factor in a purchasing decision	Supported
H5c	Consumers who prefer craft beer do not perceive price as an important purchasing attribute compared to people who prefer regular beer	Supported
H5d	There is a positive correlation between the importance of price of beer and the number of units consumed each week	Supported
H6	Norwegian consumers buy different types of beer in different situational contexts	Supported
H7a	Consumers purchase craft beer or specialty beer when they plan to drink 1-2 units	Supported
H7b	Consumers purchase pilsner/pale lager when they plan to drink 6 or more units	Supported
H8a	The younger Norwegian population prefer craft beer brands above regular beer brands	Not supported
H8b	Consumers who prefer craft beer are more reliant on information when making a purchasing decision compared to those who prefer regular beer	Supported

5 Discussion

Chapter 2 *Literature Review* and chapter 4 *Results* serve as the basis for discussing the two research questions of this thesis. The following sections will elaborate measures to assess the brand portfolio management of firms based on the four influential factors identified in chapter 1.1. The concluding measures are marked in bold in each sub-chapter. The results in chapter 4 will determine how brand portfolio managers should utilize consumer data of behavior and demand along with the factors of business, brand and market to successfully manage the brand portfolio, answering research question 2. The integration of the constructs will be applied to answer research question 1. Finally, implications for managers, limitations and points for further research will be discussed.

5.1 Geographic origin bias

As Lopez and Matschke (2007) found in their study, a clear location bias was discovered in the U.S. where American citizens preferred domestically produced beer compared to foreign beer. The prior statement led to the postulation of hypothesis H1a: *The majority of Norwegian beer consumers prefer Norwegian beer brands above international brands.* However, through the results presented in chapter 4, it was uncovered that the hypothesis was not supported. The findings revealed that the majority of the respondents were located in the lower and medium end of the Likert scale. 20.9% of respondents reported *strongly disagree* and 24.6% reported *disagree* on whether they prefer Norwegian beer above international beer. Only 8.6% of the respondents strongly agree.

It is not clear why there is a discrepancy in the bias of nationally produced beer, but there might be several variables which amplify the difference between the Norwegian and American beer consumers. Firstly, the Norwegian market is quite different from the American market in terms of advertising and marketing. Norwegian breweries are under strict regulations which prohibits the marketing of alcohol. Marketing has, through multiple studies, revealed to elevate consumer's perceived quality and value of a firm's brand (Rust et al., 1995; Kumar, 2003). Increased perceived value affects the consumers' degree of brand loyalty, purchasing intentions and contributes to reduce switching behaviors (Anderson et al., 2014). Hence, marketing has an important effect on consumer decisions. As the American consumer continuously has been exposed to this type of marketing by breweries (Lopez and Matschke, 2007), it is reasonable to believe that the American consumer is more brand loyal and less likely to buy foreign brands compared to Norwegian consumers. Consequently, this could possibly explain why American consumers prefer domestic beer while the Norwegian consumer are to a large extent indifferent to the national origin of the brand.

Firms that employ a *house of brands* architecture should analyze the sales numbers of domestically and nationally produced beer in Norway. Sales figures of Norwegian and internationally produced beer in the Norwegian market from 2016 and 2017 are portrayed in table 20 below. The total sales of imported beer grew 17.09% between 2016 and 2017, whereas the total sales of Norwegian brewed beer decreased with 1.78%. The growth in the import beer segment has had positive figures the last years and there is therefore reason to believe that this product segment will capture a larger market share in the future. Hence, established breweries should consider to include more complementary international beer brands in their brand portfolios. In doing so, the breweries will become an important link between international firms and the Norwegian market which might increase the profits of the firm at hand, fill portfolio gaps and satisfy a wider range of consumer segments. Further, by entering into sales agreements with foreign breweries, the Norwegian breweries are able to control the sales number of these brands in the Norwegian market. This can contribute to a lower degree of rivalry in the market and allow brand managers to better position their brand portfolio in relation to consumer demand.

Table 20: Sales data of domestically produced beer and imported beer in the Norwegian market (Bryggeri- og drikkevareforeningen, 2017b).

	Sales in 2016 (L)	Sales in 2017 (L)	Δ%
Norwegian beer	229 007 511	224 924 054	-1.78%
Imported beer	34 155 859	39 992 023	17.09%

Firms should implement a strategy which focuses on including complementary international beer brands to a larger extent all the while continuing to preserve their strategy and resources for Norwegian beer brand in their brand portfolio.

The second hypothesis postulated in this paper was H1b: *Consumers who live in the same county as a large local brewery is likely to purchase the respective beer brand of that county.* The prior hypothesis was among others based on the findings of Schnell and Reese (2014) who presented the concept of *neolocalism.* The results summarized in table 11 uncovered a strong regional bias of brand in the counties where a large brewery was present. In all cases, the population favored the brand of the respective county (62.1% favored Mack in Troms, 54.1% favored Hansa in Hordaland, 35.4% favored Dahls in Trøndelag, 27.3% favored Aass in Buskerud, and 27.0% favored Frydenlund in Oslo). In addition, counties tend to favor the brand of the neighbouring county (22.0% of Mack consumers live in Nordland and 50.0% of the population in Finnmark favour Mack), and consequently the hypothesis was supported. It should be mentioned that these market share figures do not necessarily reflect the actual market share as they stem from the survey. They rather serve as an indication of the distribution of the market shares based

on the studied population.

The findings confirm a regional bias of beer brands on a local scale, but not a bias on the international level. Why are Norwegian consumers indifferent to the location of breweries on a large scale but very biased towards regional brands? The Norwegian brewing industry has been through several consolidation stages[12] initiated in the 60s (Trollsås, 2010). The majority of the brands which were independent during this time are now present in corporate brand portfolios. These brands have, despite the change of ownership, remained an important part of the regional culture in these areas. One illustrative brewery is E.C. Dahls brewery located in Trondheim and established in 1856. The brewery was acquired by Ringnes AS in 1987 but is still highly present in the city of Trondheim to this day. From table 11, it is observed that Dahls is the brand with the largest market share in the region of Trøndelag. This is also the residence county of Dahls. Furthermore, the brewery obtains high market shares in the neighbouring region, Møre and Romsdal (29.4%). As Galizzi and Garavaglia (2012) state, consumers' preferences towards a product are in fact affected by the brand. This entails that the inhabitants of Trøndelag and Møre and Romsdal have a high preference toward Dahls which alter the consumers to have a highly positive relationship with the brand according to (ibid). This positive relationship between consumer and brand explains why Dahls has managed to maintain the majority market shares in its prominent regions. Similar observation can be spotted in different regions within the Norwegian industry. Consequently, there is a clear regional bias present in Norway.

As previously mentioned in chapter 2.4, the Norwegian market is dominated by four large actors; Hansa Borg AS, Ringnes AS, Mack and Aass. Both Hansa Borg AS and Ringnes AS utilize a house of brand architecture whereas Mack and Aass utilize a branded house architecture. Both Mack and Ringnes AS have brands in their portfolio which can be defined as primarily local brands. Even though these brands are strategically differentiated through local distribution, many of them are sold on a national scale. One example is *Isbjørn*, a pilsner brewed in Tromsø by Mack, but sold in most cities in Norway through their distribution channels. Mack has established a high brand equity in the region of Troms (62.1% of the market share), where the brewery is located. Furthermore, as with Dahls, Mack has high market shares in its neighbouring regions Finnmark (50.0% of the market shares) and in Nordland (13.0%).

However, as observed in table 11, Mack and Dahls have not managed to obtain the same level of market shares in the remaining regions in Norway. It could be tempting for firms to opt for geographic expansion strategies of their brand on a national level as a means to increase the sales and consequently the market share of the brand (Uggla, 2015). In the case of Mack, this should be pursued as they utilize a branded house strategy. A

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[12]The consolidation history of Ringnes AS and Hansa Borg AS is printed in Appendix E

geographical expansion is one of few ways for the brewery to enable growth. A higher presence of Mack in Norwegian regions will result in a higher degree of brand awareness on a national scale and ultimately increased market share for the firm. Branded houses which desire to grow can also turn to competitors' distribution networks to leverage sales on a larger scale if it is found suitable in the alignment with firm strategy and business objectives. Dahls, however, is in the portfolio of the house of brands Ringnes AS. Brand managers of large portfolios are required to make trade-offs in which brands should be pursued as power brands, local brands and niche brands. Since Dahls is positioned as a local brand, a geographical expansion would initiate an internal market in the portfolio and thus higher competition with the power brand of Ringnes AS; Ringnes. Further, Dahls might not have the leverage to appeal to consumers on a national scale as it is mainly preferred in the region of Trøndelag. Hence, firms should map their brands on a national scale as a means to uncover the regional and national power level of each of their brands as illustrated in Figure 18. Furthermore, they should attempt to reduce the possibilities of regional and national power brands competing with one another.

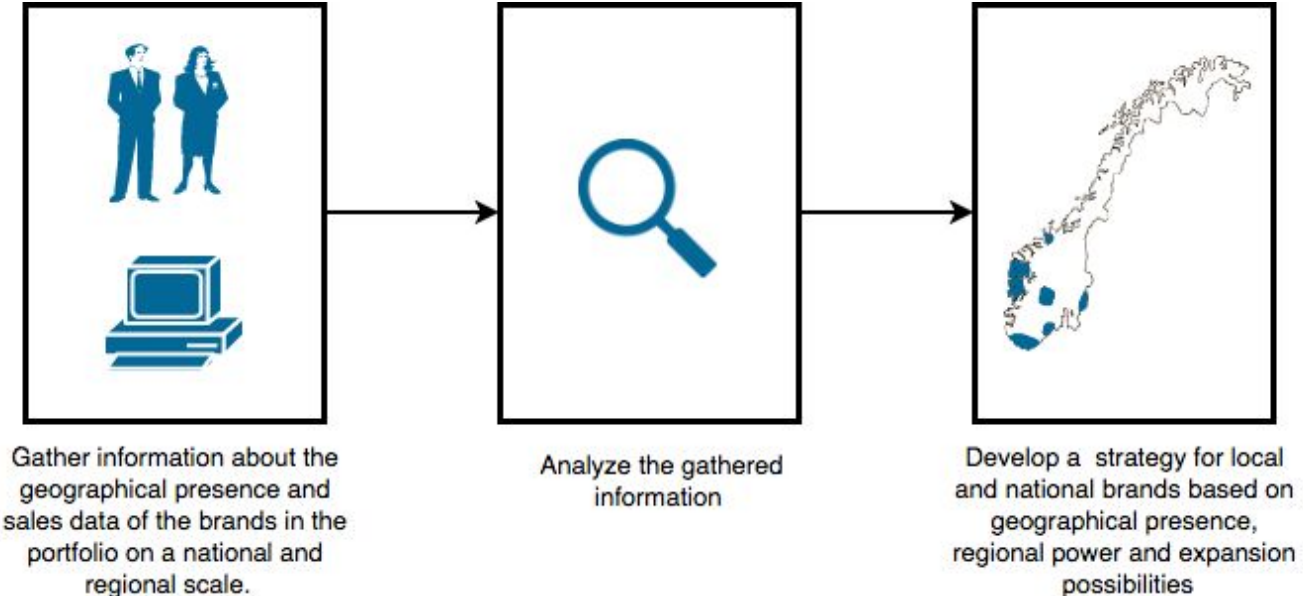| Gather information about the geographical presence and sales data of the brands in the portfolio on a national and regional scale. | Analyze the gathered information | Develop a strategy for local and national brands based on geographical presence, regional power and expansion possibilities |

Figure 18: Mapping of local brands on a national scale

Based on the line of reasoning and the results of location bias found in chapter 4.2.1, the following recommendation is given;

> **Firms utilizing a branded house strategy should attempt to expand their product on a national scale to pursue growth. Firms utilizing a house of brand strategy should study the mapping of their power brands as a means to ensure that local power brands do not compete directly with national power brands.**

5.2 Brewery independence

The four largest breweries in Norway; Ringnes AS, Hansa Borg, Mack and Aass, control 92.2% of the market with a large spectrum of brands and products (Nome, 2017). A large portion of the brands which are present in the Norwegian market are thus positioned under brewery umbrellas. These brewery clusters are primarily a result of the comprehensive acquisition history of Hansa Borg and Ringnes AS during last half century which can be observed in Appendix E. In chapter 2.6.3, Washburn et al. (2000) emphasized the impact firm acquisitions, alliances and joint ventures can have on consumers' opinions of a product or brand. In some cases, a brand can lose its identity if it is acquired by another company and accordingly impact the perception of the brand either positively or negatively.

The results in chapter 4.2.2 indicate that brewery independence is of little importance in a purchasing decision among Norwegian beer consumers. The survey respondents' mean score on the statement *I find it important that the beer I buy is independent of a brewery corporation* was found to be 2.3 out of 5, where 1 represents *strongly disagree* and 5 represents *strongly agree.* There was, however, a significant difference among consumers who favor craft beer brands and consumers who favor regular beer brands. This might indicate that brewery independence has a greater influence on purchasing decisions of craft beer than large-scale beer. This is especially relevant to consider when managing the specialty beer and the craft beer segments of a firm's brand portfolio. Whittington (2017) identified the phenomena of masked ownership and the implications this might have on the firm. Hansa Borg is one market player which have practiced this strategy in the partial acquisition of both Austmann (50.0% ownership) and Nøgne Ø (54.4% ownership). Both brands are apparently independent of Hansa Borg in the brand and product representation through the physical packaging and the respective brands' websites. However, these craft breweries are strategically vital for Hansa Borg's brand portfolio as they cover the craft beer consumer segment. Hansa has also launched its own specialty beer series where many of the same types of beer produced by Nøgne Ø and Austmann are present. These products do not, however, resonate with all beer enthusiasts as they are not considered

craft beer. And so, by acquiring a majority share in craft breweries and offering Hansa specialty products simultaneously, Hansa Borg accomplishes to serve multiple customers in multiple market segments despite the masked ownership of the craft breweries.

Further, Hansa manages to inhibit competition in the aforementioned segments because they have strong retailer relationships, established distribution networks and financial resources to promote the craft beer brands. Lower competition becomes particularly relevant for established firms as the market for craft beer has become more prominent the last years and hence forces the inclusion of craft beer in a firm's brand portfolio. This brand portfolio extension will again impact the business fit with its environments and to what degree the firm are capable to serve consumers. Ultimately, firms which have identified portfolio gaps in the craft beer segment should consider acquiring a microbrewery or establishing its own. In such cases, due to brand identification, breweries should avoid promoting the newly acquired brand through a co-branding of the corporate brand. For brands which appeal to a broader consumer segment, co-branding can be an important branding strategy to strengthen the brand's position in the market as it have been shown that consumers who favor regular beer brands are unremarkably affected by brewery independence in purchasing decisions. Further, established brands such as those of Ringnes, Hansa, Mack and Aass have a relative advantage to smaller breweries due to the brands' strong position in the market. Through co-branding the firm might impose positive results on sales as it increases the brand identification and lowers consumers' questioning of legitimacy (Abratt and Motlana, 2002).

If acquisitions of microbreweries are challenging to proceed due to brewery independence, established breweries can offer microbreweries distribution agreements and in turn receive a margin of the profits of the microbreweries. The large brewery can leverage its distribution network and aid the smaller brewery to expand its products through retailer agreements. This will enable the large-scale brewery to monitor and take control of the sales of competitors, while making profits off the respective firm.

Based on the results from the primary data and the line of reasoning above, the measures presented in bold below summarized the recommendations for established breweries:

Breweries should consider to establish a craft brewery or acquire an existing one in order to serve consumers in the craft beer segment and consequently fill brand portfolio gaps.

Breweries should apply co-branding strategies by leveraging core brands in the brand portfolio to strengthen the position of new brands in the market.

Breweries can offer small-scale producers distribution agreements against a small portion of the profit, while monitoring the sales of the brewery which they have engaged in a distribution agreement with.

5.3   Buying orientation

The results in section 4.2.3 indicate that the majority of Norwegian consumers purchase their favorite brand *often* when they buy beer. However, as table 13 portrays, only 16.9% of consumers select their favorite brand every single time of a purchase. Ehrenberg (1988) discovered that a minority of consumers are 100% loyal to a specific brand which reflect the findings of hypothesis *H3*. Most consumers in the beer segment are in fact multi-buyer purchasers and purchase a repertoire of brands and products in different situations even though they have one specific brand in which they favor. Firms should thus apply this information in the management of brand portfolios and in situations faced with the end consumer. Because consumers seldom buy one brand every time, the firm's brand portfolio should be designed to cover the whole spectrum of the alternatives the consumer considers when buying beer. This is challenging to put into practice as it requires the firm to offer an endless selection of differentiated products to meet all demands. However, firms should identify which brands and products act as complements and substitutes to figure out how to position the brands in the brand portfolio in relation to each other.

To illustrate; if a consumer favours brand A, and reports to buy this brand *often*, then the firm needs to identify the brands B and C which the consumer buys *seldom* or *occasionally* in the product mix alongside brand A. If there is a pattern in which brands consumers buy together with brand A, then the firm can undergo various measures to make this choice more available and simple for consumers. One measure is to place the brands beside each other in the retail-shelf so that consumers see the product-mix situated next to each other and subconsciously selects both within the same brand portfolio. To identify if consumers prefer to buy complement products or substitute products together with brand A, the firm could pick two almost identical stores and place complementary products beside brand A

in one store and substitute products beside brand A in the other store, respectively. After a trial period, the firm managers could evaluate which strategy garnish the better results. The strategy which capture the most consumer purchases should be implemented. This requires good network relationships with retailers and distributors as the firm needs to have the power to influence shelf positioning of its brand. The positioning strategy is illustrated in Figure 19 below where each of the two boxes represent the store shelf.
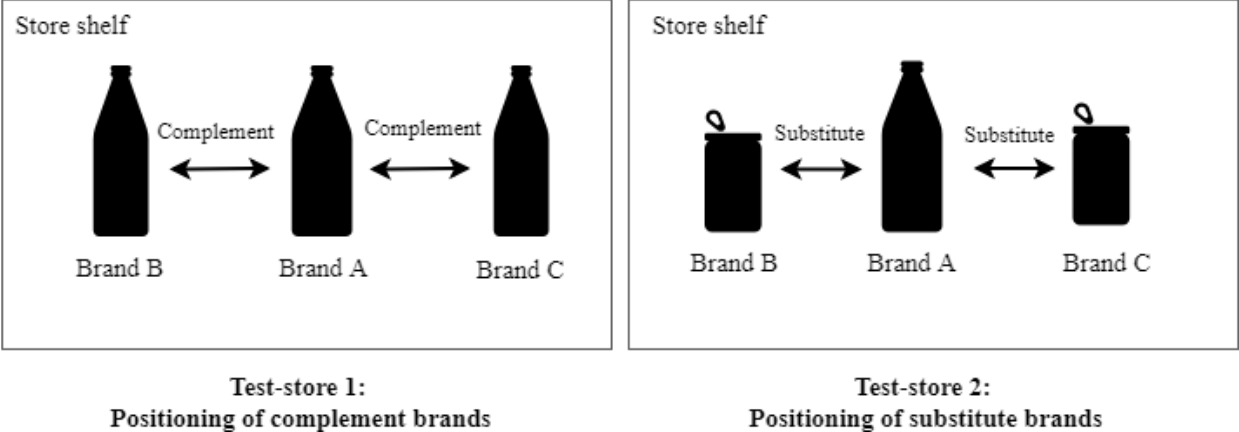
Figure 19: Positioning strategies of brands and products in stores.

Based on the argumentation above, firms need to explore how they can ensure that the consumer repertoire stays within the firm's brand portfolio. The following measure is recommended by the authors:

> **In order to capture the whole repertoire of brands in consumer purchasing decisions, firms should undergo a trial period of different positioning strategies of their brands in stores to identify which brands should be placed together.**

5.4 Hyper-differentiation in the lager segment

Clemons et al. (2003) stated that highly differentiated products appeal more to a larger aggregated population compared to generic products. However, Tremblay and Tremblay (2005) found that a minority of beer consumers are able to distinguish small variations in lager products, which led to the postulation of hypothesis H4. The results presented in section 4.2.4 indicate that the hyper-differentiated products within the lager segment does not appeal to the majority of the Norwegian consumers. The findings conclude that the greater part of the population (80.0%) find it *somewhat likely* or *highly likely* that they would buy pilsner 4.5%. It is observed that when the alcohol content decreases, the likelihood of purchase decreases. For the two additional categories, ecological pilsner

and gluten-free pilsner, the likelihood of purchase is fairly low compared to the standard pilsner 4.5%.

Several factors might explain why hyper-differentiated products within the lager segment lack the capability to attract consumers to the extent standard pilsner 4.5% manages to do. In section 2.5.1, Malone and Lusk (2018) addressed the paradox of the excessive choice effect (ECE). Firms are expected to offer a large selection of brands and products, and simultaneously limit the portfolio to avoid consumer confusion. When the consumer is faced with too many choices, the choice of product becomes complex and the consumer tend to constrict its choice to the existing purchasing repertoire of brands (ibid).

In order to illustrate why variations in products of the lager segment are inept to attract sales, the example of Hansa's category expansion strategy is presented. In 2014, Hansa launched a series of specialty beer consisting of styles such as IPA, Wheat and Bayer. The series alone stood for 46% of the growth in specialty beer in the off-trade segment in Norway in 2014 (Hansa Borg, 2014). In addition, 75.4 % of the growth of the Hansa brand was due to the specialty series (ibid). Through the category expansion, Hansa was able to to increase the performance of its brand within the beer segment by appealing to a larger and previously neglected customer base. Hence, offering differentiated products of the Hansa brand was very beneficial for the firm. It is reasonable to believe that the increase in growth inspired Hansa to employ a similar approach through the introduction of several hyper-differentiated products within the lager segment in order to reach out to an even larger consumer base. Four different beers with minor dissimilarities to the standard lager beer illustrated in Figure 20 were later introduced; Hansa Pilsner Ecological, Hansa Lite gluten-free, Hansa 365 with an alcohol content of 3.65% and Hansa Pilsner with an alcohol content of 2.40%. The hyper-differentiation present in these products was built on small differences in alcohol content and degree of bitterness.

Figure 20: Differentiation of packaging within the Hansa pilsner portfolio (a) Hansa pilsner 4.5% b) Hansa Pilsner Ecological c) Hansa Pilsner 2.4% d) Hansa Lite gluten-free e) Hansa 365 3.65 %

As Aquilani et al. (2015) state, taste is the most important attribute when consumers make a choice. This statement combined with the overwhelming response of the Hansa

specialty beers, validates the hyper-differentiation theory to some extent as the specialty beers produced by Hansa are very different in taste. An uninformed consumer would not necessarily be able to pinpoint which of the products are an IPA or Wheat, but is highly likely to separate the taste difference between the two products. However, standard lagers are indistinguishable to most people in blind taste tests (Tremblay and Tremblay, 2007). One could therefore speculate that a consumer would probably be able to distinguish the different specialty beers to a larger extent than the lager beers if they were to be put through a blind taste test. Furthermore, combining the prior train of thought with ECE would entail that a consumer would rather opt for a product which is differentiated through taste. Consequently, it is plausible that consumers are less likely to choose a variance of beer within the lager segment compared to specialty beer due to the importance of taste when making a choice.

It is clear that Hansa Borg AS have been inspired by Clemons and Spitler (2004) whom stated that hyper-differentiation could be applied to increase profits and resonate to all consumer segments in the beer market. However, a large amount of diverse products would decrease operation efficiency and economies of scale as more capital investments and multiple product lines are required for simultaneous production. Moreover, Clemons and Spitler (2004) state that the higher margins received from offering hyper-differentiated products would offset the sales costs because consumers are willing to pay more for the perfect fit. Nevertheless, as these products do not target different consumers in terms of taste and can thus not leverage the required willingness to pay to become profitable, hyper-differentiated lager products ultimately become a cost for Hansa Borg AS.

As the demand for pilsner is decreasing (Bryggeri- og drikkevareforeningen, 2017b), production and sales costs of hyper-differentiated products will have an even greater impact on the bottom line of Hansa Borg AS. This is because the economies of scale is losing its importance in this segment as consumers buy less pilsner and are not likely willing to pay more for these products. Nevertheless, Hansa Borg AS seems to ignore these trends by further adding hyper-differentiated products within the pilsner segment. The focus of the line expansion strategy appear to be somewhat distorted when Hansa allocates resources in the product segment with the largest decline in the Norwegian market (ibid). When Hansa Borg AS clings on to these hyper-differentiated pilsner products, they ensure a supply which does not match the demand and costs of production, distribution and sales ultimately impact the bottom line of the firm negatively.

Clemons et al. (2003, 2006), and Clemons and Spitler (2004) previously assumed that the most differentiated products will generate the largest positive responses among consumers. This idea that different is good is still present within the Norwegian beer market and can be observed through the many differentiated products within the market; the specialty beer line of Hansa which generated the highest growth in 2014 for the company, the rise of craft beer breweries and the increased consumption of beer differing from standard pilsner.

Petter Nome, CEO of Brygge- og Drikkevareforeningen even predicts that these differentiated beers will reach a market share of 8-10 % before 2020 (Ramseng, 2016). Wang et al. (2015) state that firms should add more products only in segments where the consumers favour new experiences as a means to reduce the customers switching behavior and attract consumers which seek variety. It seems as established breweries within the market have done exactly this as new products have been launched in their portfolio and microbreweries have been established under the corporate umbrella. However, just because a product is different from the norm does not necessarily entail that it will garner positive results. If this train of thought is not accounted for, and firms continue to introduce new products which only fit a negligible share of the market, the firm at hand would probably be left with large production and sales costs. In the end, a large share of consumers will buy what they have always bought which also explains why the Hansa Borg AS, Ringnes AS, Mack and Aass still accounts for over 90% of the total market and standard pilsner is still the most sold type of beer. And so, managers should take into consideration the balance between profit and the extent of product hyper-differentiation.

Based on the primary data gathered through the distributed survey and the points discussed above we recommend:

> **Managers should map the demand for new products and types of beer in various beer segments. This decision should be based on information from consumer surveys, sales data and focus groups. Further, firms should investigate and balance the costs and benefits of the new product so that it ultimately adds value to the firm and disregard products that do not. Consequently, firms should evaluate their product portfolio and identify products which are too similar to another. Accordingly, the products that do not meet the firm's expectation should be discontinued.**

5.5 Product attributes valuation

The results of hypothesis H5a: *Taste is the most important product attribute when Norwegian consumers make a purchasing decision* in chapter 4.2.5 backs up theory presented by Aquilani et al. (2015). The sample population reported taste as the most decisive product characteristic in a purchasing process. 55.6% of the respondents find taste *very important*, followed by *somewhat important* (32.5% of respondents) and the results of the hypothesis was consequently found adequate to be supported. Taste is thus a factor which breweries should pay great attention to when developing beer. Many breweries of both large and small-scale have already executed measures to supply products with different

tastes. Beer types such as IPA, Bayer, Wheat and Stout all please different taste aspects in the consumer segment and currently flood retail shelves in the market. However, taste is not the only product characteristic which affects a product choice. The results show that consumers in fact consider a mix of characteristics when selecting the right product such as beer type, brand, temperature and price.

Aquilani et al. (2015) in fact argues that price is another important factor which governs the choice of a product. This led to the postulation of supported hypothesis H5b: *Income affects the degree to which Norwegian beer consumers perceive price as an important factor in a purchasing decision.* The results pinpoint a significant correlation of -0.386** between the level of income and the importance of price. As stated earlier, breweries face challenges in competing in terms of price due to small profit margins. If a brewery was to seek to attract consumers by lowering the prices of its products, other breweries are likely to follow. This will ultimately drive down profitability for all industry actors. However, as the results portray, the importance of price varies within income groups. Consumers with an annual income between 0-300,000 NOK are significantly more price sensitive than consumers in the middle income segment (300,000-600,00 NOK) and high income segment (above 600,000 NOK). Further, the results of hypothesis H5d found a positive correlation between the importance of price and the number of units consumed each week. This implies that there exists a price sensitive consumer group with a low annual income and a high weekly consumption of beer. On the other hand, there also exists a consumer group with a high annual income and low weekly consumption rates which are less sensitive to price. And so, firms can pursue price segmentation strategies to serve both customer groups.

To satisfy the low income/high consumption group, brand managers should evaluate the possible introduction of a low quality, cheap product if it does not already exist in the brand portfolio. Managers should also identify if the firm has the financial resources and capabilities to operate with low margins for a limited time period. As presented in 2.4.2.6, the majority of the costs associated with sales of beer stem from taxes. Consequently, firms should reduce the price of the new product as long as it profits from sales. In theory, firms could reduce the price below the break-even level, but this would lead to financial losses with the cheaper brand and could ultimately have highly negative effects for the firm. However, as the consumer group is characterized by a large consumption, a low-price product has the potential to draw the benefits of economies of scale if it manages to successfully target the respective consumer group and sell large quantities.

In order to avoid direct associations with existing brands, the new product should be introduced under a new brand. This strategy is especially relevant for firms which execute a house of brands-architecture as it facilitates the introduction of new products and the penetration of new market segments (Muzellec and Lambkin, 2009). As Morgan and Rego (2009) state, a product with a lower price is often perceived as having a lower quality.

Hence, a product with a lower price might reduce the overall perceived quality of the existing brand which is undesirable in the process of consumer segmentation. A challenge which arrives together with the introduction of the new brand and the prohibition of marketing in the Norwegian beer industry is the lack of consumer awareness. Firms should therefore leverage retailer relationships to ensure that the cheaper brand acquires a strong position in stores in the introduction-phase to reach out to consumers. When a solid consumer base have embraced the brand, brand managers can focus resources in other parts of the brand portfolio. Likewise, firms can target less price sensitive consumers through premium brands. These brands might not draw the advantage of economies of scale, but can capture margins resulting from higher prices.

The results of hypothesis H5c portrayed that consumers who prefer craft beer do not perceive price as an important purchasing attribute compared to people who prefer regular beer. This is also the consumer group who values taste to a larger extent and consumes fewer units per week. Currently, craft beer generates the largest share of growth in the Norwegian beer market after imported beer (Bryggeri- og drikkevareforeningen, 2017b). Clemons and Spitler (2004) explains this behaviour due to the fact that information regarding a product is more available than ever before, which has made it easier for consumers to discover their perfect fit. Furthermore, this increase in available information allows companies to capture higher margins because of consumers' willingness to pay an additional premium (ibid). However, due to the consumers' higher willingness to pay in the craft beer segment, the costs associated with the cheaper brands could be covered by the positive financial results from the craft beer sales. One should be aware that these low prices might entice consumer to switch between a standard lager brand a rather opt for the cheaper brand. The overall costs would result in higher losses.

> **Firms should opt for products that are highly differentiated in taste which meets the consumers demand. Furthermore, a cheaper brand should be introduced to appeal to the consumers with lower income and premium brands to appeal to less price sensitive consumers.**

5.6   Situational buying behavior

The findings in section 4.2.6 reveal that consumers prefer different types of beer depending on the social setting the consumer is in, the context and the number of units planned to consume. It was observed that pilsner/pale lager is highly preferred (86.1%) during informal situations such as at the beach and at barbecues in comparison to specialty beer

produced by both microbreweries and established firms. During holidays, the majority of consumers prefer specialty beer (59.9% from microbreweries and 41.2% from established breweries) above pilsner (31.0%). It is further observed that specialty beer from microbreweries aggregate a higher preference by consumers than specialty beer from established breweries in all situational context provided in the questionnaire. The results are in accordance with the theory presented by Kim and Chintagunta (2012), Belk (1974), Fennell (1978) and Yang et al. (2002) in section 2.8.3. A distinct segmentation in the preference of specialty beer and pilsner was also found in the number of units the consumers planned to consume. When buying few units, consumers are more prone to buy specialty beer. If the number of units exceeded 6 units, the majority of consumers prefer pilsner.

Firms and brand managers should, based on the results, make sure their brand portfolio serves the demand for different beer types in different situations and doesn't leave any portfolio gaps for competing firms to take advantage of. This involves brands which are specifically related to a certain season or holiday (e.g. Christmas-beer and summer-beer) and different types of beer relevant for all-year consumption (Pale Ale, Pilsner, Bayer etc.). A way to do so is to monitor sales data for each beer type during different seasons and holidays and subsequently position brands and products accordingly in sales outlets. In addition, the firm's brand portfolio should manage both the demand for specialty beer in the product portfolio of large-scale breweries and specialty beer/craft beer produced by microbreweries as there is a demand for both categories. The latter implies that large breweries should either establish a microbrewery or acquire shares in an already existing microbrewery with potential market growth if the brewery does not yet have this covered.

> **Firms and brand managers should monitor sales data for all beer types during different seasons and holidays and subsequently position brands and product accordingly in sales outlets.**

> **The brand portfolio should contain specialty beer produced by both large established brands and microbreweries to satisfy different consumer segments.**

5.7 Craft beer consumers

The results in section 4.2.7 uncovered that the majority of the studied population preferred regular beer above craft beer. These results might indicate that the demand for craft beer has begun to stagnate to some extent. Even though craft beer continued to grow in the international market, the growth percentage of craft beer sales volumes in the U.S. has lowered since 2015 as seen in Figure 21. It is uncertain if this is due to the M&A actions

taken on by the larger firms or because it has reached its peak (Economist, 2017). It is currently unclear if these trends are propagating through the Norwegian beer market but they may paint a picture of the future demand for craft beer. Nevertheless, an increase of 6 % should still be enticing for any large industry actor to participate in as this still remains a significant increase and should therefore not be neglected.
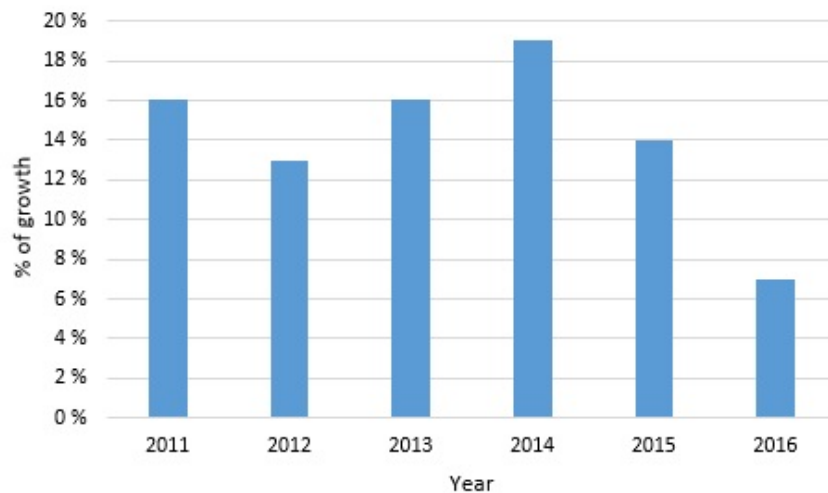

Figure 21: Growth percentage of volumes sold within the craft beer segment in the U.S. (Economist, 2017)

The results of hypothesis *H8b* show that craft beer consumers are more reliant on information of products and brands compared to consumers who favor standard beer brands. As mentioned earlier, the marketing prohibition of alcohol in Norway is an inhibitor for spreading information and promoting brands and products to the consumer base. This law was however altered as addressed in section 2.4.2.6 which allows breweries to provide product information to consumers to some degree.

Despite regulations, Clemons (2008) suggests that consumers are more prone to purchase a product given a certain amount of information. Firms should therefore provide information about their brands and products within the limits of the alcohol law. The product information should reveal ingredients, alcohol content and product characteristics such as bitterness, sweetness and fruitiness. This can be done through labelling, packaging and brewery websites. The physical representation of a product or brand is one of few ways breweries can communicate directly to consumers. It is therefore important that the can provides all relevant information the consumer needs. In addition, firms should monitor online rating sites such as RateBeer and Untappd to get the opportunity to assess brand performance based on feedback from consumer, alongside financial sales data and brand profit. The online reviews can guide brand managers to retain, expand or delete a brand.

Furthermore, Norwegian legislators have raised the question of whether taxes on craft beer

should be lowered (Solem, 2017). This was done in England where the alcohol taxes was halved for breweries producing less than 500,000 liters annually (SIBA, 2012; Sandvik, 2014). Hence, as one can see from the previous examples, there are several legal changes that are taking place within the industry. Consequently, firms should be aware of these and how they can take advantage of these changes all the while understanding how it might affect them. This proactive strategy might lead to a competitive advantage.

> **The larger firms should continue to follow the evolution of the craft beer market**

> **The breweries should display online information about their products on their respective websites to better inform customers what their different products offer. This information should be available in both Norwegian and English in order to meet a larger amount of possible customers. Furthermore, the product information should reveal ingredients, alcohol content, and characteristics such as bitterness, sweetness and fruitiness.**

> **Breweries need to monitor online review sites and assess craft beer brands according to the consumer feedback. This involves brand expansion, brand retention and brand deletion.**

5.8   Measures for brand portfolio evaluation and restructuring

Based on the previous discussion in this chapter and the four steps presented in table 2, several possible courses of action have been presented. These recommendations stem from several analyses which take into consideration the consumer aspect of brand portfolio management with relevant literature. This chapter will apply some of the recommendations and integrate these with the constructs of business, brand and market in the assessment and restructuring of firms' brand portfolios.

The model presented by Kumar (2003) in section 2.5.2 is a helpful tool to uncover the positioning and financial state of each individual brand present in a firm's brand portfolio. However, there are some weaknesses to this model. Kumar (2003) does a decent job of laying the groundwork for a brand portfolio evaluation and restructuring. Nevertheless, the model is not complete as it lacks the ability to paint an accurate picture of the present and future state of the brands. Throughout this paper, four factors have been identified to affect the brand portfolio management; *business, brand, consumer* and *market*. Table 21

aims at adapting the model presented by Kumar (2003) in such a way that it includes the four factors and consequently gives accurate and exact information regarding the brands. This information will consequently aid in the assessment and the restructuring of the brand portfolio.

As Aaker (2014) states, a brand portfolio strategy should be aligned with the business strategy to stay relevant. It is therefore in the interest of brand managers to identify to what degree the brand portfolio scope is related to the business strategy and vision. This includes an evaluation of whether the brand operates in product segments where the firm wants to be present, if the brand aids the business in the process of growth, and if the local/national presence of the brand fits with business ambitions. For instance, Hansa Borg AS has a pronounced strategy to be a *Norwegian supplier of beverages with a decentralized production structure* (Hansa Borg, 2017). The brewery group's business strategy implies that local breweries and their brands are of great importance and should be leveraged to strengthen the Hansa Borg AS brands. This boils down to retaining local brands and serve the consumers in these areas, even though a number of these brands might have low growth potentials and financial results. A contrast to Hansa Borg AS's strategy is the top business priority of the Carlsberg Group, owner of Ringnes AS, which state that the brewery corporation seek to *strengthen number 1 & 2 positions: We leverage our strong beer brands and market positions to drive growth* (Carlsberg Group, 2018). Deleting brands which do not generate large enough market shares or financial results might thus be of importance in the brand portfolio management of Ringnes AS. Overall, each firm needs to secure that the brands in the portfolio serve the business objectives and ambitions. Further, brand managers need to identify the growth potential of each brand. This is especially important due to the ongoing goal to augment and customize a firm's products and brands to meet consumer demand and capture market opportunities (Aaker, 2014). Growth potential can be determined by utilizing development in sales of brands and products by the firm and its competitors, and by leveraging the consumer data in chapter 4. Kumar (2003) does not have a criteria which aims at uncovering whether the brand fits with the firm's overall business strategy nor if there is actually any sort of growth potential for the respective brand. Hence, *fit with the business* and *growth potential* have been added as criteria of the brand portfolio assessment in table 21. Both of the prior criteria are important to understand the current state of a brand.

Another important criterion in the assessment of brands is how each brand fits with the brand portfolio. Petromilli et al. (2002) identified the challenge of portfolio overlaps where the collection of brands and products fight each other for resources and market share. Table 21 therefore introduces the factor *brand overlap* which seeks to determine if any of the brands present in the firm portfolio overlaps with another brand. Overlapping brands can be identified by the two factors *market positioning* and *brand positioning*. In the market positioning, the brand is identified as strong, medium or weak in the

respective geographical regions of the Norwegian market. The market positioning of the largest brands in Norway was found in section 4.2.1. In the brand positioning, the value proposition of the brand is identified as a quality brand, niche brand, fun brand etc., and which beer type the products offer. For example, Hansa's hyper-differentiation strategy in the lager segment targets the same consumers as discussed in 5.4 and hence overlap to some degree. The firm should relate the brand positioning of its products in relation to the business values and objectives and further make sure that there exists a fit between the two.

Table 21: Extended version of table 5 inspired by Kumar (2003)

Brand		A	B	C
National market share		15 %	3 %	10 %
Regional presence	Aust-Agder	Strong/ Fun	Weak/ Value	Medium/ Niche
	Vest-Agder	Weak/ Fun	Weak/ Value	Medium/ Niche
	Trøndelag	Medium/ Fun	Strong/ Value	Medium/ Niche
	....	Market position/ Brand positioning	Market position/ Brand positioning	Market position/ Brand positioning
Growth potential		Yes	No	Yes
Fit with the business		Yes	Yes	No
Brand overlap		Yes/Brand B	Yes/Brand A	No
Percentage of sales		17 %	4 %	8 %
Percentage of profits		20 %	2 %	8 %
Financial performance		Strong	Weak	Moderate

In contrast to overlapping brands, brand managers should identify if there are any portfolio gaps present in the brand portfolio and how this gap in turn supports the business strategy. One such example is the craft beer segment, a market established breweries until recently chose to neglect. As stated in section 5.2, breweries should consider to establish a craft brewery or acquire existing ones in order to serve consumers in the craft beer segment if it fits with the core business objectives of the firm. The latter is especially important as the business strategy paves the way for success (Porter, 1996). Porter (1996) clearly emphasized the importance of conscious choices in expansion to new market segments and consumers. A brand creation process should thus not occur if the firm lacks the capability and resources to succeed in these segments nor if the business strategy does not support an acquisition or brand creation.

By adding these new criteria, firms are to a larger extent able to assess the current state of a brand and uncover future opportunities. Said assessment should evaluate all factors present in table 21 and the findings of the consumer construct discussed in chapter 5.1-5.7 in order to uncover whether the brand should be retained, extended or deleted. Table

22 does the groundwork for brand managers in the decision of brand restructuring. Each combination of financial performance, growth potential, fit with business strategy and overlap is illustrated and consequently the recommended action. Each action is based on the literature presented in chapter 2.6 and should be evaluated in relation to the recommended measures in chapters 5.1-5.7. The brand portfolio restructuring will help brand managers to integrate the internal and external factors to meet market opportunities, consumer demand, avoid portfolio overlaps and identify the financial performance of each brand. The aim is to acquire a successful brand portfolio management and increase the firm's overall performance. Furthermore, if all these activities become complementary, a robust brand portfolio management system emerges which makes it increasingly difficult for competitors to imitate the strategy (Porter, 1996). Hence, the management of the brand portfolio becomes successful and the firms hold an advantageous position where they can acquire superior financial performance (Louro and Cunha, 2001), create a strong market identity and customer base (Douglas et al., 2001; Aaker, 1996; Kapferer, 1997; Keller, 1998).

Table 22: Brand portfolio restructuring form based the financial performance of the brand, growth potential, fit with business strategy and portfolio overlap.

Brand portfolio assessment and restructuring				
Financial performance	Growth potential	Fit with business strategy	Overlap	Action
Weak	No	No	No	**Delete**
Weak	No	No	Yes	**Merge**
Weak	No	Yes	No	**Delete**
Weak	No	Yes	Yes	**Delete**
Weak	Yes	No	Yes	**Merge**
Weak	Yes	No	No	**Sell**
Weak	Yes	Yes	No	**Retain**
Weak	Yes	Yes	Yes	**Retain**
Moderate	No	No	No	**Sell**
Moderate	No	No	Yes	**Merge**
Moderate	No	Yes	No	**Milk**
Moderate	No	Yes	Yes	**Merge**
Moderate	Yes	No	Yes	**Merge**
Moderate	Yes	No	No	**Sell**
Moderate	Yes	Yes	No	**Extend**
Moderate	Yes	Yes	Yes	**Extend**
Strong	No	No	No	**Milk**
Strong	No	No	Yes	**Merge**
Strong	No	Yes	No	**Retain**
Strong	No	Yes	Yes	**Merge**
Strong	Yes	No	Yes	**Merge**
Strong	Yes	No	No	**Extend**
Strong	Yes	Yes	No	**Extend**
Strong	Yes	Yes	Yes	**Extend**

5.9 Limitations and points for further research

Throughout the work of this study, the factors affecting brand portfolio management of Norwegian breweries have been identified. Simultaneously, several issues of interest have been encountered. In the following, the limitations of the results and suggestions for further research will be discussed.

Historical events in the Norwegian brewing industry has undoubtedly affected the current position of the largest four breweries as shown throughout this paper. However, the paper lacks empirical firm-specific data regarding numbers of sales, profit margins and historical growth for individual brands and products. This limits the strategic analysis of the breweries' brand management strategies. Brand managers should thus apply this information along with the framework presented in this thesis to make the recommendations relevant for the respective firm. In addition, the information collected from relevant actors within the industry is somewhat insufficient as it does not facilitate the comprehension of the

current state in the industry. To gain a deeper understanding of the situation, possible interviews with relevant actors could be initiated. Said interviews could then be analyzed in order to uncover discrepancies and similarities.

The primary focus of the quantitative analysis was to identify consumer behavior in the off-trade segment (grocery stores and Vinmonopolet). However, the on-trade market accounts for 29 % of the total sales in terms of volume (MarketLine, 2014) and can contribute to firm performance and growth. Hence, an extended study should be executed with a focus on brand portfolio management and distribution agreements with retailers in the on-trade segment.

In chapter 3, a quantitative analysis was utilized to gather consumer data. There are several positive aspects regarding this approach such as a low possibility of interviewer bias (Muijs, 2010). Furthermore, this research methods facilitates the acquisition of a large amount of data which aids in understanding new topics. However, even though quantitative analyses contribute to reflect results onto a larger population, they tend to only represent the tip of the iceberg. In order to acquire an accurate representation of the whole situation, the quantitative analysis should be complemented with a qualitative analysis which is typically done through a set of interviews with consumers.

In 2004, Carlsberg fully acquired Ringnes AS. Since the acquisition, Ringnes AS has undergone major changes with regards to their brand management strategies. However, it is difficult to assess which of these changes stem from Carlsberg. Further, it is challenging to assess the degree of independence that Ringnes AS has now that it is owned by Carlsberg. This also applies for Nøgne Ø and Austmann as these are partly owned by Hansa Borg AS. The effects of these joint ventures on the corporate firms and the sister firms has not been taken into consideration. An insight into this relationship could yield interesting results as to how it has affected the brand management of these firms.

Throughout this paper, the primary product category which has been studied is beer. Even though beer is an important product spanning a wide number of brands and types, the majority of the larger firms within the Norwegian beer industry also produce such products as soda and cider. The financial results and strategic importance should be taken into consideration for these brands as well to fully evaluate the firm's brand portfolio.

The launch of the survey utilized for this paper might have been somewhat premature as several changes were made after it was released. These changes could not be implemented within the survey as this would distort the acquired data making some of the answers illegitimate. Consequently, it became difficult to execute several statistical techniques as some parts of the survey became less relevant for the paper but still important. This explains why descriptive analysis was utilized to such an extent in this paper. Hence, in order to uncover strong relationships for the characteristics of Norwegian beers consumers, surveys that emphasizes on correlation analysis should be prepared.

6 Conclusion

The study of this paper has investigated four influential factors affecting the brand portfolio management of established Norwegian breweries and sought to offer measures of portfolio restructuring for firms to stay competitive and relevant in the industry. By utilizing consumer data, this thesis contributes to an identification of buying behavior and consumer demand of Norwegian beer consumers. This recognition stipulates a more complete depiction of the consumer construct in the brewing industry which provide considerable implications for brand managers and firms' brand portfolios.

Several notable findings were identified in the assessment of the consumer aspect of brand portfolio management. The geographical origin of beer brands plays a significant role on the local level in purchasing decisions. In particular, consumers obtain a strong bias and commitment towards brands which are deeply rooted in the respective geographical areas. This bias is not present on a national scale when the consumer faces the choice of Norwegian brands and foreign brands. The majority of beer consumers have a multi-buyer purchasing orientation and are likely to make consumer choices based on the repertoire of brands in which it holds. The tendency is especially notable in cases where the consumer is faced with various situational contexts, social settings and the amount of which the costumer opts to consume. The preference for a product is therefore dynamic depending on the climate the consumer is in. Hyper-differentiation within the lager segment appear to resonate inadequately to the end consumer as it does not sufficiently manage to offer a distinct segmentation of taste in the marketplace. This is in contrast to the findings of high consumer preference in segments of specialty and craft beer. These consumers were also found to be much more reliant on information when making a purchasing choice. Furthermore, Norwegian beer consumers valued taste as the most important product attribute when purchasing a beer. Other factors such as the price of the product did also manage to affect the purchasing decisions of the studied population. The importance of price when making a decision was in large due to factors such as the customers' income, whether or not they preferred craft beer to regular beer and their weekly consumption rates of beer.

The findings above should provide a basis for the brand portfolio restructuring of firms along with market conditions, business objectives of the firm and the relationships between brands in the brand portfolio. Brand managers need to employ an assessment of the individual brands in the portfolio based on performance-seeking financial and strategic measures, in addition to firm capabilities. This assessment should lead to decisions regarding the brands' portfolio through brand deletion, expansion, retention and creation. By improving the brand portfolio interrelationship, firms are more likely to develop and position strong brands which ultimately assist the company in creating a strong customer base, leverage growth opportunities and enhance financial performance.

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A Survey

* The questionnaire was sent out in Norwegian. The English version is printed below.

1. How important are the following product attributes when you buy beer in the store?

	1 = Not important	2	3	4	5 =Very important
Taste	o	o	o	o	o
Price	o	o	o	o	o
Alcohol content	o	o	o	o	o
Local brewery	o	o	o	o	o
Temperature	o	o	o	o	o
Packaging	o	o	o	o	o
Brand	o	o	o	o	o
Beer type	o	o	o	o	o
Calorie content	o	o	o	o	o

2. How often do you buy the following brands when you buy beer in the store?

	Never	Seldom	Occasionally	Often	Always
Ringnes	o	o	o	o	o
Hansa	o	o	o	o	o
Frydenlund	o	o	o	o	o
Aass	o	o	o	o	o
Dahls	o	o	o	o	o
Mack	o	o	o	o	o
Carlsberg	o	o	o	o	o
Tuborg	o	o	o	o	o

3. Which of the following brands below is your favorite?

o	Tuborg
o	Carlsberg
o	Dahls
o	Mack
o	Hansa
o	Ringnes
o	Aass
o	Frydenlund
o	Other

4. How much do you agree with the following statements?

	1 = Strongly disagree	2	3	4	5 = Strongly agree
I always buy the same beer brand	o	o	o	o	o
I prefer Norwegian beer before foreign beer	o	o	o	o	o
I find it important to support the local brewery	o	o	o	o	o
I find it important that the beer I buy is independent of a brewery corporation	o	o	o	o	o
I often try new beer products	o	o	o	o	o
I am satisfied with today's beer selection	o	o	o	o	o
I buy different types of beer for different occasions	o	o	o	o	o
I prefer to buy beer made out of Norwegian ingredients	o	o	o	o	o

5. What is the probability that you would buy the following products?

	1 = Not probable	2	3	4	5 = Extremely probable
Pilsner 4.5%	o	o	o	o	o
Light pilsner 3.65%	o	o	o	o	o
Extra light pilsner 2.4%	o	o	o	o	o
Ecological pilsner	o	o	o	o	o
Non-alcoholic pilsner	o	o	o	o	o
Gluten-free pilsner	o	o	o	o	o

6. Which type of beer do you prefer in the following situations?

	Pilsner/ Pale lager	Specialty beer from microbreweries	Specialty beer from larger breweries
Watching TV	o	o	o
Holidays	o	o	o
Beach/ Barbeque	o	o	o
Party	o	o	o
Dinner	o	o	o
Other occasions	o	o	o

7. If you were to buy X units to an occasion, which type of beer would you prefer?

	Pilsner/ Pale lager	Specialty beer from microbreweries	Specialty beer from larger breweries
1-2 units	o	o	o
3-5 units	o	o	o
6-8 units	o	o	o
Over 8 units	o	o	o

8. How important are the following taste characteristics when you buy beer?

	1 = Not important	2	3	4	5 = Very important
Bitterness	o	o	o	o	o
Sweetness	o	o	o	o	o
Fruitiness	o	o	o	o	o
What food the beer fits	o	o	o	o	o

9. From which sources do you collect information about beer?

o	The store shelf
o	The brand's website
o	Friends and acquaintances
o	On online rating sites (ex. RateBeer and Untappd)
o	Media
o	Product label
o	Other

10. How important do you find information about the beer product you are buying?

o 1 = Not important	o 2	o 3	o 4	o 5 = Very important

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11. Gender

o	Female
o	Male

12. Age

o	18-25
o	26-35
o	36-45
o	46-55
o	56-65
o	66-75
o	Over 75

13. Income level (NOK)

o	0-150,000
o	150,000-300,000
o	300,000-450,000
o	450,000-600,000
o	600,000-750,000
o	Over 750,000

14. How many units of beer do you drink per week? (1 unit = 0.5 l)

o	0-3 units
o	4-7 units
o	8-11 units
o	12-15 units
o	Over 15 units

15. Which county are you from?

o	Aust-Agder
o	Vest-Agder
o	Trøndelag
o	Finnmark
o	Troms
o	Nordland
o	Møre og Romsdal
o	Sogn og Fjordane
o	Hordaland
o	Buskerud
o	Rogaland
o	Hedmark
o	Oppland
o	Oslo
o	Akershus
o	Østfold
o	Vestfold
o	Telemark
o	Svalbard

16. Do you want to add additional information about your beer consumption habits?

Thank you for participating in this survey!

B Sample population determination

This appendix will outline the process of finding the sample size which is representative for Norwegian beer consumers. Table 23 calculates the magnitude of potential beer consumers given publicly available data (SSB, 2017).

Table 23: Estimation of potential beer consumers in Norway

Total population in Norway[13]	5,302,778
- Population group in the age group 0-17 years[14]	1,842,168
= Potential number of beer consumers	**3,460,610**

According to FHI (2018) 80% of the Norwegian population above 18 years drink alcohol. Thus;

3,460,610 * 80% = 2,768,488

It is further assumed that 70% of these consume beer at least once annually.

Population size: 2,768,488 * 70% = **1,937,941**

Table 24: Estimation of adequate sample size

Population size	1,937,941
Margin of error	5%
Confidence level	95%
z-score	1.96
Acceptable sample size	**384**

$$Sample size^{15} = \frac{\frac{z^2 * p(1-p)}{e^2}}{1 + \left(\frac{z^2 * p(1-p)}{e^2 N}\right)} \tag{2}$$

The numbers in table 24 portrays the numbers applied in equation 2 of Cochran (1977). The adequate sample size was found to be 384.

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[15]Population size = N | Margin of error = e | z-score = z | Percentage value = p

C   Variable information

Table 25: Variable information used for Hypothesis H1a

Hypothesis	Variables	Type	Method of Analysis
H1a			*Descriptive*
	Sex (Q11)	Nominal	
	Age (Q12)	Nominal	
	Income (Q13)	Nominal	
	Number of units per week (Q14)	Nominal	
	Home County (Q15)	Nominal	

Table 26: Variable information used for Hypothesis H1b

Hypothesis	Variables	Type	Method of Analysis
H1b			*Cross-tabular descriptive*
	Home Country (Q15)	Nominal	
	Prefered brand (Q3)	Nominal	

Table 27: Variable information used for Hypothesis H2a and H2b

Hypothesis	Variables	Type	Method of Analysis
H2a and H2b	Preference for type of beer (Craft or regular)(Q3.2)	Nominal	*Kruskal-Wallis*
	How do you agree with the following statements ?: I think it is important that the beer I buy is independent of a larger brewery group (Q4.4)	Ordinal	

Table 28: Variable information used for Hypothesis H3

Hypothesis	Variables	Type	Method of Analysis
H3	How often do you purchase the following brands when shopping for beer at the store ?: Ringnes (Q2.1)	Ordinal	*Descriptive*
	How often do you purchase the following brands when shopping for beer at the store ?: Hansa (Q2.2)	Ordinal	
	How often do you purchase the following brands when shopping for beer at the store ?: Frydenlund (Q2.3)	Ordinal	
	How often do you purchase the following brands when shopping for beer at the store?: Aass (Q2.4)	Ordinal	
	How often do you purchase the following brands when shopping for beer at the store?: Dahls (Q2.5)	Ordinal	
	How often do you purchase the following brands when shopping for beer at the store?: Mack (Q2.6)	Ordinal	
	How often do you purchase the following brands when shopping for beer at the store?: Carlsberg (Q2.7)	Ordinal	
	How often do you purchase the following brands when shopping for beer at the store ?: Tuborg (Q2.8)	Ordinal	
	Which of the brands below is your prefered brand? (Q3)	Nominal	
	Age (Q12)	Nominal	*Kruskal-Wallis*
	How do you agree with the following statements ?: I often try out new beer (Q4.5)	Ordinal	

Table 29: Variable information used for Hypothesis H4

Hypothesis	Variables	Type	Method of Analysis
H4	What is the likelihood that you would buy the following products ?: Beer 4,5%(Q5.1)	Ordinal	*Descriptive*
	What is the likelihood that you would buy the following products ?: Light beer 3,65% (Q5.2)	Ordinal	
	What is the likelihood that you would buy the following products ?:Extra light beer 2,4% (Q5.3)	Ordinal	
	What is the likelihood that you would buy the following products ?: Ecological beer (Q5.4)	Ordinal	
	What is the likelihood that you would buy the following products ?: Non-alcoholic beer 0%(Q5.5)	Ordinal	
	What is the likelihood that you would buy the following products ?: Glutenfree beer (Q5.6)	Ordinal	
	Age (Q12)	Nominal	

Table 30: Variable information used for Hypothesis H5a

Hypothesis	Variables	Type	Method of Analysis
H5a	How important is the following when you buy beer in the store?: Taste (Q1.1)	Ordinal	Descriptive
	How important is the following when you buy beer in the store?: Price(Q1.2)	Ordinal	
	How important is the following when you buy beer in the store?: Alcohol content (Q1.3)	Ordinal	
	How important is the following when you buy beer in the store?: Local brewery(Q1.4)	Ordinal	
	How important is the following when you buy beer in the store?: Temperature(Q1.5)	Ordinal	
	How important is the following when you buy beer in the store?: Packaging(Q1.6)	Ordinal	
	How important is the following when you buy beer in the store?: Brand(Q1.7)	Ordinal	
	How important is the following when you buy beer in the store?: Type of beer (Q1.8)	Ordinal	
	How important is the following when you buy beer in the store?: Calorie content(Q1.9)	Ordinal	

Table 31: Variable information used for Hypothesis H5b

Hypothesis	Variables	Type	Method of Analysis
H5b	Income(Q13)	Nominal	Spearman's rho
	How important is the following when you buy beer in the store?: Price(Q1.2)	Ordinal	

Table 32: Variable information used for Hypothesis H5c

Hypothesis	Variables	Type	Method of Analysis
H5c	Preference for type of beer (Craft or regular)(Q3.2)	Nominal	Kruskal-Wallis
	How important is the following when you buy beer in the store?: Price(Q1.2)	Ordinal	

Table 33: Variable information used for Hypothesis H5d

Hypothesis	Variables	Type	Method of Analysis
H5d	Number of units per week (Q14)	Nominal	Spearman's rho
	How important is the following when you buy beer in the store?: Price(Q1.2)	Ordinal	

Table 34: Variable information used for Hypothesis H6

Hypothesis	Variables	Type	Method of Analysis
	How do you agree with the following statements ?: I buy different types of beers for different occasions (Q4.7)	Ordinal	
	What type of beer do you prefer in the following situations? Watching TV: Pilsner/pale lager (Q6.1.A)	Ordinal	
	What type of beer do you prefer in the following situations? Watching TV: Specialty beer from microbreweries (Q6.1.B)	Ordinal	
	What type of beer do you prefer in the following situations? Watching TV: Specialty beer from established breweries (Q6.1.C)	Ordinal	
	What type of beer do you prefer in the following situations? Holidays: Pilsner/pale lager (Q6.2.A)	Ordinal	
H6	What type of beer do you prefer in the following situations? Holidays: Specialty beer from microbreweries (Q6.2.B)	Ordinal	Descriptive
	What type of beer do you prefer in the following situations? Holidays: Specialty beer from established breweries (Q6.2.C)	Ordinal	
	What type of beer do you prefer in the following situations? At the Beach / Grill : Pilsner/pale lager (Q6.3.A)	Ordinal	
	What type of beer do you prefer in the following situations? At the Beach / Grill :Specialty beer from microbreweries (Q6.3.B)	Ordinal	
	What type of beer do you prefer in the following situations? At the Beach / Grill: Specialty beer from established breweries (Q6.3.C)	Ordinal	
	What type of beer do you prefer in the following situations? Party : Pilsner/pale lager (Q6.4.A)	Ordinal	
	What type of beer do you prefer in the following situations? Party: Specialty beer from microbreweries (Q6.4.B)	Ordinal	
	What type of beer do you prefer in the following situations? Party: Specialty beer from established breweries (Q6.4.C)	Ordinal	
	What type of beer do you prefer in the following situations? Diner : Pilsner/pale lager (Q6.5.A)	Ordinal	
	What type of beer do you prefer in the following situations? Diner: Specialty beer from microbreweries (Q6.5.B)	Ordinal	
	What type of beer do you prefer in the following situations? Diner: Specialty beer from established breweries (Q6.5.C)	Ordinal	

Table 35: Variable information used for Hypothesis H7a and H7b

Hypothesis	Variables	Type	Method of Analysis
H7a and H7b	If you were to buy X units to an occasion, which type of beer would you prefer? 1-2 units: Pilsner/Pale lager (Q.7.1.A)	Ordinal	Descriptive
	If you were to buy X units to an occasion, which type of beer would you prefer? 1-2 units: Specialty beer from microbreweries (Q.7.1.B)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 1-2 units: Specialty beer from larger breweries (Q.7.1.C)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 3-5 units: Pilsner/Pale lager (Q.7.2.A)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 3-5 units:Specialty beer from microbreweries (Q.7.2.B)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 3-5 units: Specialty beer from larger breweries (Q.7.2.C)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 6-8 units: Pilsner/ Pale lager (Q.7.3.A)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 6-8 units: Specialty beer from microbreweries (Q.7.3.B)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? 6-8 units: Specialty beer from larger breweries (Q.7.3.C)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? Over 8 units:Pilser / Pale lager (Q.7.4.A)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? Over 8 units: Specialty beer from microbreweries (Q.7.4.B)	Ordinal	
	If you were to buy X units to an occasion, which type of beer would you prefer? Over 8 units:Specialty beer from larger breweries (Q.7.4.C)	Ordinal	

Table 36: Variable information used for Hypothesis H8a

Hypothesis	Variables	Type	Method of Analysis
H8a	Age (Q12)	Nominal	Descriptive
	Preference for type of beer (Craft or regular)(Q3.2)	Nominal	

Table 37: Variable information used for Hypothesis H8b

Hypothesis	Variables	Type	Method of Analysis
H8b	How important do you find information about the beer product you are buying? (Q10)	Ordinal	Kruskal-Wallis
	Preference for type of beer (Craft or regular)(Q3.2)	Nominal	

D Results from IBM SPSS

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Hvor enig er du i følgende utsagn?: Jeg synes det er viktig at ølen jeg kjøper er uavhengig av et større bryggerikonsern is the same across categories of Craft or Regular beer?.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Independent-Samples Kruskal-Wallis Test
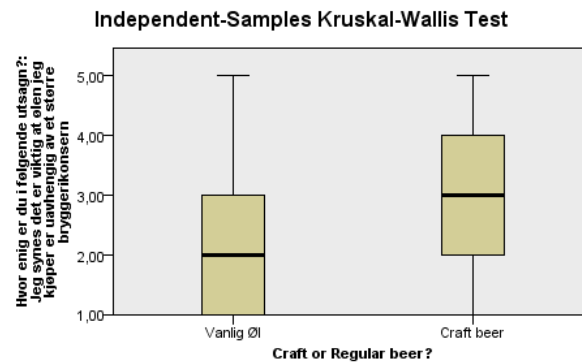
Total N	674
Test Statistic	31,238
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	,000

1. The test statistic is adjusted for ties.
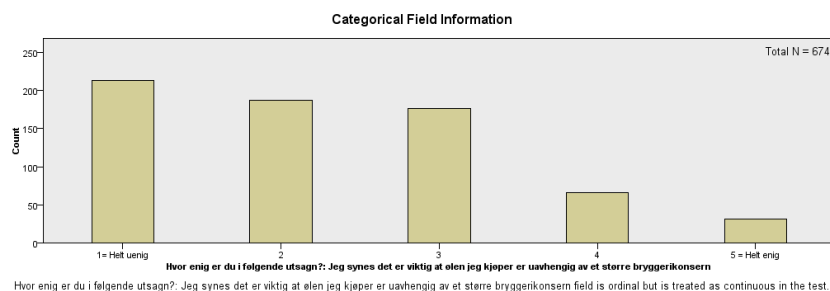2. Multiple comparisons are not performed because there are less than three test fields.

Categorical Field Information

Total N = 674

Hvor enig er du i følgende utsagn?: Jeg synes det er viktig at ølen jeg kjøper er uavhengig av et større bryggerikonsern field is ordinal but is treated as continuous in the test.

Figure 22: Results from the analysis regarding hypothesis H2a and H2b

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Hvor enig er du i følgende utsagn?: Jeg prøver ofte ut nye øl is the same across categories of Alder .	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.

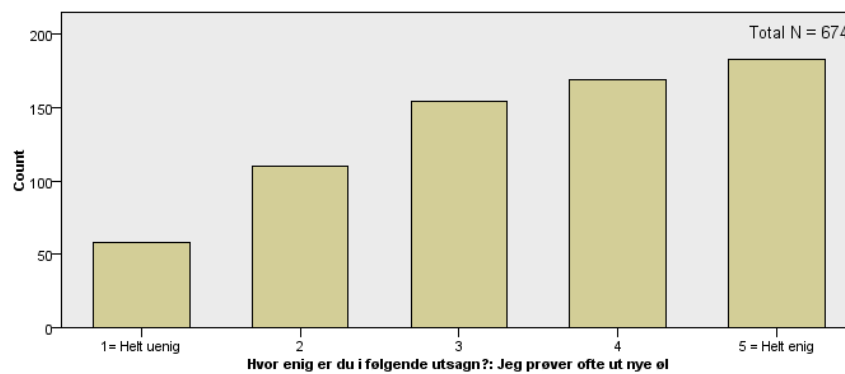Asymptotic significances are displayed. The significance level is ,05.

Independent-Samples Kruskal-Wallis Test
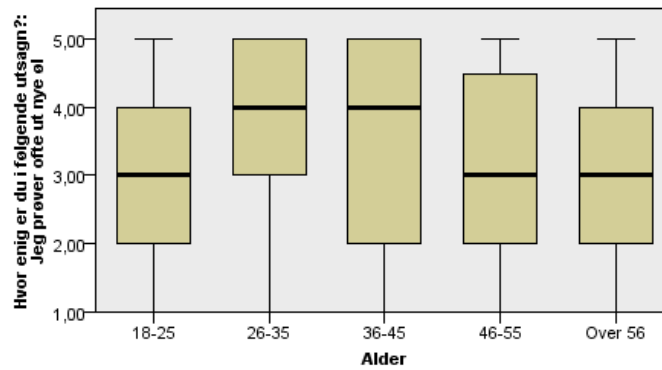
Total N	674
Test Statistic	27,536
Degrees of Freedom	4
Asymptotic Sig. (2-sided test)	,000

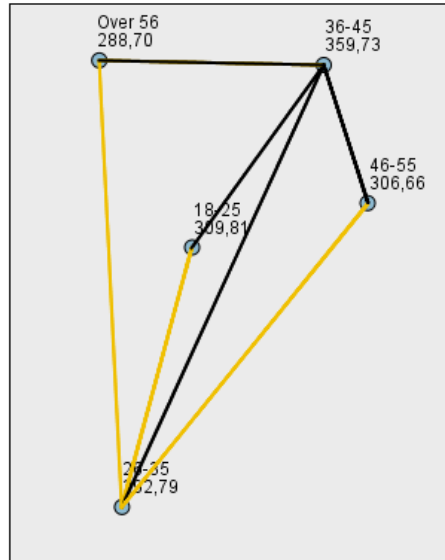1. The test statistic is adjusted for ties.

Categorical Field Information

Hvor enig er du i følgende utsagn?: Jeg prøver ofte ut nye øl field is ordinal but is treated as continuous in the test.

Figure 23: Results from the analysis regarding hypothesis H3

Pairwise Comparisons of Alder

Each node shows the sample average rank of Alder .

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Over 56-46-55	17,954	32,631	,550	,582	1,000
Over 56-18-25	21,113	28,988	,728	,466	1,000
Over 56-36-45	71,023	31,847	2,230	,026	,257
Over 56-26-35	104,090	29,932	3,478	,001	,005
46-55-18-25	3,158	22,886	,138	,890	1,000
46-55-36-45	53,069	26,413	2,009	,045	,445
46-55-26-35	86,135	24,069	3,579	,000	,003
18-25-36-45	-49,911	21,753	-2,294	,022	,218
18-25-26-35	-82,977	18,838	-4,405	,000	,000
36-45-26-35	33,066	22,995	1,438	,150	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Figure 24: Post hoc results from the analysis regarding hypothesis H3

Nonparametric
Correlations

H5b

Correlations

			Hvor viktig er følgende når du kjøper øl i butikken? : Pris	Hva er ditt inntektsnivå?
Spearman's rho	Hvor viktig er følgende når du kjøper øl i butikken? : Pris	Correlation Coefficient	1	-,386**
		Sig. (2-tailed)		0
		N	674	674
	Hva er ditt inntektsnivå?	Correlation Coefficient	-,386**	1
		Sig. (2-tailed)	0	
		N	674	674

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 25: Results from the analysis regarding hypothesis H5b

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Hvor viktig er følgende når du kjøper øl i butikken? : Pris is the same across categories of Craft or Regular beer?.	Independent-Samples Kruskal-Wallis Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Independent-Samples Kruskal-Wallis Test
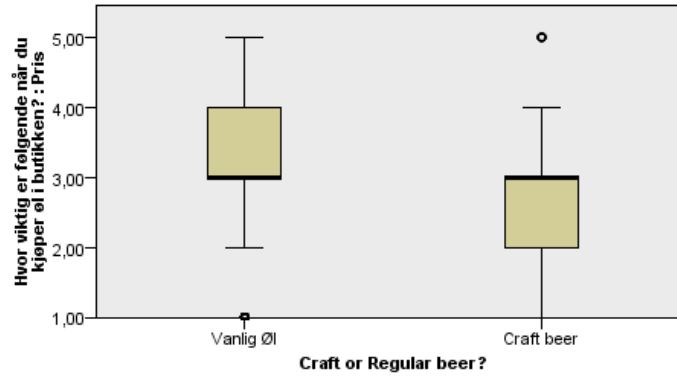
Total N	674
Test Statistic	31,931
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	,000

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because there are less than three test fields.

Categorical Field Information

Figure 26: Results from the analysis regarding hypothesis H5c

Correlations

|			Hvor viktig er følgende når du kjøper øl i butikken? : Pris	Hvor mange enheter øl drikker du i uka? (1 enhet = 0,5 liter)
Spearman's rho	Hvor viktig er følgende når du kjøper øl i butikken? : Pris	Correlation Coefficient	1	,105**
		Sig. (2-tailed)		0,006
		N	674	674
	Hvor mange enheter øl drikker du i uka? (1 enhet = 0,5 liter)	Correlation Coefficient	,105**	1
		Sig. (2-tailed)	0,006	
		N	674	674

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 27: Results from the analysis regarding hypothesis H5d

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Hvor viktig er det for deg med informasjon om ølprodukter du kjøper? is the same across categories of Craft or Regular beer?.	Independent-Samples Kruskal-Wallis Test	,002	Reject the null hypothesis.

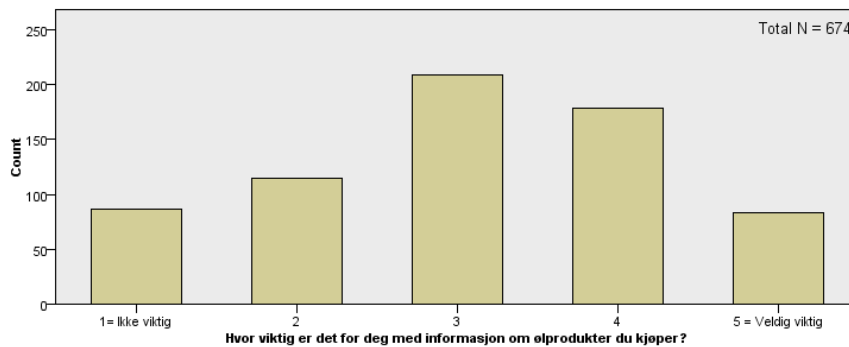Asymptotic significances are displayed. The significance level is ,05.

Independent-Samples Kruskal-Wallis Test
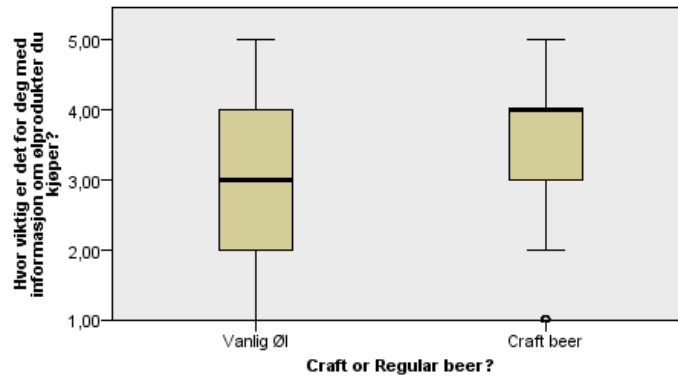
Total N	674
Test Statistic	9,448
Degrees of Freedom	1
Asymptotic Sig. (2-sided test)	,002

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because there are less than three test fields.

Categorical Field Information

Hvor viktig er det for deg med informasjon om ølprodukter du kjøper? field is ordinal but is treated as continuous in the test.

Figure 28: Results from the analysis regarding hypothesis H8b

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E Consolidation history of Ringnes AS and Hansa Borg AS
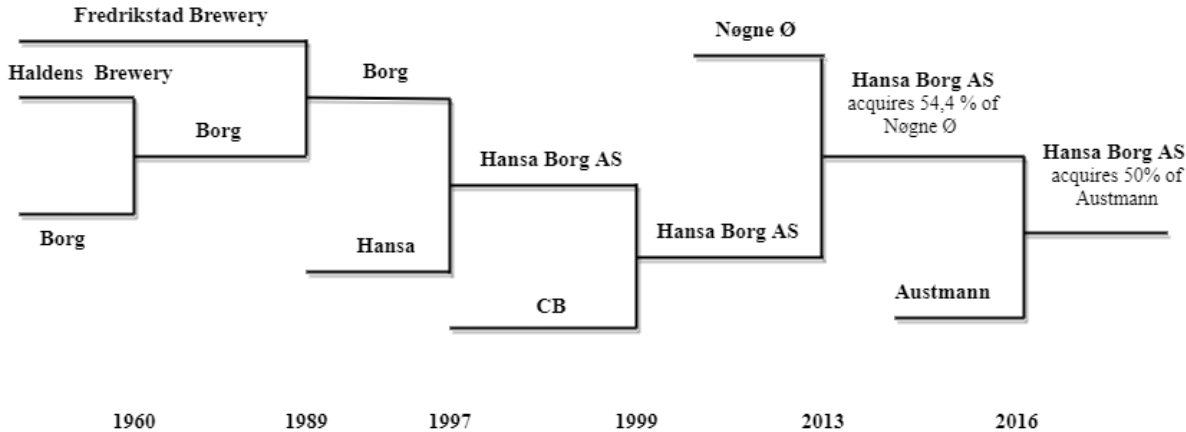
M&A history of Hansa Borg AS

Figure 29: Merger history of Hansa Borg 1960-2017 (Hansa Borg, 2017)

Hansa Borg has both acquired and divested brands throughout its lifetime. The first acquisition dates back to 1960 when Borg acquired Haldens Brewery (see Figure 29). Haldens' products were discontinued in order to sustain Borg's current growth all the while increasing its market share. A substitution of Haldens' products into Borg's own was assumed to have little effect on overall sales volume. The newly acquired production facilities alongside the geographical expansion of Borg *did* lead to an increase in the firm's overall production volume on a national scale. The increase enabled Borg to distribute their products in the rest of Norway as well as continuously growing in the national market at a rapid pace. However, the halt of Haldens Brewery's products led to lower sales of Borg products in the regions where the prior products had been sold. This could be explained by the concept of brand loyalty presented by Khan and Mahmood (2012) as Haldens' brand was deeply rooted in the drinking culture of the regions near the brewery. Further, Haldens had a higher brand equity in the southeast areas of Norway compared to Borg. According to Petromilli et al. (2002), outcomes of acquisitions where the main brand is aggressively put on display as a means to expand the business in the new market are common factors that reduce sales of the newly fused firm. These firms will grow to some extent, but often without utilizing the full potential of the brand equity and the resources of the newly acquired firm. Had the brand loyalty of Haldens been taken into consideration during the acquisition process, it could have led to a competitive advantage (Iglesias et al., 2011), positive reputation among the inhabitants of Halden (Sutikno, 2011) and increased the profitability of Borg's business (Kabiraj and Shanmugan, 2011).

To avoid the previous mistake of underestimating the effects of brand loyalty in local regions, Borg acquired Fredrikstad brewery in 1989 with a different strategy. Fredrikstad Brewery, like Haldens Brewery, had its own product line. Rather than discontinuing these products, Borg opted to preserve them after the acquisition to sustain its current growth as well as that of Fredrikstads brewery.

The continuous growth and expansion of Borg's products after the acquisitions attracted other breweries such as Hansa AS, which in 1997 lead to the merger of the two firms and the creation of Hansa Borg AS. Prior to the merger, Hansa AS had the largest market share in the second largest city of Norway, Bergen, as it had been present in the city since 1891. Hansa Borg AS opted to preserve both brands and their products which Borg had previously done with Fredrikstad brewery. This strategy was continued with the acquisition of CB in 1999 as a means to preserve the brand loyalty of all the brands within Hansa Borg AS brand portfolio. Today, these brands remain in the Hansa Borg AS portfolio and are sold across the Norwegian market.

M&A history of Ringnes AS

The merger and acquisitions history of Ringnes AS is quite long and complicated. The main strategy employed was to acquire small local breweries to solidify the firm's presence across different regions in Norway, while increasing Ringnes AS's market share. This strategy is quite similar to the one employed by Hansa Borg AS.

Out of all the mergers and acquisitions shown in Figure 30, Hamar Brewery is the only brewery which had its products discontinued. This led to similar reactions in the local regions as those experienced by Hansa Borg AS. Such an aggressive M&A strategy, as pointed out earlier, is often a disservice as the firms tend to take brand loyalty for granted (Petromilli et al., 2002) and further experience a low ROI (ibid). The production sites of Hamar Brewery were rather used to get access to the local market and produce the already existing brands within the Ringnes AS portfolio instead of adding another brand to it. Arendals was also fully divested in 2015 as Ringnes AS sold all its equity share in the company, possibly to divest the less successful brewery. However, other local brands such as Nordlands Pils and Dahls were preserved and are still present in Ringnes AS brand portfolio.
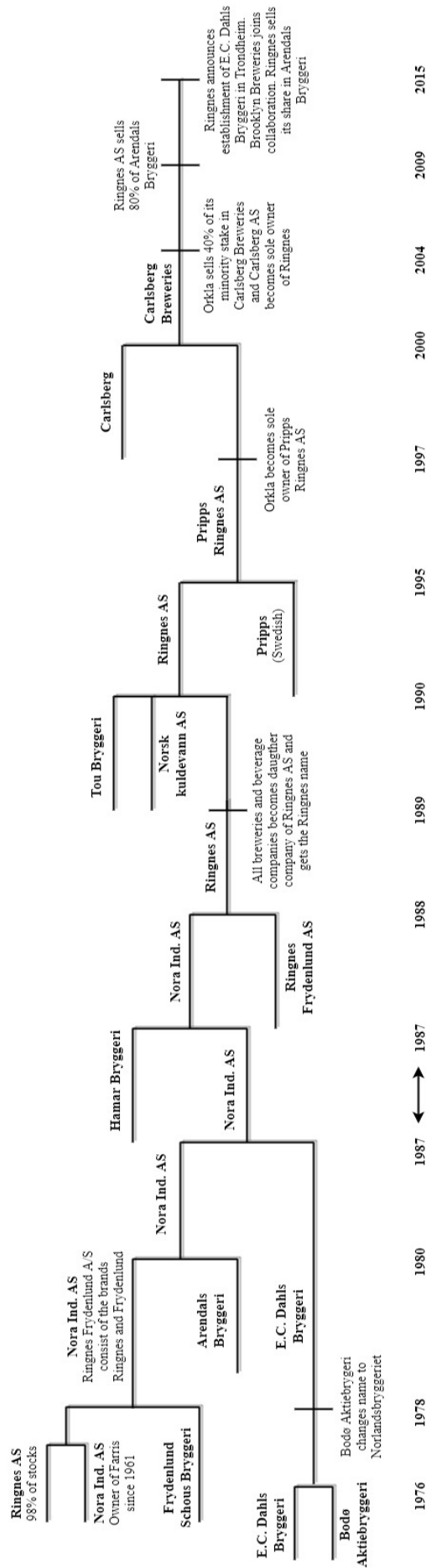
Figure 30: Consolidation history of Ringnes 1976-2017 (Ringnes)

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F Demographic profile of the Norwegian population

Table 38: Demographic data from SSB

Gender	Percentage (%)	Amount
Male	50.39%	2 668 371
Female	49.61%	2 627 248
Age	Percentage (%)	Amount
0-9	12.4%	602 401
10-19	13.1%	637 356
20-29	12.6%	612 617
30-39	13.9%	677 461
40-49	14.4%	700 695
50-59	12.6%	613 814
60-69	10.4%	503 243
70-79	6.0%	290 590
80-89	3.9%	184 367
Over 90	0.7%	35 655
Income	Percentage (%)	Amount
0- 249,999	17%	900 255
250,000-750,000	57%	3 018 503
Over 750,000	26%	1 376 861
Average Income	407,500 NOK	
Home County	Percentage (%)	Amount
Aust-Agder	2.2%	130 364
Buskerud	5.3%	314 057
Finnmark	1.4%	82 958
Hedmark	3.7%	219 247
Hordaland	9.9%	586 636
Møre og Romsdal	5.1%	302 206
Nordland	4.8%	284 429
Oppland	3.6%	213 322
Oslo/Akershus	24.2%	1 433 999
Rogaland	9.0%	533 305
Sogn og Fjordane	2.1%	124 437
Telemark	3.3%	195 545
Troms	3.1%	183 694
Trøndelag	8.6%	509 603
Vest-Agder	3.5%	207 396
Vestfold	4.7%	278 504
Østfold	5.5%	325 909