STORK
CLUB
WHISKY

NEW WAVE: WHISKEY OF THE FUTURE

A VISION FOR THE WHISKEY INDUSTRY

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Stork Club x RUG | Advice Report

by

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EXECUTIVE SUMMARY

The following report has evaluated and analysed the expected development of customer preferences with the rise of new consumer groups and wider macro-trends in society. Based on the outcomes of these preferences, the other aspects have been evaluated and analysed (being sustainability, Web3 and retail & distribution). The main sources of information in this project are interviews with industry experts, university professors and available data sources online.

The Whiskey industry is changing rapidly with the rise of New Wave Whiskeys, and the entrance of a new set of consumers into the market (so-called Urban Drinkers). The Urban Drinkers have very different preferences and priorities compared to previous consumer groups, and it is notable that most of these preferences actually drive the development of each of the dimensions chosen. The main findings can be summarized as:

Increased consumption consciousness: from the interviews and analyses it is found that the consumer of the future is more concerned with health, sustainability and the contents of their drink. They want to drink better, but less

Consumer education & knowledge-spreading thrives: together with the increased consciousness comes the desire for being educated and knowledgeable about the brand. Various tools already exist via Web3 techniques to create interactive experiences. Examples are AR and VR in marketing, or storytelling in creating the brand image

Diversifying consumption: Gen Z consumers tend to switch to alternative products on different occasions. Examples are switching to an alcohol-free beverage at times, or choosing a (ultra-)premium spirits when a special moment with friends occurs

Phygital shopping: It is expected that they will thrive in the future as shown by the growth of e-commerce and rise of NFTs and other digital platforms. New consumer groups tend to value both the availability of (local) speciality stores, as well as wide online coverage

NFTs galore: Most interviewees consider NFTs as an excellent tool to solve some problems within the (ultra-)premium segment of the spirits market or launch campaign

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INTRODUCTION

The following report will present a vision of the future whiskey industry based on research conducted by Gloria Adkins, Egbert Luning, Tilman Schepke, and Natasha Michelle Evangeline for the University of Groningen course; (junior) Business Research and Consulting. The report is commissioned by Spreewood Distillers GmbH, represented by Bastian Heuser and Tom L. Weller.

1.1. Background & Problem Context

The report will focus on four key meta-trends that were identified by research. These trends are believed to have the strongest impact on the whiskey market and encompass the most pressing challenges for whisky distilleries. Companies need to understand how the unique preferences of the newly emerging generation drive changes in the whiskey category. Therefore, this report will first look at changing customer preferences and then analyze how these impact the meta-trends Sustainability, Web 3.0 and Retail & Distribution in the whiskey industry:

	i) Customer Preferences	
ii) Sustainability	iii) Retail & Distribution	iv) Web3

Initial research provided the following (sub-)topics for the research project, based on the main aspects listed above. They are summarized in figure 1.1

From the problem analysis, the following problem statement for the research can be formulated.

> ”Since the whiskey production process requires multiple years, potential changes in the business environment have to be anticipated ahead of time so that actions can be taken with a long-term perspective in mind. However, there is a lack of concrete research to guide future action within the (ultra-)premium whiskey industry.”

The project goal is set as:

> "Accumulating comprehensive insight about the major meta-trends in the whiskey industry to provide a framework for conceptualizing the 'whiskey of the future'."
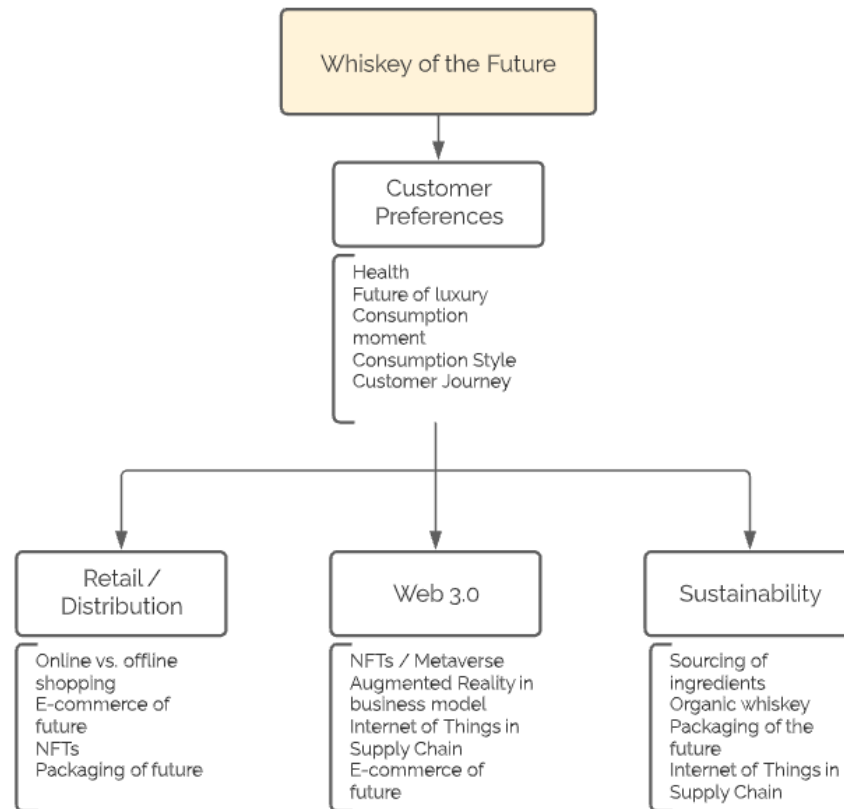
Figure 1.1: Problem overview with related research topics

1.2. Project Structure

Based on the main research question, a broad set of sub-research questions was constructed that will be answered by taking the following steps:

1. Develop vision of the future based on:

    (a) Interviews with industry experts;
    (b) Qualitative and quantitative data;
    (c) Case studies

2. Benchmark the 'proposed' future by validation/checking with:

    (a) Interviews with academics in respective fields;
    (b) Existing research literature;

3. Propose a vision of the potential outcomes of each meta-trend

   The research is being limited to the defined set of research areas presented in the previous section. This implies that a vision of the future will be proposed for each of the four dimensions. The future vision will then be tested/benchmarked against available literature and information from academics. From the set of scenarios, it becomes possible to propose one (or several) probable visions of the 'whisky of the future'.

1.3. List of interviewees

The interviewees in this project are selected based on recommendations from the project commissioner(s) as well as knowledgeable experts found by the project team. This section will present each of the interviewees and state their background / field of expertise. The industry experts were chosen based on their presence in media or within the industry.

   First the industry experts will be introduced (not in any order):

– **Max Album**: Director Sales & Growth at BlockBar (*expertise: trends in spirits industry, digital transformation*);
– **Dirk Biotto**: Creative Director at Hirschberg Studios;
– **Philipp Böndel**: Co-Founder & CEO THE AMBITION (*expertise: customer of future, brand-building, marketing*);
– **Sam Falic**: Co-founder at BlockBar (*expertise: trends in spirits industry, digital transformation*);
– **John Fordyce**: Managing Director at The Borders Distillery (*expertise: customer of future, digital transformation*);
– **Dan Gasper**: Co-founder of Distill Ventures, the world's first spirits Accelerator supporting entrepreneurs build the next generation of international spirit brands (*expertise: customer of future, trends in spirits industry, brand-building, digital transformation*);
– **Marc Grunberg**: Content & Ecommerce Product Lead at The Spirits Network (*expertise: customer of future, trends in spirits industry, digital transformation*);
– **Paula Kendall**: Commercial Manager at Frugalpac (*expertise: sustainability, sustainable packaging*);
– **Lars Ljung**: Sustainability Manager at Planet Protector Packaging (*expertise: sustainability, sustainable packaging)*;
– **Christian Perez Solar**: Distiller-Technical Production Manager at Arbikie Highland Estate with a technical background on winemaking production (*expertise: sustainability, production processes*);
– **Christof Queisser**: CEO of Rotkäppchen Mumm Gruppe with a background in the wine & spirit industry (*expertise: customer of future, trends in spirits industry, brand-building*);
– **Markus Wulff**: Founder of Analog & Tech, former digital innovation and Internet of Things lead at The Absolut Company / Pernod Ricard (*expertise: trends in spirits industry, digital transformation*);

Secondly the university experts will be introduced (not in any order):

– **drs. ing. B.S. (Bas) Baalmans**: Managing Director Groningen Digital Business Centre (*expertise: digital transformation*);
– **H.L.A. (Hellen) Dawo MSc**: PhD researcher at the University of Groningen (*expertise: sustainability)*
– **prof. dr. G.J.W. (Gertjan) Euverink**: Professor in Biotechnology & Applied Microbiology at the University of Groningen (*expertise: sustainability, sustainable processes*);

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CONSUMER PREFERENCES

> (Differentiation) is the job of brands …
> Can they build something which creates
> an identity that people want to be part of?
>
> *Dan Gasper*

One of the main factors that is driving change in industries across the globe, are changing customer preferences. Research around the world proves that Generation Z consumes and behaves differently from all previous generations due to shifting priorities [Stern, 2002, Glass, 2007, Costanza et al., 2012].

This chapter will focus on describing main trends that define the newly emerging target group and it will define a set of main observations that will have an impact on the industry in the future. Satisfying these customer demands/expectations is key to building resilience to the impactful future changes that lie ahead. Technological and other cultural changes caused by meta-trends such as Sustainability, Web 3.0, and Retail & Distribution are part of the pursuit of adapting for future changes in demand and will be elaborated on in the modules following this one.

2.1. The Target Group of the Future

> *Creating a really clear proposition that differs from the global marketplace is the most important thing.*
>
> Dan Gasper

The consumer of the future that is considered in this report falls into Generation Z (born between 1995 and 2012). Since sufficient data is available to analyze trends surrounding the part of this consumer group that has already reached the legal drinking age the authors were able to draw comparisons to previous generations [Seemiller and Grace, 2017]. Taking demographics into account, Generation Z is currently the biggest generation across the globe with the majority living in countries with a strongly growing middle class such as Africa, South-East Asia, and the Middle East. Global wealth drives future growth across key markets, it has been shown that increased wealth allows for a shift from cheaper, low-quality alcohol-consumption to premium quality alcohol [Interview with Christof Queisser]. Consequently, rising consumer wealth will drive future growth in the premium categories [Interview with Christof Queisser]. As this generation is starting to make up a growing amount of sales it increases its influence on the market. The signs of this can be found across industries and the undeniable truth is, these consumers are not just a younger version of Millennials.

Technological innovations, increases of education levels, increases in global GDP, as well as shifting values will all fundamentally affect the way they consume. With more schooling comes a wider awareness for social issues and with increasing technological advancements comes the increased access of each individual to more consumption opportunities, which will translate into changing consumption patterns. Growing levels of education will likely result in higher awareness of sustainability issues triggering the ripple-effect that will likely lead to sustainability becoming a 'hygiene factor' in the future.

Beyond consumption, consumers are now more interested than ever before to gain knowledge about the origins, production, history and ecological impact of the product they are buying. From interviews

it was found that most experts in the industry see the rise of conscious consumption as one of the key characteristics of future consumers. Furthermore, this age group appears to do extensive research before buying a product with 44% of them researching for a week before purchasing a whiskey product while it is only 14% in the previous generations [Distill Ventures, 2020]. This growing trend can be presently observed as 41% of consumers in the UK between 18-34 identify themselves as connaisseur, compared to only 16% of 55+ customers [Distill Ventures, 2020]. These younger consumers tend to educate themselves about a product, before making a purchasing decision.

2.2. Changing Consumption Moments

During the COVID-19 pandemic, the consumption moment was swiftly moved from on-trade establishments to the consumer's home. According to industry expert Christof Queisser, this shift may be there to stay as the home continues to be the center of many social activities. A study conducted by the Rotkäppchen-Mumm Gruppe [Rotkäppchen-Mumm Gruppe, 2021] showed that consumers increasingly demand to have valuable at-home experiences with 41% of people surveyed stating it is of 'top importance' to them. They enjoy consuming premium spirits at home with friends in self-chosen intimate moments rather than in public. Dan Gasper pointed out that while forecasts do see an increase in off-trade purchases, on-trade will remain an important point of consumption that can be utilized by brands. However, the face of on-trade may change as 49% of consumers stating that they gained a deeper understanding of their own needs and requirements during the pandemic. This led to an increased desire for 49% of German consumers to decide themselves when to celebrate with alcoholic beverages rather than follow societal expectations. The top three moments for alcohol consumption were defined as:

1. Enjoyment (75%)
2. Celebrating Moments (55%)
3. To have a good time with friends (41%)

Furthermore, the study by RMG shows that traditional consumption occasions such as Christmas are becoming more important to young people as they crave shared experiences (73% of young consumers vs. 40% of the bigger population) they want to experience. This indicates that the consumption of high volume spirits may be reserved for special occasions in the future. For brands this implies that there are opportunities in targeting specific consumption moments that are relevant to consumers by establishing oneself as the 'go-to' beverage for this occasion. Therefore, brands may choose to design products to fit consumption moments rather than particular consumer groups [Aswani, 2022].

2.3. Diversyfing Product Preferences

The research conducted suggests that in the future, the whiskey industry will enter a new era of category convergence where brands have to adopt a more holistic approach to their product portfolio to cover a wide range of consumer preferences and consumption occasions. Brands will need to be open to exploring new or underrepresented categories to diversify their portfolio. Core products need to be managed closely in order to mitigate risks. Additionally, changing consumer tastes are eroding lines between traditional whisky consumption and non-alcoholic beverages as the demand for mixers increases while alcohol free spirit alternatives are gaining popularity [Aswani, 2022]. Consequently, businesses need to adapt their product portfolios to represent the growing demand for low- or no-alcohol alternatives to appeal to new product preferences.

Another factor that plays an important role in conscious consumption is the rise of health-conscious values. As consumers are becoming more aware of the negative impacts of alcohol on their well-being, they are reducing all over consumption with the desire to shift to other alternatives. Multiple interviewees agreed that the market for low alcohol or alcohol-free drinks is on the rise. Many consumers switch to less alcoholic drinks late at night to reduce its effect on sleep quality and the feeling of well-being on the next day [Interview with Christof Queisser]. An industry report published by the IWSR [Aswani, 2022] showed that the 'low-alcohol' category in Brazil grew 200% from 2020 to 2021 with a forecasted CAGR of over 20%. Many key markets follow this trend, with the US leading growth in the

'no-alcohol' category.

In order to be able to understand future market disruptions, whiskey brands have to be aware of how customer segments are diversifying as new consumers enter the market. Consumers are anticipated to switch between beverage options more frequently and be more willing to trail completely new beverages [Aswani, 2022]. A natural consequence of this consumption behavior is that consumers may be more likely to engage in brand switching, if they cannot find the desired variety within their favorite brand. Brands that can achieve higher identity congruence by offering non- and low alcohol alternatives are likely to be preferred by consumers. Traditional and New World Whisky brands will likely feel pressure from brands specializing in the production of solely alcohol-free drinks and spirit alternatives that recipe development to a new level can offer consumers a similar experience to the alcoholic counterpart. While at the moment the no/low market only represents 3.5% of the total alcohol market, but looking at the 315% increase in online non-alcoholic and low-alcoholic beverage sales in North America, this trend is set to increase.Alcohol free products launched may have mood-enhancing or relaxing effects due to ingredients such as CBD, nootropics and adaptogens. It is believed that future innovations will be focusing on finding natural ingredients that can be used to produce mood-altering effects that are similar to alcohol while offering an appealing flavor profile [Aswani, 2022]. Present consumer preference landscapes offer insights about likely future trends.

The whiskey consumers can be divided into four categories. Firstly, the 'Substituters' who substitute low- or no-alcohol products for alcoholic products on *certain occasions.* This category largely consists of Gen Zs and Millennials with Boomers being less likely to substitute. Both Gen Zs and Millennials are also more likely to be 'Blenders' who switch between alcoholic and alcohol free products at the *same occasion.* In other key markets, Blenders also tend to be younger than 55 years old. The largest proportion of 'Abstainers' can be found in the US at the moment but the group will likely grow in the future as alcohol alternatives gain popularity. The 'Triallers' category is especially popular in markets such as Japan. This leads to the conclusion that companies should work on diversifying their *product portfolio* to create a unique range of whiskies as well as lower volume alternatives that offer the consumers something new and an exciting experience to increase conversion.

2.4. Complexity of Future Status Cues

The strong growth in non-traditional whiskeys coupled with consumers changing values indicate that a future shift in consumers' perception of what defines 'status' can be expected. Rather than focusing on traditional status cues such as heritage, brand image, and heritage consumers will additionally look at these additional factors when they decide how desirable or luxurious a product, such as: 'sustainability', 'authenticity', 'CSR', 'transparency', and a 'craft ethos'.

2.5. Consumer Culture & Brand Communities

Born around the turn of the century, Generation Z was already recognised as the most diverse and technologically savvy generation ever to hit the marketplace. For them, 'global' is the backyard and in search for their own 'identity' they are more likely to embrace brands that they can identify with on a personal level.

The phenomenon is explained by the Consumer Culture Theory which explores the: *"heterogeneous distribution of meanings and the multiplicity of overlapping cultural groupings that exist within the broader frame of globalization and market capitalism"* [Arnould and Thompson, 2005].

Contrary to the traditional view of culture where consumers are seen as culture bearers, the CCT sees modern consumers as culture producers due to the power that they inhibit in the marketplace. The consumer identity project cluster states that consumers use the consumption of symbolic objects to construct narratives of identity. The marketplace culture cluster assumes that contrary to the traditional view of culture which commonly refers to consumers' national culture, modern consumers can create distinctive self-selected cultural worlds through the pursuit of common consumption in-

terests. As such, subcultures are not homogenous in their nationality, gender, age, occupation, or other variables typically used in traditional segmentation practices but rather united by a shared commitment [Schouten and McAlexander, 1995]. Research highlights the need for companies to understand the values of consumer cultures to anticipate how consumers interpret marketing messages [Arnould and Thompson, 2005].

The majority of young consumers rely on recommendations from friends and family when choosing spirits (65%) which influence their product preferences [Distill Ventures, 2020, Rotkäppchen-Mumm Gruppe, 2021]. Additionally, research shows that between 20%-28% of young people discover new brands or products on social media [Bayindir and Winther Paisley, 2019]. Especially the important role of social media in enhancing brand awareness and credibility is emphasized. As the majority of young consumers crave brand authenticity (52%) companies have to build strategies that make use of these valuable social connections [Rotkäppchen-Mumm Gruppe, 2021]. According to GWI [Morris and Buokle, 2022] the main reasons why Gen Z consumers are willing to advocate a brand are:

– Love for the brand
– The feeling of taking part/being involved
– When something is relevant to friends' interests
– Access to exclusive content o services

In line with the CCT, industry expert Philipp Böndel emphasizes that consumers flourish within a subculture of consumption that is usually headed by 'opinion-makers' or the brand itself that promote relevant, authentic products. In the future and present, brands in the spirits industry could leverage on this via two explorations: celebrity collaborations and brand communities.

2.5.1. Celebrity Collaborations

Research shows that 15% to 18% of 16-34 year olds find new brands or products through vlogs, celebrity endorsements and posts from expert bloggers. Brands can utilize this bond between audience and influencers by becoming part of consumption subcultures and creating identity congruence [Bayindir and Winther Paisley, 2019]. Multiple brands and products have flourished due to these collaborations. Examples related to the spirits industry are: Puff Diddy with Ciroc Vodka and Jay-Z with Armand de Brignac champagne. According to Philipp Böndel, one of the successful features of such collaborations is the identification that consumers have with celebrities.

According to **Philipp Böndel** it is highly important to utilize the link certain celebrities have to (sub)cultures, as this offers brands the potential of tapping into existing groups and networks of consumers that are willing to interact with your brand/product just because of the example set by a 'leader of the (sub)culture.

In the future, it might become even more relevant for brands to tap into these (sub)cultures in order to build strong loyalty with an increasingly diverse customer base. The rise of Web3-technologies and innovations will only accelerate the possibilities offered for brands (see Web3 chapter).

> *We need to look for opportunities to differentiate ourselves. Cultural context makes the difference. Are there any occasions for me and my product to occur, is there a connecting point between me and my culture?*
>
> Philipp Böndel

2.5.2. Brand Communities

Online communities can be both brand- and consumer initiated [Dessart and Duclou, 2019]. Research found that consumers self-segment into these communities which brands can utilize as they aid the formation of relationships [Martínez-López et al., 2016]. These communities aid the formation of emotional connections and relationships between members and brands. Davis et al. [Davis et al., 2014] found that participants of their study felt emotionally connected to brands that they interacted with in online communities on social media. Gen Z's want to stand out from the crowd but also meet others

like them [Morris and Buokle, 2022]. As such, these communities present opportunities for marketers to support and capitalize on the link between members that pursue sameness in the connection with the collective [Cova and Cova, 2002].

Brand communities show potential to create a competitive advantage in the future as they deliver new forms of brand experiences, as well as a new form of long-lasting satisfaction for consumers, by incorporation consumers social circle within the brand experience. A brand community can be defined as "a specialized, non-geographically bound community, based on a structured set of social relationships among admirers of a brand" [Muniz and O'guinn, 2001], "that aspires to serve both members and (at least one) organizational goal" [Jones and Vogl, 2020].

Companies can gain a sustainable competitive advantage by having brand communities that offer loyal groups and friendships that form around a particular (loved) brand. Emerging superfans are especially relevant for a brand's profitability in the future. Through an extraordinary experience with the brand itself, as created through bonding with fellow customers, uncertainties can be reduced and brand advocacy can increase. One example of a brand that understands this concept is BlockBar. Max Album, Chief of Staff from BlockBar pointed out that while their business model revolves around the sale of premium spirits their focus lies on having everything in one place to provide consumers with an interesting and engaging community. By giving young consumers access to spirits that they otherwise could only buy at invite only auctions, companies such as BlockBar are opening up the marketplace by democratizing the purchase of luxury wine and spirits for a young group of enthusiastic spirit fans.

2.6. Key Consumer Macrotrends

After the exploration of the new generation of consumers in the spirits industry, the analysis of the changing consumption moment and diversifying product preferences, some general conclusions about the new consumers can be made. Based on the presented findings, the following Gen Z values have been defined for the whiskey consumers of the future in figure 2.1

> *The image sells the product, not the product itself*
>
> Christof Queisser

Figure 2.1: Future consumer values

These values relate to the different behaviour that the new generation of consumers shows within the industry. These groups of consumers are more *conscious* about the products they consume. As such, knowledge drives them. They spend more time researching the products they buy, and also consider themselves as experts on the products they buy. Brands need to be authentic and *transparent* with consumers in order to gain their advocacy. The category trends show that consumers will continue to demand more diverse product portfolios from brands that can only be achieved through continues recipe *innovations.*The consumers want brands to be *transparent*. Future consumers will likely be willing to spend more on whiskies but also expect higher quality and the fulfilment of sustainability expectations for it. Gen Z consumers *crave experiences.*

Figure 2.2: Main consumer trends

3
SUSTAINABILITY

Sustainability is a must for any brand in 10 years

Christof Queisser, Rotkäppchen-Mumm Gruppe

Changing perspectives around the world are driving the adoption and implementation of sustainable innovations in the spirits market. The industry is currently experiencing a rising awareness of sustainability issues. However, research shows that in 10 - 20 years embracing sustainable business practices will be a necessity rather than a differentiator making sustainability a future 'hygiene factor'. Companies with a long time to market (TTM) may face additional pressure as the creation of sophisticated sustainability strategies as well as the attainment of certifications for the production processes takes effort and time. The fact that whiskey has to age for many years increases the need to adapt processes now so that products can be marketed as sustainable when they are ready to hit the market.

This report will utilize existing frameworks to identify potential sustainability practices for the whiskey industry. The chapter identifies the main frameworks in industry to measure the sustainability of a brand and insights from the industry on how other brands tend to tackle the issue regarding sustainability. It provides multiple examples and ideas that could be translated into practice.

3.1. Carbon Emission Reduction Framework

The Science Based Target Initiatives(SBTI) are divided into four important points: near term, long term, beyond value chain mitigation, and neutralization of residual emissions. The short-term scope is 5-10 years reduction within the pathways and long term scope is to reduce emission to a residual level by 2050.

Network For Greening the Financial System (NFGS) established six climate scenarios in physical and transition risks (see figure A.1).Network For Greening the Financial System (NFGS) established six climate scenarios in physical and transition risks (see figure A.1). It provides best practices that can be followed by stakeholders to reach sustainable practices. NFGSs most ambitious scenario called Net Zero 2050, aims to limit global warming to 1.5 °C. With current business practices and no initiatives to combat climate change, the earth's temperature may increase by 3 °C until 2050, which can result in deterioration of living conditions, irreversible nature damage, extinction of high-risk species, and disruption of the economy. There are seven important points in the scenario of the NFGS Net Zero 2050 framework: decarbonizing the electricity supply, increasing electricity use, switching to carbon-neutral fuels, storing, and removing CO2, improving energy efficiency, decarbonizing agriculture, forestry, and other land use. In this advice report, the following frameworks will be used: NGFS's Net Zero 2050 and SBTIs timeframe.

3.2. GHG Three Scope Emission Analysis

Greenhouse gas emissions (GHG) can be classified into three categories. *Scope 1* is the direct emissions from owned or controlled resources. *Scope 2* are indirect emissions from the third party purchase, *Scope 3* are indirect emissions from upstream or downstream activities that occur in the value chain (see also

figure A.2).

To calculate and understand the sources of emissions in the whisky industry, brands have to look at the entire supply chain (see also A.2). Scope 1 of whiskey production is the processing of the whiskey such as malting, mashing, fermentation, and distillation. Furthermore, it included the packaging of the ready-to-sell whisky into the bottle as long as the facility is owned by the company and the distribution to the retailer. Scope 2 is the purchase of electricity that powered the facility. Scope 3 includes commuting employees, business travels, waste generated in the operation, processing of sold products, use of sold products, end-of-life treatment, leased assets, purchased goods and services. In the next step, energy incentive activities will be proposed based on the three scopes defined.

Under the research approach by Beverage Industry Environmental Roundtable of producing of 2745 grams of CO_2 per 750 ml bottle [Beverage Industry Industry Roundtable, 2012], it is found that the loopholes in the production process based on scope will be divided into:

– Scope 1 : The production of whiskey is energy incentives in the distillation process whether it is pot (40,3%) or column distillation (36,1%), warehousing (10,3%), ingredients (13%), bottling (2,7%) and transportation (6,8%);
– Scope 2: Electricity purchased from a third party company to power the activity in scope 1 whether it is powered by fossil fuels, water, wind, etc;
– Scope 3: Emissions from grain production, emission of glass production, transportation of suppliers, employee commuting to the business, end of product waste management or recycle process, business travel, etc.

3.3. Sustainability practices in the Whiskey Industry

3.3.1. Electricity Supply & Switching to Carbon Neutral Energy- Renewable Energy

According to McKinsey analysis, by 2050 the world oil and gas production would be 55% and 70% lower than today [Krishnan et al., 2022]. Coal production may be completely discontinued by 2050. The growth of hydrogen and biofuels production is believed to increase tenfold from 2021 to 2050. The Scottish Whisky Association members have worked with SEPA and committed to increasing the number of non-fossil fuels in their energy mix by 20% in 2020 and 80% in 2050.

Some of the largest energy requirements for a whiskey company originate from the distillation phase in the production process which requires substantial use of heat or cooling systems. According to Christian Perez Solar and Prof Dr. Euverink switching to green or sustainable alternative sources of energy will immediately provide a measurable effect on the sustainability along the entire process. A recent study conducted by Heriot Watt University stated that it is best for distilleries to combine renewable energy and other forms of heat or electrical energy storage. The system then will self-sufficiently power the production and export excessive energy to power other activities [Früh et al., 2021].

There are many available options for renewable energy that can be utilized by whisky companies in the future. Some examples form the industry are listed below.

Alternative nature generated energy or hydrogen is used by Bruichladdich distilleries which are powered by green electricity and water electrolysis. Bruichladdich distilleries are exploring and aiming for alternative energy such as Tidal, Biomass, and Hydropower in the long term.

Nc'nean pot stills are powered by biomass boilers from wood chip from local forests and outsource small amounts of low carbon electricity from third party partners to power the production. Biomass from whiskey distillation by-products such as draff and complemented with woodchip has powered major distilleries in Speyside Area, Northeast Highlands. Another possible solution is the generating of power from waste streams. According to Prof. Dr. Euverink, it would be theoretically possible to generate biogas from the waste-streams of the whiskey production process if the carbon content is sufficient. Utilizing microorganisms to catalyze the needed reactions could offer the potential of harvesting biogas from waste-streams in a sustainable way.

Some of the examples show the different possibilities for distilleries to add renewables into their power mix. Especially switching to electricity-driven production is highly efficient, as promising green candidates for such energy such as wind, solar, wave and water energy are already widely available.

3.3.2. Increasing Electricity Use - Electrifying Transportation and Distillation

Increasing electricity use in the supply chain can also help the production of whiskey be more sustainable. For Scopes 1 and 3, it is necessary to find out which parts of the production can be electrified. One of them is the usage of electric vehicles for transportation. In 2040 it is expected that every new car sold globally will be electric. Carbon emissions caused by the mobility of goods and people in the whole supply chain can be reduced by adapting electric vehicles in the supply chain. According to Mckinsey's analysis [Krishnan et al., 2022], the price of electric vehicles will subside over time as battery supply will rise. Another option other than battery-powered electric vehicles is hydrogen cars. Furthermore, Glenfiddich fuels trucks using biogas fuel from its whiskey waste. Glenfiddich converted the trucks in their distilleries to run on liquified natural gas . It produced 95% less carbon dioxide than diesels or other fossil fuels.

In terms of production, electric boilers can also be an option. Initiatives have to implement such boilers, for instance by Diageo whiskey distilleries in North America using electrode boilers. The electrode boilers can give precise heat which results in almost 100% efficiency and avoid heat loss. It is caused by the ability of electrode boilers to have a very high ramp rate and the desired temperature

can be set and achieved in a minute.

3.3.3. Sustainable Waste Management

According to an interview with Prof. Dr. Gertjan Euverink and Christian Perez Solar from Arbikie Distillery company, distilleries may be facing issues in the attainment of quality fresh water or production. As grains used in the whiskey are mostly produced with irrigation, it is expected that it will be hard in the future to achieve a consistent amount of yield. Even nowadays, some distilleries have to stop their distillation process during the summer because the temperatures in summer are so high. This issue is not likely to impact distilleries in the near future. However, to avoid future issues the water usage within distilleries should be considered. Based on the interview with Hellen Dawo, it is best for companies to find a way to reuse water. Treating water waste to remove contaminants and create a closed loop water management system. As water is going to be more scarce in the future, managing the water waste and repurposing it becomes. Other waste from distillation may be turned into biogas, animal cattle, and fertilizer as it is rich in nutrients.

3.3.4. Sustainable Ingredients Alternatives

Whiskey nowadays is commonly made from grains such as wheat, corn, rye, barley. However, the rise of alternative whiskey is also noticeable with distillers such as Koval Distilleries making whiskey from millets and oats. A Japanese whisky distillery, Kikori, is also starting to make rice whiskey. Greenhouse gas emissions from oats and barley per hectare is lower than rye and wheat production [Rajaniemi et al., 2011]. One example of the innovative use of new ingredients is Arbikie distillery's carbon-positive Gin from peas. There is room for further innovations in these areas for whisky distilleries as well since succeeding in the production of such a unique product may present a valuable competitive advantage.

Upcycling food waste has become a rising trend in sustainability. According to research, only 10% of consumers are familiar with upcycled products. However, 80% of the respondents want to learn more about it or try it themselves (Chow, 2021). Transparency and information is very important to increase the willingness of customers to pay for upcycled food. The upcycle food market is worth \$46,7 billion with a forecasted CAGR of 5% in the next 10 years. Upcycling is also an initiative to prevent food waste that contributes to 6% of human-caused emissions. Some first-movers in the area such as Alchemy Distillery have already developed whiskies from one day old bagels, ToastAle produces beer from day-old bakeries' food waste, and others also use vegetable waste as ingredients to make vodka. Upcycled spirits are on a rise and may have a place in the whiskey market of the future. However, the challenge is the increased supply chain complexity due to the additional steps added for the collection of food waste. The details on how to scale up the production of upcycling spirits require further research for optimization.

Building a strategic alliance with another company might be an option and common in the future. One example is Kellogg and the Seven Bro7hers Brewery in the UK. The brewery made a beer from upcycled cereals,Rice Krispies replaced malted barley in Cast Off Pale Ale and Coco Pops are the grain base for Sling It Out Stout. Even though industry experts question whether this trend as room in the premium segments of the future it provides a valid example of the innovative possibilities that companies around the world seek out to improve their impact on the environment.

The high variety of whiskey is mostly produced by smaller and medium-sized breweries that have more flexibility to create something novice. The flavor of whiskey is the main point for connoisseurs, regular drinkers and whiskey lovers. Therefore, drastic changes in the core ingredients of the product may not be perceived favorably by all consumers. On the other hand, small and niche distilleries could launch a new product made from upcycling food to cater the niche demand from particularly environmentally conscious individuals.

3.3.5. Sustainable Packaging Alternatives

Whiskey is seen as a premium product and requires a sense of exclusivity which the traditional glass packaging provides to consumers. The packaging should be durable. serve its purpose to keep the product fresh until it can be used for its designated purpose and represent the brand. a liquid product. The consumer may hold naive theories about how sustainable packaging could negatively impact taste [Wikström et al., 2019].

Several interviewees mentioned that there could be adoption problems with the switch to sustainable packaging. The difficulty lies in the durability, appearance and perceived impact on taste. For this reason, the authors propose that a 'destination-oriented packaging' approach could serve as a more suitable solution to premium brands in the spirits industry:

- Glass Packaging:

    - Destinations:
        * Speciality Stores;
        * Premium Restaurants and Bars;
        * Expert Consumers
    - Demands:
        * Long shelf-life for storage
        * Creation of premium perception
    - Opportunities:
        * Use of NFC chips to increase transparency and integrate storytelling
        * Collaboration with artists to engage consumers
        * Brand recognition

- Sustainable Packaging:

    - Destinations:
        * Retail Stores;
        * Consumers;
        * Events and Festivals;
    - Demands:
        * Environmentally friendly (e.g. reduction of transportation costs);
        * Easy of use;
        * Easy to recycle;
        * Gain consumers attention;
    - Opportunity:
        * Allowed in areas where glass is prohibited;
        * 360°C branding opportunity;
        * Personalize bottles for consumers.

Another solution could be to reduce the usage of new glass bottles in the industry. The bottles themselves are recyclable but efficient recycling programs need to be in place. The production process of glass is resource-intensive and transportation increases emissions as well as costs due to the weight of the bottles. The glass packaging process accounts for 20% of the whiskey's carbon emissions since glass bottles can be reused 20 times but mostly end up in landfills.

Applying the concept of destination-oriented packaging, brands reduce their environmental impact in parts of the whiskey market where glass is not necessarily demanded. The next part introduces various different examples of sustainable alternatives to glass.

Substitutes to glass packaging are used by Diageo, who use rPET Bottle or recycled PET Bottle.The rPET bottles also offer the flexibility to imitate the design of a glass bottle. The problem is the consumer perception of rPET bottles is not as exclusive as glass due to its light weight and less traditional packaging which may make it an unsuitable alternative for premium whiskies. However, especially mixers and whiskies sold at a low- to medium-price point which do not rely on consumers' premium perception of the

spirit but rather on consumers desire to fulfill a need may find rPET bottles to be a suitable alternative.

Another packaging option are paper bottles such as those made by Frugalpac. During the interview, Paula Kendall, Commercial Manager of Frugalpac stated that consumer responses towards the innovative alternative have been highly favorable with products being sold out shortly after launch. The bottle is made out of paperboard, which is flat on arrival and can be reformed around a pouch that stores the liquid. Only the top part of the packaging is made out of plastic to ensure that the liquid can be poured properly. The majority of the components used in this packaging is recyclable (e.g., 94% recycled paperboard, separable bottle components). The entire bottle only weighs 83 grams making it substantially lighter than glass. The current shelf-life testing, which is still ongoing, shows that along a period of two years neither the spirits alcohol volume nor the flavor were tainted. Especially spirits that are made for direct consumption (vs. spirits that are stored for years) can make use of these newly emerging packaging solutions. The company states that compared to glass bottles, the carbon footprint of their bottles is six-times lower. Frugalpac has already been used by Cantina Goccia Wine, Scotland NB's Distillery and Greenman Woodland Gin with the bottles being offered in both retail as well as online stores.

3.4. Key Sustainability Findings: Towards a "full-circle" approach

> *You have to make connections to get closer [to a full-circle approach]... Start with the soil, plant botanicals and take it from there*
>
> **Christian Perez Solar**

A sophisticated bottle return system can reduce greenhouse emissions by 90% compared to single-use bottles. New technological innovations such as NFC chips that are printable on paper may provide companies with additional ways to promote these systems. Giving consumers the possibility to simply hold the phone against the bottle reduces additional barriers (e.g., QR Code Scan) and increases transparency as the brand. Furthermore, companies may be able to be more sustainable if they consider the heterogeneous demands of product destinations. As stated above, it is relevant to take a customer centric approach and consider which consumer need has to be fulfilled at which destination. This goes beyond the traditional view of simply having the product available at the location where the consumer wants it. Instead, with increasingly complex consumer demands, brands will likely need to question why certain approaches are taken and why they may need to be adapted. The materials used for packaging should be chosen because they create the desired consumer response and brand associations.

While the majority of industry experts see a future for sustainable packaging in the whiskey category, the consensus is clear that it will not replace glass fully in the coming 10 - 20 years. However, there are increasing amounts of consumers that are demanding these alternatives. This leads to the conclusion that beyond a product portfolio diversification brands may need to create destination-oriented packaging portfolios to target young consumers.

Figure 3.1: Sustainability Practices for future distilleries

What experts emphasize is that brands need to evaluate future business processes with sustainability as a hygiene factor in mind. They should be striving to move toward a 'full-circle approach' that takes into account every element of the business from the distillery architecture that can be adapted to use less daylight, increasing the level of manual labor to reduce emission, to reusing production waste up until the point were the consumer has used the product and needs to dispose of the packaging.

4

WEB3.0

The creation of the internet dates back to innovations made just after the 2nd World War, innovation in information sharing between computers. Similar to other (currently common) technologies, the internet experienced a spillover effect. Ever since the initial commercialization in the 80s, the internet has developed from a static environment to a highly dynamic network.

The development of the internet can be characterized by several different stages. One of the terms that strike with presence in the media is so-called Web 3.0 (or Web3). This "state" of the internet is defined by the inclusion of Blockchain technology as well as machine-readability of data.

At first the background of the developments in the Web3 segment is considered, where the technologies underlying the developments are described in more detail. Section 4.2 describes practical examples of what brands within the spirits/alcohol industry could do. Finally section 4.3 describes the main trends that are observed to become relevant in the *digital world* of the future.

4.1. Developments in Web3.0

Web3.0 is an overarching term for several Blockchain-related innovations. The most striking examples are examples are cryptocurrencies (such as Bitcoin and Ethereum), NFTs but also Augmented Reality (AR), Virtual Reality (VR) and Extended Reality (XR). As all technologies are based on the underlying concept of Blockchain, it is important to shortly explain this technology first.

Blockchain technology is a set of records collected in "blocks" that are sequentially linked together. The concept of Blockchain is that the information on the key for the current block is stored in the previous block. As a result, a chain of blocks is formed. As a result, Blockchain blocks cannot be altered afterward, i.e. preventing alteration without altering all previous blocks [Bodkhe et al., 2020, Catalini and Gans, 2020, Yli-Huumo et al., 2016, Nofer et al., 2017].

Because data is stored "peer-to-peer", it is a form of decentralized data storage. For visionaries on the development of the internet, especially this characteristic is key. It would decentralize the internet from big firms (s.a. Meta, Apple, and Alphabet) towards smaller peer-to-peer networks. Applications of Blockchain lie in:

– Cryptocurrencies;
– Smart contracts;
– Financial services;
– NFTs.

Some of the key-features of the Blockchain technology are also the main disadvantages that criticasters mention. As new blocks to the chain are added by "solving a puzzle" (i.e. solving difficult computational problems), it is highly energy-intensive when a "proof of work" method is used. Some solutions to this problem lie in the use of proof of stake, which is deemed as less energy intensive; this however reduces the security and could push Blockchain technologies towards centralized parties. The Ethereum blockchain is already taking steps in making the change towards a 'proof of stake' concept indicating that there will be promising developments in this area in the future.

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4.1.1. Cryptocurrencies

Examples are Ether, Bitcoin, or "meme-coins" like Doge. In the past years, the market for cryptocurrencies has grown massively, with a total market cap (current day [March 14th]) of $1.73T (i.e. 1e12). This market has grown towards this figure from $151b (i.e., 1e9) on March 14th 2020, so 2 years back [DeVries, 2016, Liu and Tsyvinski, 2021, Hileman and Rauchs, 2017].

Multiple visionaries (for example Gavin Wood) foresee a huge future for crypto as one of the main currencies globally. However, despite the promising noise about future applications, it appears that some basic technicalities of being a fiat currency are not satisfied. The computational power required for each transaction (explained in previous section) also appears to limited the applicability and wide adoption.

Governments are actively creating (new) laws on the regulation of cryptocurrencies. Examples are ongoing initiatives for a digital Euro, digital Dollar, and digital Yuan. Subsequently, with all this ongoing research, it lies in the line of expectation that a cryptocurrency in any form will play a role in the monetary system of the future.

Several mainstream companies, such as Microsoft, PayPal and Tesla are allowing cryptocurrencies as a viable payment method. Such steps by companies worldwide are of importance for cryptocurrencies in becoming a fiat currency. For the NFT-marketplaces, cryptocurrencies appear to be more common. The NFTs from BlockBar are based on the Ethereum-blockchain technology, and as such utilize Ether as the main payment method.

4.1.2. Smart contracts (& NFTs)

Inherently, the Blockchain technology is highly useful to store so-called "Smart Contract". In the Blockchain it is easy to store agreements with mutual acceptance, as the intrinsic property of a block on the Blockchain is that it cannot be changed after its creation, i.e. data is kept "safe".

Such Smart Contracts have multiple applications. It can proof (digital) ownership of (phsyical) assets as well as storing agreements between parties. Because the information on a block on the Blockchain is on there relatively permanent, agreements can hardly be lost. Blockchain could thus play the role of the notary, as a fiat-method on agreements.

Examples of Smart Contracts are NFTs, which essentially is the "proof of ownership" of a digital asset. In the conventional/traditional system it is difficult to proof ownership of such digital assets, NFTs are a way to solve it. Especially with the alcohol industry, constantly *proving* authenticity of a product is difficult. From several interviews it became apparent that counterfeiting is a relatively big problem within the *luxury* segment. Smart contracts stored on Blockchain technology could aid in solving the problem within the industry of proving product authenticity.

Non-fungible tokens (NFTs), are a new way of digital ownership. It ensures that what someone owns belongs only to them. It is stored in the Blockchain. NFTs can be traded between players and allows for a lot of different and new markets.

Examples are with (online) art and in the music industry. Generally speaking, revenue can be generated from NFTs in two ways:

> *A NFT is nothing more than a smart contract.*
>
> John Fordyce

– Initial selling after creating an NFT;
– Sell-through royalty fee when NFT is resold (i.e. changes ownership);

The royalty fee can be applied to an NFT because of the "smart contract" ability of the Blockchain. Several experts agree on the potential of NFTs for multiple markets. The NFT could exist in both a fully digital or a hybrid form. By this it is meant that one can both have the "full-digital NFT" or an NFT that couples something digital to something physical.

Max Album from BlockBar mentioned several cases in which the NFTs they offer serve needs from within the alcohol industry:

1. Prove authenticity: by storing transactions of (ultra-) premium spirits in an NFT, the authenticity of such bottles can be proved easily;
2. Sell-ability: several previous interviewees mentioned the difficulty of (re-)selling (ultra-) premium spirits for collection purposes, marketplaces like BlockBar offer the platform on which producers and buyers can easily interact in exchanging via NFTs.

From the interview with Marc Grunberg from The Spirits Network several example use-cases of NFTs in the alcohol industry are provided, one of them corresponds with an example given by John Fordyce. A full cask of whiskey was converted into an NFT, which could be redeemed after ripening the cask of whiskey for multiple years. Something like that offers the potential of linking a digital NFT to a physical product. The experts on digital transformation that were interviewed all mentioned the huge potential offered by such application cases of NFTs in the spirits industry.

4.1.3. Metaverse, AR and AI

From sci-fi book Show Crash (1992) towards one of the biggest tech-hypes nowadays, the Metaverse appears to be the next big thing. It appears no coincidence that Facebook's parent company has recently been renamed Meta. A tangible description of the Metaverse can be made by using games as Fortnite, Habbo Hotel or Minecraft as example(s). Within these virtual (3D) worlds, it is possible to buy assets to make your avatar look cooler (skins in Fortnite or Minecraft), or purchase virtual products for your own virtual space (Habbo Hotel).

Such a virtual world where your avatar can interact with others, in different virtual worlds/locations seems scientific, but there exists some proof of the concept. Decentraland is a virtual world, based on the Ethereum-Blockchain. It operates as a virtual world, with its own virtual economy. An example is an American company that bought a location for $700,000, to create a virtual mall. Recently also Heineken jumped onto the Metaverse train (see figure 4.1), by opening its virtual distillery in Decentralands Metaverse. It is used for the promotion of a new Heineken drink, Heineken Silver as well as offering virtual tours through a board room meeting and the distillery. Kinahans Irish Whiskey also already developed into the Metaverse, Its projects include 3D and AR-enabled objects ranging from digital whiskey casks, virtual brand ambassadors and other branded items, created in collaboration with upcoming digital NFT artists.

Figure 4.1: Heineken's Virtual Distillery in Decentraland (image credit: Heineken)

A more recent example is the pop-up festival hosted by Absolut Vodka in the Decentraland Metaverse. The pop-up festival coincides with Coachella, a big music festival in California. In the virtual world, it is possible to attain several types of NFT-based fashion, and enter different rooms with an avatar wearing the fashion. Next to this online festival, it is possible to 'win' access to the real Coachella, by finding a hidden teleport token, thus linking the digital and physical worlds.

Rabble Wine Company has implemented AR-experiences during the pandemic that enables them to share the brand story easily with consumers by engaging in novel ways. For example, a bottle of red wine comes with a story of a comet hitting the city of Florence. Treasury Wine Estates uses AR that makes *come to life* when a smartphone is pointed at a bottle. Bottles that are placed next to each other can also interact, continuing the story.

> *Storytelling first, technology second*
>
> Marc Grunberg

The quote on the left from the interview with Marc Grunberg again stresses the importance of finding a brand story and creating a related image that actually sells the products. From the interviews with Max Album and Marc Grunberg it became apparent that they both see the technological innovations related to Web3.0 to be *enabling* for a better brand experience. BlockBar for instance offers the potential of making your "collection" of NFT bottles visible in a 2D or 3D manner, something like that could be extended into some 3D (virtual) world like the Metaverse.

Developing hardware in the entire industry of computers opens possibilities for such technologies. Think of better batteries, computer performance and VR-glasses. However, according to Tim Sweeney (Epic Games), there is a challenge for the development of the economy of the Metaverse. Under any economic activity, there must be an incentive to act, especially in the virtual or digital world such activity can be difficult due to the increased complexity of virtual ownership. This is where the concept of NFTs merges with the Metaverse. Because of NFTs it becomes possible to "store" virtual ownership, in other words; NFTs are the way in which ownership of a digital asset in the Metaverse can be proven.

4.2. Application of Web3.0 to the whiskey industry

Several interviewees mentioned the high potential that Web3.0 offers for companies in a broader sense. Dan Gasper specifically stated the "commoditization" of Web3.0 applications, by this he meant that current differentiating factors between companies will disappear over time, as each company will have to develop itself into this domain. Of course the extent to which this will be happening is highly dependent on developments in this segment. One can imagine the role AR and VR will play in the storytelling on the image of a brand, whereas opening a shop in the Metaverse might seem a bit out of the box.

IWSR indicates a few application cases for NFTs and spirits:

– Buying an NFT and using it as a redeemable token for a bottle of spirit;
– Buying an NFT of a product that has not been made yet;
– Buying NFTs for applications as BlockBar (trading);
– NFTs as intangible assets, new ways of interacting between consumers and brands.

Quinton Jay focuses both on the emergence on NFTs as well as the rise of VR and AR in brands. He envisions the use of AR as the "future" of selling fine wines, as it offers the ability to remotely explore physical locations. Examples can be a virtual tour through the distillery, or a virtual visit to the shop. This trend is also described by Distill Ventures in their whitepaper [Distill Ventures, 2020].

Product offerings might start to differ, think of a physical bottle that also gives the buyer an NFT that can be redeemed for the Metaverse shop of Stork Club. Think of combined art with bottles or something for the metaverse or a token that can be redeemed at a bar for a drink. The music and art industries already are a bit further ahead with the development of NFTs as a tool to interact with consumers, fans and communities. Collaborations between brands in the alcohol industry and music/art industry can already be found, for example via Budweiser or Bacardi.

Naturally, some of these trends are more general for all players in the market. Examples are the overall growth of the e-commerce market and the rise of new payment methods (such as with cryptocurrencies). Some of these trends also offer a great opportunity for brands to create differentiating factors

in the digital segment [Adhi et al., 2021]. However, from the interviews with Dan Gasper, Philipp Böndel and John Fordyce it appears that the digital transformation for brands will be rapidly evolving. As such, there is no sustainable competitive advantage to be found in this segment. Each brand should orient itself into this direction to keep up with society in general.

4.3. Key Web3.0 Trends

Some developments that are highly likely to occur are listed below based on the combination of the analysis above and responses from interviewees:

1. As consumers tend to put more importance on the value offered by experiences, brand image and "educational value", it is expected that AR and VR in marketing will become highly efficient tools to add to the storytelling part. Examples could be virtual tours of the distillery and visualized information on the origins of the drink;

2. NFTs already offer huge potential for companies. Trading places like BlockBar thrive both on the "collectors" and actual consumers. Especially for the ultra-premium segment (proving authenticity) it could be that NFTs becomes one of the new selling-methods;

3. With the rise of omnichannel shopping and increased attention from consumers to "easyness to buy", having an excellent online presence is key. Combined digital - physical stores will definitely play an important role;

4. Smart packaging adds to the experience offered together with the bottle of whiskey.

5
RETAIL & DISTRIBUTION

There are three forces that will impact the distribution of whiskey in the future. The first is the premiumization of whiskey as a good that consumers want to buy at the highest quality and the most reasonable price with a strong emphasis on flavor rather than age. The second is consumers' desire for innovative experiences that make the consumption memorable and inherently personal. Lastly, consumers want to buy at the greatest possible convenience, shifting the future *points of purchase* toward a phygital retail environment. To fulfill people's expectations, brands will have to increasingly depend on drawing out and communicating the inherent uniqueness of their own equity.

Findings indicate a shift in premium consumption location, from the on-trade to home-premises. With consumers increasing desire to have premium at-home experiences and the growth of subscription services they will have high quality expectations. Brands should consider becoming more selective about the premises at which they offer their products and be more involved in the development of mixers that match the flavor profile of their whisky as the number of high-involvement consumers is increasing [Aswani, 2022].

5.1. Accelerated Adoption of E-Commerce

> *Digital will be important for whiskey more than other products, because consumers crave availability and selection.*
>
> Christof Queisser

Traditionally, spirit sales were mainly conducted through offline channels. However, it is believed that ecommerce will continue to take market share year-on-year and develop into a sophisticated playing field making digital engagement a relevant part of the consumer journey. Regardless of where the final point of purchase lies, spirit retailers will need to develop engaging *online shopping platforms* to maximize touchpoint effectiveness and *aid consumer discovery* [Aswani, 2022].

Consumers that engage in ecommerce shopping are divided into five segments: 'omnichannel', 'online specialists', 'marketplaces', 'on-demand' and 'direct-to-consumer'. It is expected that in the future, retailers will have to be able to build strong relationships with on-demand services to offer fast delivery as these services are projected to gain significant market share. In recent years, *direct shipping* has been restricted by laws in some countries (e.g., the US). To overcome this barrier, brands need to establish strong relationships with local retailers to offer consumers the convenience and availability that they desire [Distill Ventures, 2020].

The global spirits market is expected to grow at a CAGR of 5.2% between 2022 and 2032 reaching a value of US$92.8 Billion [Insights, 2022]. According to IWSR [Aswani, 2022], the total beverage alcohol e-commerce sales are expected to grow by 66% across key markets to reach US$42 billion until 2032. In recent years, *direct shipping* has been restricted by laws in some countries (e.g., the US). To overcome this barrier, brands need to establish strong relationships with local retailers to offer consumers the convenience and availability that they desire [Distill Ventures, 2020].

Industry experts suggest that brands can use stories to increase identity congruence across all platforms. According to Marc Grunberg, to appeal to young consumers a more passive approach to marketing has to be used to drive discovery. One innovative way to do this is to use video commerce platforms such as Spirits Network that apply technology on top of stories to ensure that consumers remain at the touchpoint (video) and can purchase directly from there rather than having to move to another touchpoint.

> *Brands have to share the same story across all platforms if it's on the web, the piece of paper you give away in your distillery, or TikTok - it has to stay the same story.*
>
> Marc Grunberg

5.2. Off-trade

Professionals believe that in the future there will be a complete connection between digital and physical stores. Physical stores will remain relevant, but brands need to apply a *hybrid cloud approach* to merge traditional with modern systems and meet consumers where they are at all times. For the new target group, retail stores will be about *connections* rather than transactions. Retail stores have emerged as a key *point of discovery* [Distill Ventures, 2020]. They will become the place where brands can drive engagement and product knowledge by offering fun experiences while removing the friction between sales channels [Adhi et al., 2021]. However, the off-trade B&M will be impacted by the *structural changes* in the spirits market and changing *consumer shopping habits*.

Consumers are developing a *shop local mentality* which specialist whiskey retailers, specifically those with a sophisticated online presence, can benefit from. This trend was originally accelerated by the Covid-19 pandemic but is set to continue afterward with consumers intending to support local retailers more often in the future. Whiskey producers that market and support their local communities will be able to benefit from this trend. [Distill Ventures, 2020]

Utilizing the *shelf space* is highly important since (ultra-)premium whiskeys are an underrepresented part of the store. Creating shelving that helps consumers navigate the categories and discover new whiskies by arranging the products attractively should become the focus of retail stores [Distill Ventures, 2020]. Augmented reality labels on product packaging that the consumer can scan with an app provide opportunities for brands to integrate storytelling into the purchasing experience. Once the label is scanned, consumers can be taken on a virtual tour through the brand's story, meet the team, or be shown how their specific spirit was created. This increases consumer engagement and can lead to repeated sales and loyalty to the brand.

Consumers desire *tasting opportunities* that are available through several mediums. With the growing trend of virtual tasting experiences, brands have to ensure that trialing of whiskies is conducted safely and responsibly [Distill Ventures, 2020]. Besides social media, in-store events are the second most effective way to make and retain consumers shortly followed by offering delivery [Drizly, 2020].

5.3. On-Trade
5.3.1. The Role of Service Staff

> *The vast majority of knowledge that the average guest has regarding spirits comes from on-trade interactions.*
>
> Jamie Boudereau

The role of *sales staff* is changing, with consumers desiring an increasingly personalized experience teams have to be able to share knowledge, communicate what makes a brand special and create enthusiasm for the product. Bars and brands alike need to ensure that the staff is educated on the products offered as the majority of knowledge that the average consumer has, comes from on-trade interactions. Non-specialist bars, restaurants, and hotels are stocking (ultra-)premium whiskies and brands can increase product awareness by working with the bartenders. [Distill Ventures, 2020]

5.4. Subscription Services & Whiskey Clubs

The *affordable luxury trend* and consumers increasing interest in a *quality at-home experience* will lead to the growing popularity of subscription services that offer free tasting boxed, full-sized bottles and access to exclusive products. These services can help introduce brands to wider audiences and provide consumers with the opportunity to experience new blends. [Distill Ventures, 2020]

Research shows that the popularity of exclusive spirits clubs is rising. In these invite-only or fee-based clubs, members get access to exclusive tastings and limited-edition bottlings that are only available to club members. Additionally, the digital transformation has brought about new forms of communities such as metaverse spirit clubs that aim to unite whisky lovers around the world by offering exclusive experiences. Members have access to physical asset-backed NFTs, barrel ownership, games, educational workshops, and community events.

5.5. Retailing in the Metaverse

Experts foresee that the Metaverse will allow brands to break free from physical stores and move beyond even the best digital shopping experiences offered today once the needed infrastructure has been developed. Some assume that the Metaverse will provide consumers with the opportunity to go shopping in a virtual replica of physical stores but in reality, the possibilities of the Metaverse are limitless. It can be used to shop for real-world products, but experts also assume that once people spend time socializing, working, and entertaining themselves in the Metaverse the desire for virtual possessions will increase substantially. Status symbols in the form of luxury products will become as important as real-world purchases are today and brands can capitalize on this trend by creating virtual products.

Rather than browse a website, whiskey consumers can be introduced to the brands' product portfolio in a unique way. They could join the Stork Club team on a walk through the rye fields of the Spreewald. From there, they can move to the Italian Amalfi Coast to visit the lemon plantation that supplies the ingredients for the unique Whisky Sour Liqueur. Using the Metaverse, consumers can discover the origin of the whiskies' ingredients that make up its unique taste while gaining first-hand knowledge of the distillation process and flavor profile from the production manager. Afterward, they can order the products and get them delivered to their real-world home to enjoy.

To relax in the evening and learn more about spirits, consumers can join the exclusive member club in the Metaverse and participate in tastings or events in the virtual clubhouse. By delivering the whisky testers to consumers' real-world homes, pre-tasting whisky brands will be able to offer a seamless connection between physical and virtual experiences. It is unclear when the needed hardware is available to consumers and how quickly it will be adapted. Therefore, it is unclear when exactly the Metaverse will disrupt the face of retail but experts agree that it will be a major part of the consumer journey at some point.

5.6. Key Retail & Distribution Trends

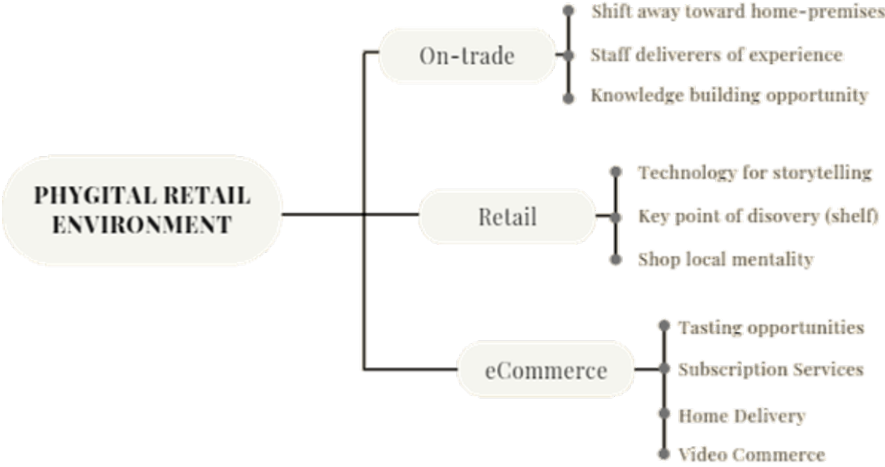Based on the insights provided above, the following key trends were identified (see figure 5.1).

Figure 5.1: Key trends for retail in the future

6
CONCLUSION

Over the course of the project multiple interviews with industry and university experts were conducted. Next to the set of interviewees, several secondary data-sources were considered. The combination of these reports, studies and interviews were combined into the report. The elaborations below will provide a concise overview of the main project findings, listing the trends considered by the project group as most impactful and most likely.

1. Increased consumption consciousness: from the interviews and analyses it is found that the consumer of the future is more concerned with health, sustainability and the contents of their drink. They want to drink better, but less;

2. Consumer education & knowledge-spreading thrives: together with the increased consciousness comes the desire for being educated and knowledgeable about the brand. Various tools already exist via Web3 techniques to create interactive experiences. Examples are AR and VR in marketing, or storytelling in creating the brand image;

3. Diversifying consumption: Gen Z consumers tend to switch to alternative products on different occasions. Examples are switching to an alcohol-free beverage at times, or choosing a (ultra-)premium spirits when a special moment with friends occurs;

4. Phygital shopping: It is expected that they will thrive in the future as shown by the growth of e-commerce and rise of NFTs and other digital platforms. New consumer groups tend to value both the availability of (local) speciality stores, as well as wide online coverage;

5. NFTs galore: Most interviewees consider NFTs as an excellent tool to solve some problems within the (ultra-)premium segment of the spirits market or launch campaign.

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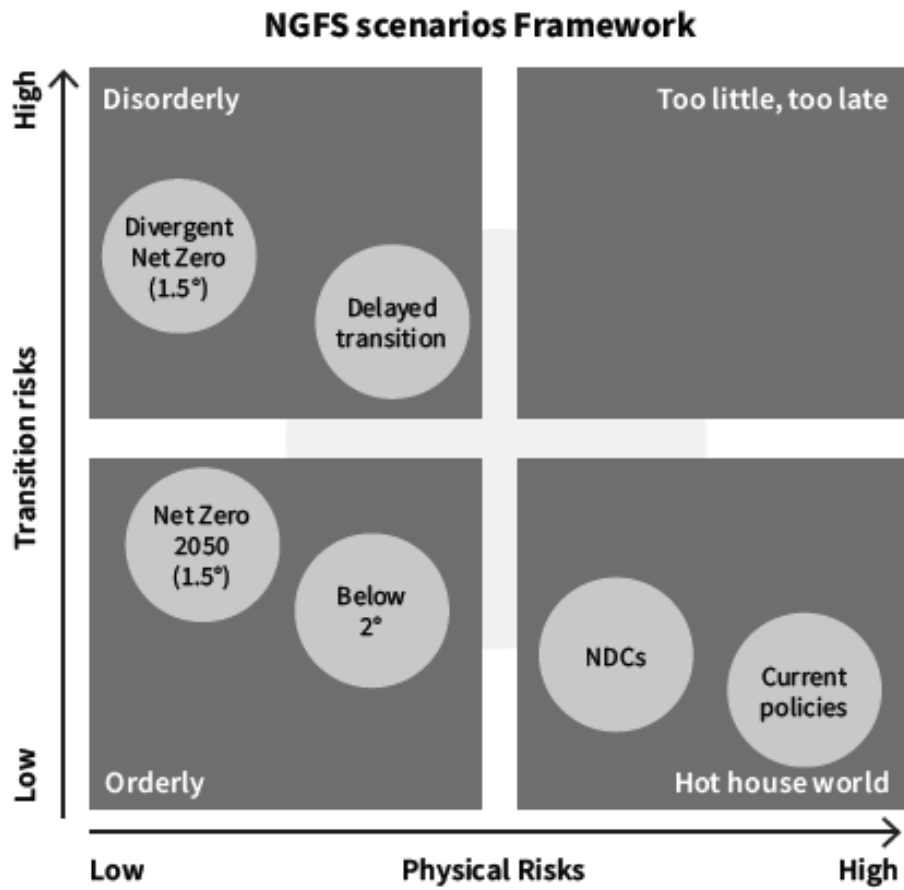
A

APPENDIX A

NGFS scenarios Framework
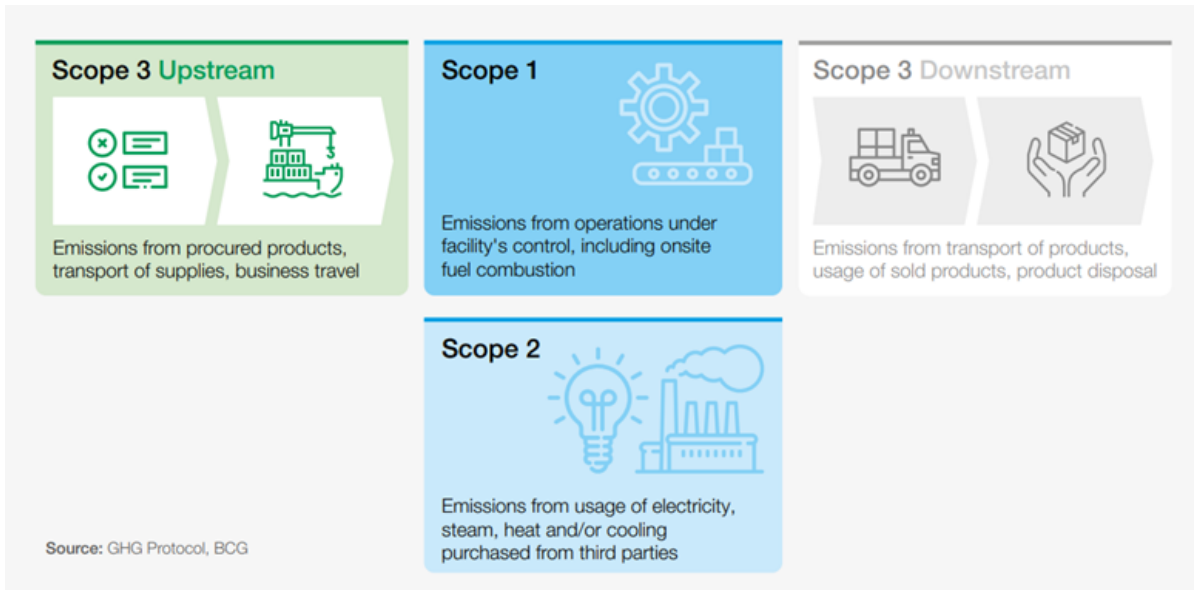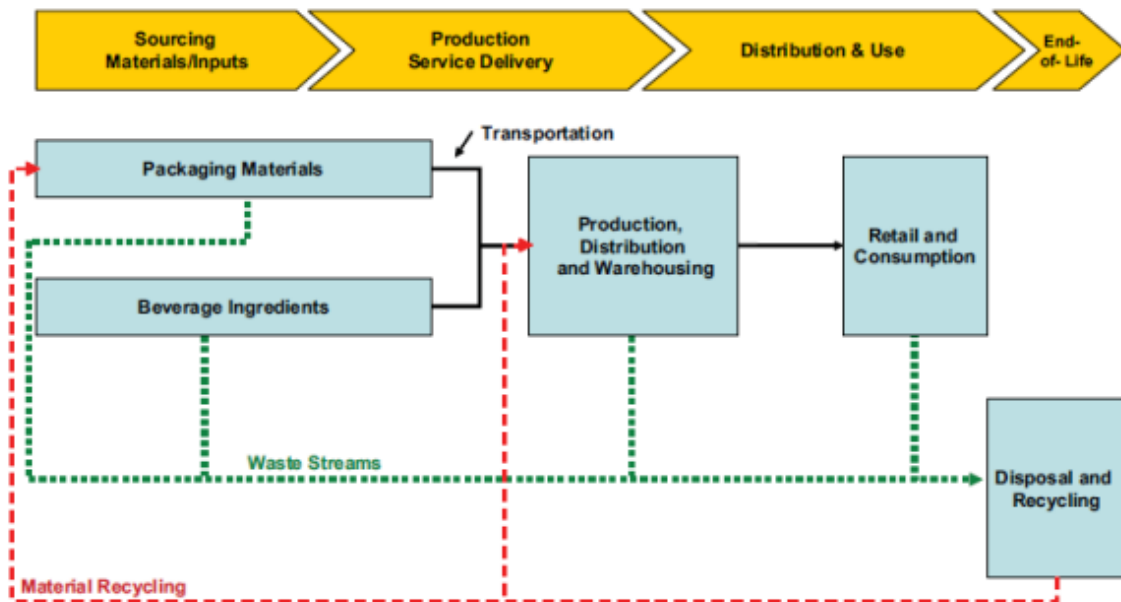
Figure A.1: NFGS scenario plot

Figure A.2: Three scope emission for GHG

Figure A.3: Beverage process map