

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Management**



**Diploma Thesis**

**Consumer preferences for coffee in Belgium**

**Bc. Markéta Celbová**

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# CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

## DIPLOMA THESIS ASSIGNMENT

B.Sc. Bc. Markéta Celbová

Economics and Management  
European Agrarian Diplomacy

Thesis title

**Consumer preferences for coffee in Belgium**

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### Objectives of thesis

This thesis aims to determine consumer preferences for coffee in Belgium. The scope of the study is justified by critical gaps in published research relating to consumer preferences in Belgium. It investigates:

1. The extent to which consumer preferences influence coffee consumption in Belgium.
2. The impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns.
3. The impact of global supply and demand and the threat of substitute products on coffee consumption and consumer preferences in Belgium.

### Methodology

The study is organised into six chapters. The first three are the introduction, description of objectives and methodology and literature review, which defines the theoretical framework of the research. The gaps in research that are identified from the theoretical framework helped to inform the data collection methods and statistical analyses. The observations drawn from the body of knowledge are reviewed and discussed in chapters four and five, and concluded in chapter six, respectively.

The research of the thesis is constructed on primary quantitative and secondary qualitative data. Both inferential and qualitative methods of data analysis are incorporated. The inclusion is justified by the diverse sources of data and the nature of the study objectives and questions.

The research focuses on the following research questions:

1. Would consumer preferences result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha?
2. Does Belgium's leadership in the global coffee sector influence consumer preferences?

3. What factors contributed to the rise of Belgium's coffee sector in the global supply chain?
4. Are the coffee consumption preferences for Belgian consumers different relative to other EU consumers?



**The proposed extent of the thesis**

60 pages

**Keywords**

Consumer, preferences, coffee, consumption, Belgium, coffee market, marketing, demand, supply

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**Recommended information sources**

- Antonella, S., Bettina, R. and Arianna, R. (2020) 'Social media exploration for understanding food product attributes perception: the case of coffee and health with Twitter data', *British Food Journal*. Emerald Publishing Limited, 122(12), pp. 3815–3835. doi: 10.1108/BFJ-03-2019-0172.
- Baum, T. and Hai, N. T. T. (2020) 'Hospitality, tourism, human rights and the impact of COVID-19', *International Journal of Contemporary Hospitality Management*, 32(7), pp. 2397–2407. doi: 10.1108/IJCHM-03-2020-0242.
- CBI Ministry of Foreign Affairs. (2020a) Entering the Belgian coffee market. Available at: <https://www.cbi.eu/market-information/coffee/belgium/market-entry> (Accessed: 2 December 2020).
- CBI Ministry of Foreign Affairs (2020c) How to respond to COVID-19 in the coffee sector. Available at: <https://www.cbi.eu/market-information/coffee/how-respond-covid-19-coffee-sector> (Accessed: 4 December 2020).
- City of Brussels (2020) 'Support measures for cafes, bars and restaurants'. Creswell, J. (2014) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. SAGE Publications.
- Dablanc, L. et al. (2017) 'The rise of on-demand "Instant Deliveries" in European cities', *Supply Chain Forum*. Taylor & Francis, 18(4), pp. 203–217. doi: 10.1080/16258312.2017.1375375.
- Euromonitor International (2020a) Coffee in Belgium. Available at: <https://www.euromonitor.com/coffee-in-belgium/report> (Accessed: 2 December 2020).
- Fiorani, G. (2017) *The Economic Analysis of the International Espresso Coffee Market*. Universit\_a degli Studi di Macerata.
- Hagggar, J. and Schepp, K. (2012) 'Coffee and Climate Change Impacts and options for adaption in Brazil, Guatemala, Tanzania and Vietnam', *NRI Working Paper Series: Climate Change, Agriculture and Natural Resources*, pp. 1–55.
- Karmarkar, U. R., Shiv, B. and Knutson, B. (2015) 'Cost Conscious? The Neural and Behavioral Impact of Price Primacy on Decision Making', *Journal of Marketing Research*, 52(4), pp. 467–481. doi: 10.1509/jmr.13.0488.
- 

**Expected date of thesis defence**

2020/21 SS – FEM

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### **Declaration**

I declare that I have worked on my diploma thesis titled "Consumer preferences for coffee in Belgium" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any person.

In Prague on 26.02.2021

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### **Acknowledgement**

I would like to thank Ing. Richard Selby, Ph.D. for his advice and patient supervision of my work. I am grateful for continuous support and help I have received from so many people around me - family, friends and university employees.

# Consumer preferences for coffee in Belgium

## Abstract

The study investigated the extent to which consumer preferences influence coffee consumption in Belgium; the impact of socio-demographics, context-specific elements, and coffee attributes and personal preferences on the coffee consumption pattern; and domino effects of global supply and demand and the threat of substitute products in Belgium. The scope of the study was justified by critical gaps in published research relating to consumer preferences in Belgium, despite the country's leading role in the global supply chains. The problem in research was addressed through an empirical approach - 28 stakeholders drawn from Elsene and Saint-Josse-Ten-Noode received the questionnaires. The general findings were as follows: consumption was predicted by demographics (income, geography, age, and gender), coffee attributes such as packaging, the nation of origin, smell, taste, and certification and concentration of caffeine. Other important factors were sensory and functional motives, traditions, health beliefs, and connoisseurship. The outcomes drawn from this research adds value to coffee marketing literature by demonstrating the link between consumer preferences and various externalities.

**Keywords:** Consumer, preferences, coffee, consumption, Belgium, coffee market, marketing, demand, supply

# Preference spotřebitelů pro kávu v Belgii

## Abstrakt

Studie zkoumala, do jaké míry je spotřeba kávy v Belgii ovlivněna spotřebitelskými preferencemi; dopady socio-demografických údajů, kontextově specifických prvků, atributů kávy a osobními preferencemi na vzorec její spotřeby. Dále pak dominovými účinky globální nabídky a poptávky a hrozbou substitučních produktů kávy v Belgii. Rozsah studie byl stanoven kritickými nedostatky v již publikovaném výzkumu týkajícího se spotřebitelských preferencí v Belgii, a to navzdory vedoucí roli země v globálních dodavatelských řetězcích. Problém výzkumu byl řešen empirickým přístupem – dotazníky, které obdrželo 28 účastníků z Elsene a Saint-Josse-Ten-Noode. Obecná zjištění byla následující: spotřeba byla predikována demografickými údaji (příjem, zeměpis, věk a pohlaví) a atributy kávy, jako jsou obaly, země původu, aroma, chuť, koncentrace kofeinu a certifikace. Dalšími důležitými faktory byly smyslové a užitkové pohnutky, tradice, dopady na zdraví, ale i posudky znalců kávy. Výsledky tohoto výzkumu přispívají svou hodnotou literatuře o marketingu kávy, jelikož prokazují souvislost mezi spotřebitelskými preferencemi a různými externalitami.

**Klíčová slova:** Spotřebitel, preference, káva, spotřeba, Belgie, trh s kávou, marketing, nabídka, poptávka



# Table of content

<b>1 Introduction.....</b>	<b>1</b>
1.1 Background of the study .....	1
1.2 Coffee market in Belgium.....	1
1.2.1 Consumer preferences and market growth .....	2
<b>2 Objectives and Methodology .....</b>	<b>5</b>
2.1 Objectives .....	5
2.2 Methodology.....	5
2.2.1 Definition of terms .....	7
<b>3 Literature Review .....</b>	<b>8</b>
3.1 Conceptualizing consumer preferences .....	8
3.1.1 Impact of socio-demographics on consumer preferences and coffee consumption .....	8
3.2 Coffee consumption in Belgium .....	12
3.2.1 Trends in the Belgium beverage consumption .....	12
3.3 Impact of COVID-19 and climate change on coffee consumption and consumer purchase preferences in Belgium .....	23
3.3.1 COVID-19 .....	23
3.3.2 Climate change .....	23
3.3.3 The North – South trade dynamics .....	24
3.4 Consumer behaviour and purchase decision process.....	24
3.4.1 Specialty coffee in Belgium and brand preferences .....	26
3.4.2 Popular coffee types in Belgium .....	28
3.4.3 Coffee sensory appeal.....	31
3.4.4 Perceive coffee health outcomes .....	33
3.4.5 Impact of social media on coffee consumption.....	34
3.5 Theoretical framework.....	35
3.5.1 Summary of chapter .....	36
<b>4 Practical Part .....</b>	<b>39</b>
4.1 Research design .....	39
4.1.1 Research approach.....	39
4.2 Population and sample .....	40
4.3 Sources of data.....	41
4.3.1 Data collection.....	41
4.3.1.1 Primary Data Collection (Quantitative) .....	42
4.3.1.2 Secondary Data Collection (Qualitative) .....	43
4.4 Data analysis.....	44

4.4.1	Quantitative data analysis.....	44
4.4.2	Qualitative data analysis.....	45
4.5	Validity and reliability.....	46
4.5.1	Validity.....	46
4.5.2	Reliability.....	47
4.6	Ethnical concerns.....	47
4.7	Limitations.....	48
4.8	Presentation of findings.....	49
4.8.1	Descriptive measures.....	50
4.9	Inferential measures.....	56
4.9.1	Pearson correlation.....	56
<b>5</b>	<b>Results and Discussion.....</b>	<b>62</b>
5.1	Demographics as Mediators for Consumption.....	62
5.1.1	Customer Preferences for Latte, Cappuccino, Flat White, Espresso and Mocha 64	
5.2	Customer Preferences and Global Supply Chains.....	65
5.3	Recommendations.....	66
5.3.1	Recommendations for Future Research.....	66
5.3.2	Recommendation for policy and practise.....	67
<b>6</b>	<b>Conclusion.....</b>	<b>68</b>
<b>7</b>	<b>References.....</b>	<b>70</b>
<b>8</b>	<b>Appendix.....</b>	<b>74</b>

## List of figures

Figure 1	Factors that predict consumer preferences - purchase behaviour and coffee consumption (Samoggia and Riedel, 2018).....	3
Figure 2	Generational/age-specific income inequalities in Belgium (OECD, 2018).....	10
Figure 3	Gender-specific inequalities in Belgium (OECD, 2018).....	11
Figure 4	Global map illustrating coffee-producing countries (black colour) versus dominant consumers (black and white stripes) (Fiorani, 2017).....	24
Figure 5	Theoretical framework, own work.....	36
Figure 6	Framework demonstrating the link between research methods design and worldviews (Creswell, 2014).....	40

## List of tables

Table 1	Coffee market size in Belgium 2017 to 2024 (hot drinks).....	13
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Table 2 Historical currency conversion trend - a predictor of coffee prices .....	15
Table 3 Top 10 Company share NBO (national brand owners) .....	16
Table 4 Top channels for coffee sales in Belgium .....	17
Table 5 Demand for decaffeinated and caffeinated coffee.....	19
Table 6 Company market share NBO .....	19
Table 7 Impact of demographics and coffee attributes on purchases.....	26
Table 8 Concentration of fat, calories, and caffeine concentration in Starbucks Espresso .....	29
Table 9 Coffee ordering based on individual preferences - first to the fifth choice.....	30
Table 10 Key components of Robusta and Arabica coffees.....	32
Table 11 Consumption of specialty and non-specialty coffee in Belgium by volume....	32
Table 12 Inclusion and exclusion criteria.....	43
Table 13 Statistical measures .....	44
Table 14 Age .....	50
Table 15 Gender .....	50
Table 16 Place of residence.....	50
Table 17 How often do you drink coffee?.....	51
Table 18 For how long have you been drinking coffee? .....	52
Table 19 Why do you prefer to take coffee rather than other beverages?.....	52
Table 20 When do you prefer to drink coffee?.....	53
Table 21 What is your preferred social setting? .....	53
Table 22 Which type of coffee do you prefer the most? .....	54
Table 23 What is the most important coffee attributes to you?.....	54
Ta 24 What are the primary characteristics of your preferred cup of coffee?.....	55
Table 25 What factors influence your purchase decisions? .....	55
Table 26 Do existing coffee products satisfy your needs/expectations as a consumer? .	56
Table 27 Do you think the following factors will impact future coffee supply chains? .	56
Table 28 Pearson correlation – age and consumer preferences.....	57
Table 29 Pearson correlation - gender and consumer preference.....	58
Table 30 Linear regression model summary .....	59
Table 31 ANOVA.....	59
Table 32 Standardized coefficients .....	60
Table 33 Test of between subject effects .....	60



# **1 Introduction**

The object purpose of this thesis was to build upon existing research on consumer preferences and how they predict consumption patterns. Such information would enable various stakeholders, including marketers, traders, cafes, and restaurants, to become responsive to the needs of the sophisticated modern coffee consumers. Additionally, the information might help inform policy and practice, especially in the elimination bureaucracies in the supply chains and diversification of the source markets to satisfy the variable needs of the consumers. The research has long-term implications considering that branding, marketing, supply and demand, pricing and market positioning have a direct influence on individual coffee brands. In brief, the outcomes drawn from the research would have a multidimensional impact on the Belgian coffee sector.

The research investigates consumer preferences for coffee beans in Belgium. A key motivation for the study was the growing consumer preferences for coffee in place of other beverages and the unexploited market potential relative to other EU member states. The primary goal is to build upon existing knowledge and advance scholarly understanding of the Belgian coffee consumer to improve marketing practices and management of coffee supply chains. The findings drawn from the research would inform evidence-based changes in business practices, leading to better responsiveness to consumer needs, and turn, higher profitability and sustainability.

## **1.1 Background of the study**

The background information section focuses on the following thematic areas; the coffee market in Belgium and consumption preferences and market growth; this contributes to the appreciation of the underlying factors that help to define consumer preferences and how marketers and producers can adapt to these needs.

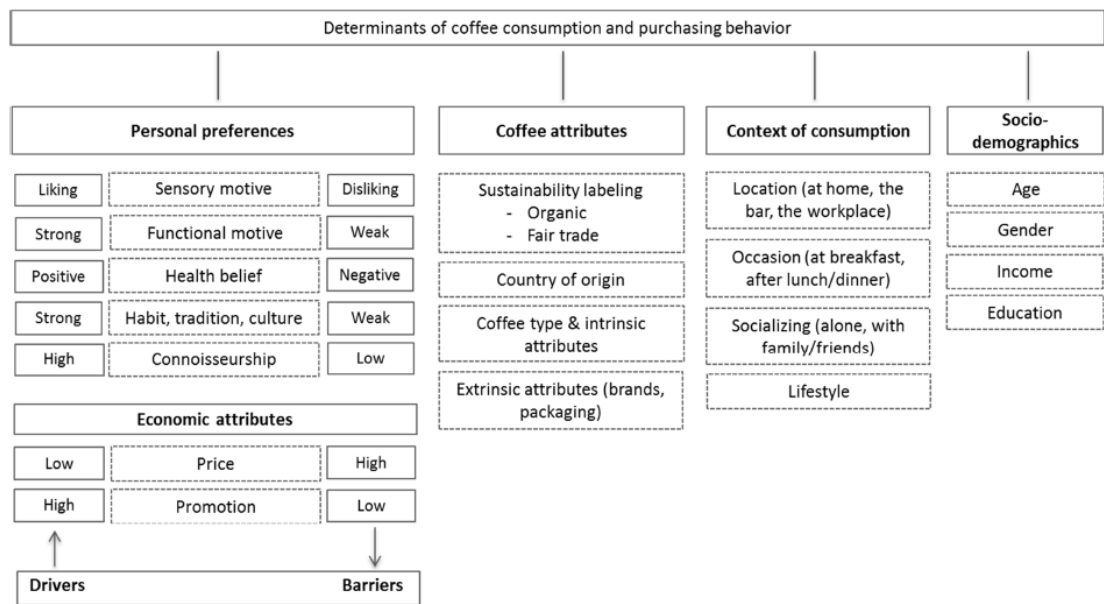
## **1.2 Coffee market in Belgium**

In January 2020, Belgium was ranked as Europe's third-largest importer of coffee beans - representing 8.7% of EU's coffee trade valued at €606 million (CBI Ministry of Foreign Affairs., 2020b). Market projections suggest that the upward demand would be sustained given that the country had recorded >2% growth in coffee

trade volumes since 2014 (CBI Ministry of Foreign Affairs., 2020b). Beyond trade, Belgium is an interesting case given that the country had become one of the dominant players in the global coffee sector with leading coffee logistics companies such as even though local cultivation of coffee is negligible - 98% of the coffee is sourced externally (CBI Ministry of Foreign Affairs., 2020a). Most of the coffee beans are sourced from Africa, Americas, Asia and the Middle East. The Port of Antwerp is the world's largest coffee beans storage facility in the world. The port handles about 35% and 50% of the global and European coffee logistics, respectively (CBI Ministry of Foreign Affairs., 2020b). Such trade volumes illustrate that Belgium was indispensable to the global coffee trade. Additionally, its market leadership provides key stakeholders with leverage and a competitive advantage to shape the global coffee industry. The statistics suggest that Belgium's leadership in the global coffee sector might influence consumer preferences and coffee consumption preferences for Belgian consumers were different relative to other EU consumers due to the adequate supply of raw coffee beans, socio-demographics, context-specific factors including a growing demand for certified and specialty coffee.

### 1.2.1 Consumer preferences and market growth

The growth of the Belgian coffee sector, consumer preferences and purchase intentions have been sustained by a broad range of factors shown in Figure 1. The key elements are socio-demographics (age, disposable incomes, education and gender), context (social gatherings, cafes, workplace and home settings), coffee attributes (country of origin, packaging, taste, smell, and certification) and personal preferences (functional and sensory motives, traditions, health beliefs, and connoisseurship) (Samoggia and Riedel, 2018). Other moderating factors include the availability of alternative beverages. The age-related observations made by Samoggia and Riedel (2018) are in line with Asioli *et al.* (2014) assessment of the generational differences in coffee consumption in Norway. According to the latter study, Espresso and Latte coffee products were preferred by older and younger consumers, respectively. The distinct preferences reflect the extent of consumer sophistication and emphasis on aesthetics.



**Figure 1** Factors that predict consumer preferences - purchase behaviour and coffee consumption (Samoggia and Riedel, 2018)

The model of consumer preferences and coffee consumption proposed by Samoggia & Riedel (2018) is supported by market reports specific to the Belgian coffee sector. According to CBI Ministry of Foreign Affairs (2020b, 2020a) and Euromonitor International (2020), there was a paradigm shift in Belgian consumer preferences. In particular, the Euromonitor International (2020) report notes that modern Belgian coffee consumers are concerned about sustainability - a factor that explains the emergence and growth of sustainable standards such as Fair Trade, UTZ, 4C, and Rainforest Alliance, in the country's coffee sector (CBI Ministry of Foreign Affairs., 2020a). Other critical actors in the sustainability landscape include HACCP and Global GAP.

Secondary consumer preferences epitomise growing sophistication - Belgian consumers are sensitive to the "real" taste of the coffee. The emphasis on the coffee experience explains the growth of Espresso, mocha, French press and other variants have become the mainstay for coffee houses and cafés in Belgium (CBI Ministry of Foreign Affairs., 2020b; Euromonitor International, 2020a). The preference for specific flavours denote higher value perception - consumers are mindful of the need to optimise value. However, consumer sophistication has broader and negative health implications. For example, non-conventional methods of coffee brewing predict the concentration of furan derivatives, which are potential carcinogens (Rahn and Yeretizian, 2019). However, the extent to which the carcinogens impact human health remains unknown,

given that the concentration is highly variable depending on drinking preferences and brewing methods.

There is a growing body of scientific evidence that correlates sustained coffee consumption with adverse health conditions including bladder and gastric cancers, clinical severity of psoriasis (Barrea *et al.*, 2018; Yu *et al.*, 2019). In each of the cases, the link between coffee consumption and adverse health conditions was significant, as demonstrated by the higher odds ratios and multivariate linear regression analyses. In brief, the consistent demand for coffee beans is paradoxical from a health point of view.

A fundamental question is whether the emerging health information would help to redefine consumer preferences in Belgium. Current research suggests that two scenarios are plausible about the impact of health implications of coffee on consumer preferences. On the one hand, the status quo would be sustained, and consumers would continue to disregard the adverse health effects. On the other hand, consumer health awareness would result in a marginal decline in local demand. The former scenario is highly probable because of the following reasons. First, the consumer preferences and consumption model developed by Samoggia & Riedel (2018) suggest that health beliefs constitute a small fraction of personal preferences. In place of health, other considerations take preference including socio-demographics, context, coffee attributes and personal preferences.

From a broader perspective, the changes in consumer preferences have practical implications for stakeholders in the value chain (producers, traders, retailers). A fundamental question is whether stakeholders in the Belgian coffee sector were capable of sustaining the variable consumer demands while sustaining the sustainability of their operations. The possible influence of the changes in market dynamics on the future growth of the sector is discussed in the literature review. The unique research problems that were addressed in this research study are reviewed in the next section.



## **2 Objectives and Methodology**

### **2.1 Objectives**

Belgium is one of the leading European states with an established coffee market in Europe (Rahn and Yeretizian, 2019; CBI Ministry of Foreign Affairs., 2020b; Euromonitor International, 2020a). However, coffee consumption and consumer preferences are underexplored. Recent literature on consumer preferences and coffee consumption are not unique to Belgium (Samoggia and Riedel, 2018). The study seeks to resolve this problem through a scholarly inquiry.

The current research adds value to the marketing body of knowledge because the intersection between consumer preferences and the factors that predict consumption have been underexplored in literature. The relevant research studies on the subject have either focused on consumer preferences (Samoggia and Riedel, 2018), or the state of the Belgian coffee sector in isolation as noted by the CBI Ministry of Foreign Affairs (2020b, 2020a) and Euromonitor International (2020). The observation is supported by a brief review of peer-reviewed publications on Google Scholar using the following search terms 'consumer purchase preferences for coffee in Belgium', the most relevant search results were not specific to Belgium. The observation affirms there is a gap in research that needs to be addressed.

The objectives of the study are following:

1. To investigate the extent to which consumer preferences influence coffee consumption in Belgium.
2. To review the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns.
3. To review the impact of global supply and demand and the threat of substitute products on coffee consumption and consumer preferences in Belgium.

### **2.2 Methodology**

As noted in the preceding sections, the present research has practical implications for marketers, coffee brands, coffee shops, specialty coffee retail shops, policymakers, importers of raw coffee beans, and coffee farmer cooperatives. For instance, the insights would help marketers to satisfy the needs of increasingly sophisticated customers. The outcomes drawn from this research have practical

implications beyond Belgium given that consumption on the global North is predicted by the north-south dynamics and constant supply of coffee beans from the coffee-producing countries in the South (Fiorani, 2017). Considering that consumer preferences in the North are influenced by comparable factors due to the similarities in socio-demographics, income and contextual factors, the outcomes drawn from this study would enable marketers to adopt better and highly responsive methods of product delivery.

In theory, it is necessary to explore consumer preferences from a different dimension to provide new insights and perspectives on why internal factors (such as purchase motivation, personality, learning experience, perceptions and attitudes) and external factors (social groups, price and economy, marketing strategies and cultures) help to predict the consumption patterns for various coffee types (including Espresso, Mocha, Flat White, Cappuccino and Latte) in Belgium. The new dimension takes into account the direct impact of COVID-19 and how it would redefine the retailer-consumer interface (CBI Ministry of Foreign Affairs, 2020c, 2020d). Preliminary research suggests that the negative effects of COVID-19 would have a profound spill-over effect on the coffee sector - small-scale brewers that focus on the high-end market would be most impacted (CBI Ministry of Foreign Affairs, 2020d).

The study is organised into six chapters. The first three are the introduction, description of objectives and methodology and literature review, which defines the theoretical framework of the research. The gaps in research that were identified from the theoretical framework helped to inform the data collection methods and statistical analyses. The observations drawn from the body of knowledge were reviewed and discussed in chapters four and five, and concluded in chapter six, respectively.

The research focuses on the following research questions:

1. Would consumer preferences result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha?
2. Does Belgium's leadership in the global coffee sector influence consumer preferences?
3. What factors contributed to the rise of Belgium's coffee sector in the global supply chain?

4. Are the coffee consumption preferences for Belgian consumers different relative to other EU consumers?

The research of the thesis is constructed on data provided by a questionnaire. The questionnaire with all its questions is provided in the Chapter 8 Appendix section at the end of the thesis.

### 2.2.1 Definition of terms

Definition of the following terms crucial for the thesis are as follows.

#### *Consumer preferences*

The term encompasses the factors that help to predict consumer behaviour; these include personal preferences, which are informed by functional and sensory motives, traditions, health beliefs, and connoisseurship. Additionally, consumer preferences are reinforced by socio-demographics (age, disposable incomes, education and gender), and the social context (social gatherings, cafes, workplace and home settings). The impact of income on coffee consumption is supported by empirical research data, which suggests that consumers with higher disposable incomes were willing to pay a premium for specialty coffee (Ufer, Lin and Ortega, 2019). Other moderating factors are coffee attributes; this includes the country of origin, packaging, taste, smell, and sustainable and ethical certification schemes such as UTZ and Global GAP) (CBI Ministry of Foreign Affairs., 2020a). In brief, consumer preferences are defined by multidimensional factors, each of which needs to be appreciated by marketers to enhance brand competitiveness, brand identity, customer loyalty and ownership.

#### *Coffee*

Coffee is a plant that grows in the tropical global south (Fiorani, 2017). The coffee varieties include Arabica and Robusta coffee (Rahn and Yeretian, 2019; Federal Reserve Bank of St. Louis, 2020). The different coffee varieties offer a distinct value proposition to the consumers given the unique taste, aroma, blends and prices.

### **3 Literature Review**

The literature review conceptualizes consumer preferences understand the dynamics of coffee consumption in Belgium, the trends in the Belgium beverage consumption market. The purchasing decision process, the specialty coffee in Belgium, the specialty coffee types sold in Belgium (Latte, Cappuccino, Flat white, Espresso, and mocha) and the underlying internal and external factors that predict consumption preferences (purchase motivation, personality, learning and experience, perception, attitudes, social group, price and economy, marketing strategies, and culture). The appraisal of relevant literature on the subject provides better insights and perspectives on global and national coffee brands can remain competitive in Belgium despite the uncertainties occasioned by the COVID-19 pandemic, variable consumer preferences, climate change, threat of substitute products and the global coffee price volatilities.

#### **3.1 Conceptualizing consumer preferences**

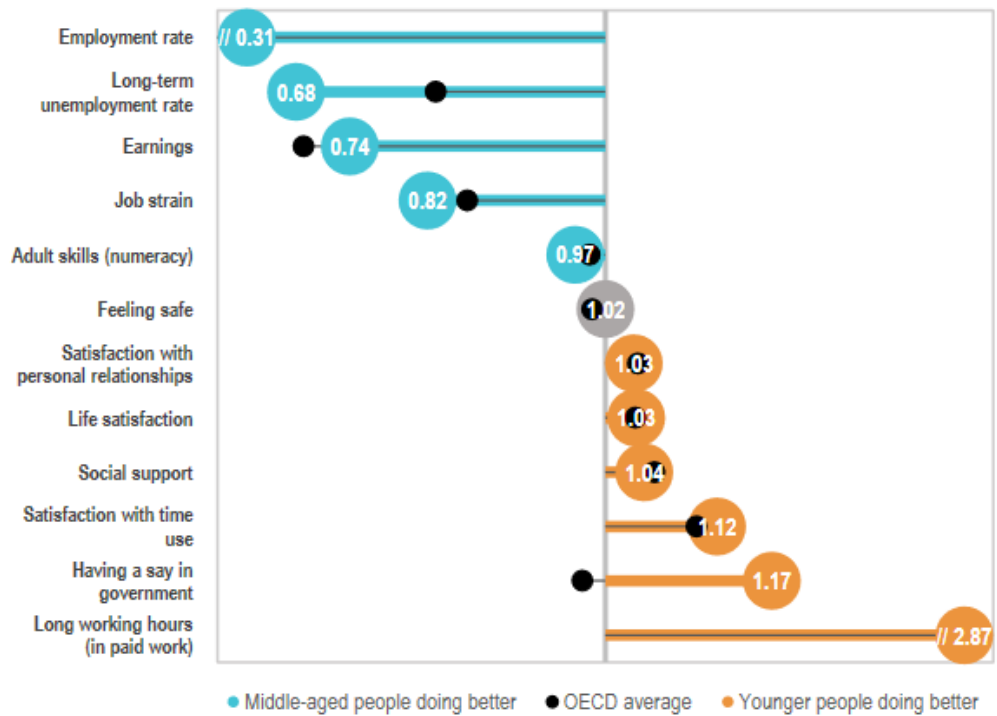
The conceptualization of consumer preferences involves the review of all factors that predict consumption patterns; these include socio-demographics, connoisseurship, personal health beliefs, cultural practices and traditions, functional and sensory motives, the qualities of the coffee bean (country of origin and certification), the aroma, taste and packaging of the beans, and health beliefs. The need to focus on the diverse factors that help to define consumer preferences is supported by previous studies by Samoggia and Riedel (2018), Asioli *et al.* (2014) and Fiorani, (2017). On the downside, the diversity of factors that predict consumer behaviour and attitudes towards traditional and niche coffee products limits the scope and the depth of the review. The depth of the review is further impacted by the paucity of literature that is relevant to Belgian consumers. Despite the constraints, an exhaustive review of existing literature was conducted. The discussion focuses on the following thematic issues; the context of consumption, personal preferences, coffee attributes and socio-demographics.

##### **3.1.1 Impact of socio-demographics on consumer preferences and coffee consumption**

According to the OECD better life index, Belgium is a highly developed country with better standards of living. On average, households earn \$ 30,364 per year, and at

least 63% of the working-age population has a decent job (OECD, 2020). The findings reported by OECD (2020) are in agreement with StatBel (2020), which noted that Belgians earned high income compared to developing nations. However, the OECD data does not mention that there were region-specific variations in national and household incomes among other variations that were captured in the StatBel (2020) report. In particular, the StatBel report claimed that individual incomes were highest in the Flemish region (19,102 Euros); this contrasts with Brussels and Walloon regions whose incomes per capita were 13,980 and 16,878 Euros, respectively (StatBel, 2020a). The report also acknowledged that the changes in household income were not static but time-dependent. For example, in 2016, incomes per capita were higher in Walloon (20,485 Euros) (StatBel, 2020a). From a theoretical point of view, the region-specific and time-specific changes in incomes per capita had a direct impact on consumer willingness to pay premium prices for specialty coffees. For example, the willingness to pay for premium coffee would be higher in Brussels because of the higher incomes. In contrast, the willingness to pay a premium would be lower in Brussels and Walloon. Considering that the scope of the data collection was limited to Brussels and its suburbs (Elsene, Broeck, Anderlecht and Saint-Josse-Ten-Noode), the impact of regional variations in household incomes on consumer preferences was not explored exhaustively.

Despite the paucity of data on the subject, the OECD's better life index (BLI) contributes to the understanding of how age, and income might influence coffee consumer preferences. The BLI graphs in Figure 2 and Figure 3 re-affirm common held beliefs about the role of age and gender on household incomes and quality of life. The graphs show that middle-aged professionals in Belgium enjoyed higher earnings, lower risk of unemployment, and adult skills, which in turn, translated to higher pay at the workplace. In contrast, the key competitive advantages were non-income related (participation in governance, social support and life satisfaction, longer working hours, and contentment with personal relationships) (OECD, 2018). The gender effects were confined to specific domains primarily.



**Figure 2 Generational/age-specific income inequalities in Belgium (OECD, 2018)**

The gender specific effects were largely confined to specific domains particularly perceptions of safety at the workplace, rate of employment, perception of health, adult skills, hours worked and earnings. As expected men were doing better in each of the listed dimension while women largely performed better in other dimensions such as social interactions, and longer paid work. Even though it seems that women were disadvantaged in terms of income and employment opportunities, the disadvantages were potentially offset by better quality of life. Women in general had lower risk of suicide or death from alcohol and drugs, or homicides (OECD, 2018).

The gender biases in socioeconomic development reported by OECD (2018), are in agreement with Probert (2012) and MacLeavy (2011). In particular, Probert (2012) drew a relationship between the gender preferences and the human capital theory and rational choice theory. Proponents of these theories presume that women earn less compared to their male counterparts primarily because they fewer years of work experience and educational qualifications; this translated to lower human capital, and inability to secure high-paying occupations. The researcher opposes the rational choice theory because there is no conclusive evidence that the recruitment of women does not translate to the maximization of the firm’s value. The support for women is further

supported by anecdotal evidence in the political and social spaces. Women leaders such as Angela Merkel have attained phenomenal success despite male domination (Würtele and Daudi, 2017). The case of Angela Merkel and other female leaders shows that the human capital theory and rational choice worldviews relating to female employment, their concentration in low-paying occupations, and the lower end of occupational career structures, are invalid.

Even though such gender biases are unfounded, the gender-specific quality of life at the workplace and in the society is not unique to Belgium. Studies conducted in other developed economies confirmed that gender inequalities had practical implications for working age employees. Women had adopted various strategies to overcome the gender inequalities, including “distancing themselves from conventional heterosexual femininity” (Alfrey and Twine, 2017, p. 28) this strategy reinforces inequality regimes that privilege male workers. In brief, it is clear that women earn less at the workplace compared to men in Belgium, this might impact their willingness to pay a premium for specialty coffee products.

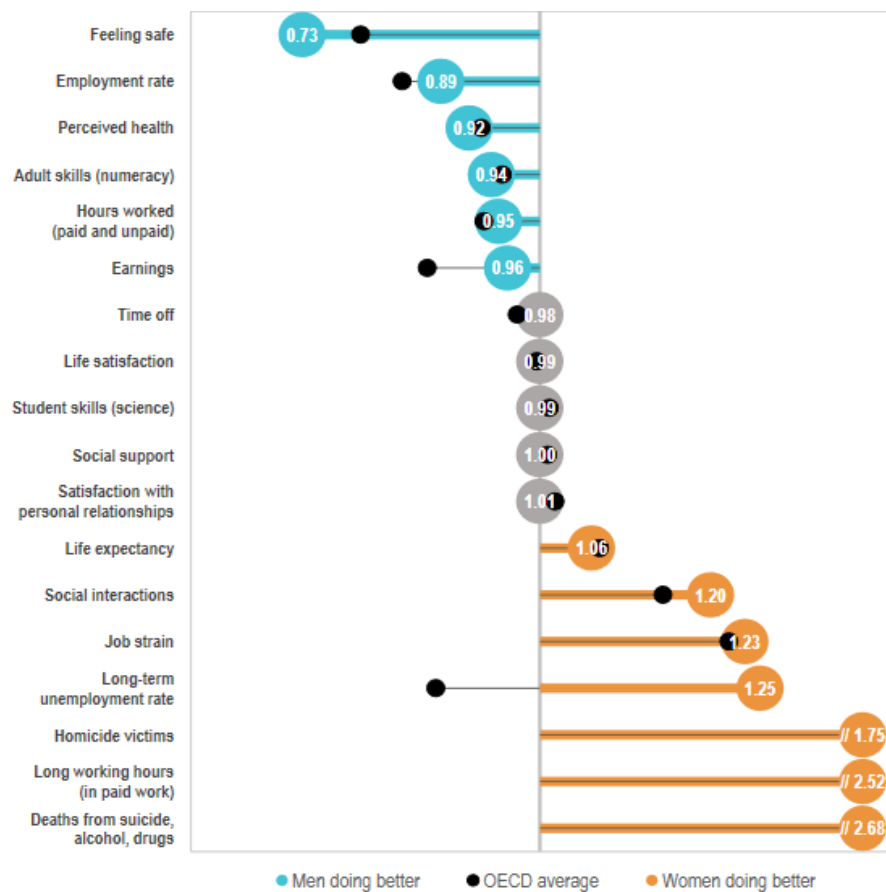


Figure 3 Gender-specific inequalities in Belgium (OECD, 2018)

Even though household income is lower than the OECD average, it confirms that average Belgium can afford luxury products such as specialty coffees on a regular basis. On the downside, there are no guarantees that the high standards of living would automatically translate to robust demand for coffee. The contrasting observation is reinforced by research data drawn from the US, where the high rates of coffee consumption were independent of income (Loftfield *et al.*, 2016). Similar observations were also drawn from a demographic analysis of coffee consumers in the UK, France and Germany (Quader, 2013) - in each of these cases; personal income did not accurately predict coffee consumption. On the downside, consumption of specialty coffee could be impacted by the unequal distribution of wealth; it is estimated that the earnings of the top 20% are fourfold higher than the bottom 20% (OECD, 2020). The economic data provided by OECD contrasts with the socioeconomic barometer of 2019, which indicated that the junior working class was disenfranchised due to the unequal distribution of earnings. The large shareholders were the key beneficiaries of national economic growth (FGTB, 2019). On the downside, the economic benefits that accrue from coffee could be impacted by changes in global supply and demand and the emergence of substitute products.

## **3.2 Coffee consumption in Belgium**

The coffee consumption in Belgium takes into an account the national trends in beverage consumption, customer behaviour, the purchasing decision process and macroeconomic shocks, which are expected to impact the demand for ordinary and specialty coffee.

### **3.2.1 Trends in the Belgium beverage consumption**

The brief appraisal of the trends in the Belgium coffee sector contributes to the understanding of the extent to which consumer preferences influence coffee consumption in Belgium, the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences and the global supply and demand.

Considering that there is limited scholarly research on the trends in Belgium beverage consumption, key insights were drawn from the Passport 2020 Hot Drinks report by Euromonitor International. The data presented in Table 1 confirms that the size of the coffee market in Belgium had increased exponentially based on the volumes. The



foodservice volumes are projected to increase from 10,700 to 12,119 tons (Euromonitor International, 2020b). The historical data in Table 1 shows that the volume of coffee sold (millions of coffee cups) would reduce significantly between 2010 and 2024 (from 8,639 million cups to 8159 million cups between 2011 and 2024).

**Table 1 Coffee market size in Belgium 2017 to 2024 (hot drinks)**

Data Type	2017	2018	2019	2020	2021	2022	2023	2024
Foodservice Volume	10,700	10,896	11,089	11,289	11,493	11,703	11,912	12,119
Retail Volume	40,201	39,791	39,352	39,013	38,785	38,641	38,607	38,717
Total Volume	50,902	50,687	50,441	50,302	50,278	50,344	50,519	50,836
Foodservice Brewed Volume	206	209	212	215	218	222	225	228
Foodservice Cups Volume	1,617	1,643	1,669	1,695	1,722	1,750	1,777	1,804
Retail Brewed Volume	852	845	837	830	825	822	821	821
Retail Cups Volume	6,564	6,507	6,441	6,388	6,350	6,324	6,313	6,321
Total Brewed Volume	1,057	1,054	1,049	1,045	1,044	1,044	1,046	1,050
Total Cups Volume	8,181	8,150	8,109	8,083	8,072	8,074	8,090	8,125
Retail Value RSP	591	604	615	633	654	676	700	731

Source: (Euromonitor International, 2020b)

On the downside, the growth is inconsistent, given the retail volumes would decrease from 40,201 tons to 38,717; this would offset the total volume of hot drinks traded during the period under review. In brief, the market size data suggests that the population of coffee consumers would stagnate. From a marketing perspective, the stagnation in demand for coffee would put pressure on marketers, coffee shops, retailers and other key actors in the supply chain, including retailers for specialty coffees such as MOK Specialty, Parlor Coffee, and Coffee Roastery.

The reduction would have profound implications for the coffee sector from the following perspectives. First, there is a clear relationship between coffee consumption and corporate revenues - higher consumption translates to higher revenues. Second, revenues and profits enable coffee retailers to provide complementary services such as convenient locations, friendly services, unique variety of coffee flavors, entertainment, friendly services, discounts, and promotion, and spacious environment. From another dimension, the higher revenues enabled coffee companies to pay farmers a premium for certified coffee beans and facilitating the sustainable consumption of coffee beans; this means that the projected changes in consumption would affect the entire coffee ecosystem.

A fundamental question is whether the trend could be reversed, given that consumption is influenced by demographics. On the downside, the Belgium statistical office estimates that the national population would stagnate or decline during the period under consideration. The probability of a significant decline in the population is informed by the low fertility rates - Belgium recorded 115,565 births in 2019, and the average number of children per woman was 1.57 (StatBel, 2020b). The decrease in population is expected to persist over the long-term, considering that Belgian women were opted to give birth to fewer children later in life (the mean age at first birth was 30 years). The link between coffee consumption and population changes was also confirmed by Loftfield *et al.* (2016). The study observed that the demand for coffee had remained high because of demographic and lifestyle factors. At least three out of four (75% of) persons in the US consume coffee daily. In brief, the demographic changes in Belgium would have a deleterious impact on the coffee market because consumption per capita is lower than other EU countries such as the Netherlands (6.8 versus 8.4 kg per capita/year) (CBI Ministry of Foreign Affairs., 2020b). Even though local consumption is expected to stagnate, the adverse effects could be offset by the growth in specialised coffee logistics and re-export of processed coffee - Belgium is a market leader in the sector.

Beyond the changes in the volumes traded by different retailers, the researcher posits that future consumption of coffee in Belgium would be contingent on currency conversions because raw coffee beans are imported (Euromonitor International, 2020b). The patterns in Table 2 confirm that the local currency conversion rates and the historic

year-on-year exchange rates were volatile-changes of  $\pm 10$  were recorded during the period under review. In theory, the changes are projected to impact the retail prices for coffee, given that marketers and suppliers cannot absorb the extra costs. It remains unclear whether this would translate to diminished demand for premium-priced specialty coffees. From the researcher's point of view, two scenarios are probable. On the one hand, the exchange price volatilities would translate to higher retail prices. However, consumers would continue to express a strong willingness-to-pay (WTP) a premium for certified coffee (Maaya *et al.*, 2018). The hypothesised scenario might be particularly true for the residents of the Flemish region who earn more income compared to their counterparts in Brussels and Walloon regions (19,102 versus 13,980 and 16,878 Euros, respectively) (StatBel, 2020a). On the other hand, the price changes linked to exchange rate volatility might result in lower sales because consumers are unwilling to pay a premium for specialty coffee. The validity of the hypothesised scenarios remains unknown because little scholarly attention has been dedicated to the subject. Even though the exchange rate data provides some insights on how the price might affect consumer preferences and consequently influence coffee consumption in Belgium, it does not indicate how the effects might be offset by socio-demographics, context-specific elements, coffee attributes and personal preferences; this means that it is not guaranteed that exchange rate volatility would automatically impact coffee sales in Belgium.

**Table 2 Historical currency conversion trend - a predictor of coffee prices**

Currency Conversion	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24
Local Currency	12.6	13.0	13.4	14.1	14.7	15.2	15.6	15.9	16.2	16.5	16.8	17.1
Historic Year-on-Year Exchange Rates, Forecast Fixed 2019	16.7	17.3	14.9	15.6	16.6	17.9	17.5	17.8	18.2	18.5	18.8	19.2
Historic Fixed 2019 Exchange Rates; Forecast Fixed 2019	14.1	14.6	15.1	15.8	16.5	17.0	17.5	17.8	18.2	18.5	18.8	19.2

Historic Year-on-Year Exchange Rates, Forecast												
Fixed 2019 Exchange Rates	12	13	13.4	14.	14.	15.	15.	15.	16	16.	16.	17.
	.6	.0		1	7	2	6	9	.2	5	8	1
Historic Fixed 2019 Exchange Rates; Forecast												
Fixed 2019 Exchange Rates	12	13	13.4	14.	14.	15.	15.	15.	16	16.	16.	17.
	.6	.0		1	7	2	6	9	.2	5	8	1
Historic Year-on-Year Exchange Rates, Forecast												
Fixed 2019 Exchange Rates	10	10	9.7	11.	12.	13.	13.	14.	14	14.	14.	15.
	.7	.5		5	9	4	9	2	.4	7	9	2
Historic Fixed 2019 Exchange Rates; Forecast												
Fixed 2019 Exchange Rates	11	11	11.9	12.	13.	13.	13.	14.	14	14.	14.	15.
	.2	.6		5	1	5	9	2	.4	7	9	2

Source: (Euromonitor International, 2020b)

In addition to the price volatilities linked to the exchange rates, company share NBO had a notable effect on coffee consumption because different marketers adopt different retail strategies. In the current case, the data suggest that Douwe Egberts SA enjoys a 30% market share, which is significant compared to other competitors such as Nestlé Belgilux SA (4%) (See Table 3). The uneven market share affirms that specific brands have a dominant impact on the market, which, in turn, influences how consumer preferences influence coffee consumption in Belgium. A key concern is that the brand dominance might have a positive or negative relationship with socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns. Additionally, it might trigger the development of new coffee formulations beyond Latte, Cappuccino, Flat White, Espresso and Mocha. The assumption is informed by the unique coffee blends sold by different marketers.

**Table 3 Top 10 Company share NBO (national brand owners)**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
National Brand Owner	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)

Douwe Egberts SA	34.8	35.0	36.6	35.5	34.3	32.5	33.1	31.5	31.0	30.7
Etn Franz Colruyt NV	11.5	11.1	11.5	11.7	11.8	11.6	11.8	11.6	11.3	11.0
Delhaise 'Le Lion' SA	10.4	10.4	10.3	10.4	10.5	10.3	10.4	10.4	10.1	9.8
Nestlé Belgilux SA	4.4	4.7	5.1	5.6	6.0	6.3	6.9	7.7	8.9	9.6
Carrefour Belgium SA/NV	10.0	9.9	9.9	10.0	10.0	9.8	10.0	9.8	9.6	9.3
Koffie F Rombouts NV	4.5	4.4	4.5	4.7	4.7	4.7	4.8	4.7	4.6	4.4
Café Liégeois SA			0.7	0.7	0.7	0.7	0.8	1.1	1.3	1.4
Illycaffè France SAS	0.2	0.2	0.9	0.9	0.9	0.9	1.1	1.1	1.2	1.2
Lavazza Belgium SA	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1
Oxfam Fairtrade	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7

Source: (Euromonitor International, 2020b)

The data depicted in Table 4 shows that the top channels for coffee retailing were stores (90%), followed by grocery and modern grocery retailers (Euromonitor International, 2020b). The retail channels reflect the socio-demographics, context-specific elements, coffee attributes and personal preferences in Belgium. Considering that the consumption of coffee in social settings facilitated socialisation, the closure of restaurants during the COVID-19 pandemic (City of Brussels, 2020) disrupted customer behaviours resulting in regular coffee consumption at home; it remains unclear if the patterns would return to the status. If the COVID-19 induced changes in consumption remain unchanged, retailers might experience reduced demand and profits. The impact of the hypothesised phenomenon on global supply and demand remains unknown.

**Table 4 Top channels for coffee sales in Belgium**

Outlet	Outlet Hierarchy	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)

Store-Based Retailing	1	91.8	91.6	91.3	91.0	91.0	91.0	91.0	90.8	90.1
Grocery Retailers	2	91.8	91.6	91.3	91.0	91.0	91.0	91.0	90.8	90.1
Modern Grocery Retailers	3	84.6	84.6	84.6	84.7	84.9	84.7	84.6	84.3	83.9
Convenience Stores	4	7.5	7.6	7.6	7.6	7.8	7.9	8.1	8.3	8.3
Discounters	4	12.4	12.5	12.7	12.7	12.8	12.8	12.8	12.7	12.7
Forecourt Retailers	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hypermarkets	4	9.0	8.8	8.6	8.6	8.6	8.4	8.2	8.0	7.8
Supermarkets	4	55.7	55.7	55.7	55.8	55.7	55.6	55.5	55.4	55.2
Traditional Grocery Retailers	3	7.2	6.9	6.7	6.3	6.1	6.3	6.4	6.4	6.2
Food/drink/tobacco specialists	4	0.4	0.5	0.7	0.8	1.0	1.2	1.2	1.3	1.3
Independent Small Grocers	4	1.4	1.3	1.2	1.1	1.1	1.1	1.0	1.0	1.0
Other Grocery Retailers	4	5.4	5.1	4.8	4.4	4.0	4.0	4.1	4.2	3.9

Source: (Euromonitor International, 2020b)

The demand for caffeinated and decaffeinated coffee depicted in Table 5 shows that caffeinated coffee was highly preferred because it helped to reduce fatigue and exhaustion (Holmes, 2011). From the researcher's point of view, the demand demonstrates how consumer preferences influence coffee consumption in Belgium. The observation is in line with Zucconia *et al.*'s (2013) research, which confirmed that the Latte, Cappuccino, Flat White, Espresso, Mocha have different concentrations of caffeine. If consumption is purely informed by the stimulating effect of caffeine, espresso coffee (1,916 mg/L) would be preferred to cappuccino and instant coffees, whose concentrations are 250 mg/L and 400 mg/L, respectively (Zucconia *et al.*, 2013). The assumption does not take into account the moderating impact of product similarities, availability of substitute products and cyclic preferences. In general, the caffeine content constitutes an integral coffee attribute, which moderates the impact of socio-demographics, context-specific elements, and personal preferences on the coffee consumption patterns.

**Table 5 Demand for decaffeinated and caffeinated coffee**

Measure	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)	2022 (%)	2023 (%)	2024 (%)
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Decaffeinated	11.1	11.3	11.8	12.2	12.3	12.4	12.4	12.4	12.3	12.2	12.0
Regular	88.9	88.7	88.2	87.8	87.7	87.6	87.6	87.6	87.7	87.8	88.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Decaffeinated	12.5	12.5	12.5	12.5	12.3	12.1	11.8	11.3	10.9	10.5	10.0
Regular	87.5	87.5	87.5	87.5	87.7	87.9	88.2	88.7	89.1	89.5	90.0

Source: (Euromonitor International, 2020b)

The demand for coffee among consumers is influenced by brand identity. According to the company share data in Table 6, Douwe Egberts SA retained its market leadership as the leading brand in Belgium (Euromonitor International, 2020b). However, its market share had shrunk by at least 6%. In contrast, Nestlé Belgilux SA market share had increased nearly twofold while Carrefour Belgium SA/NV and Koffie F Rombouts NV market shares had stagnated (Euromonitor International, 2020b). From a theoretical point of view, the positive and negative changes in the market share of leading coffee brands in Belgium had changed - this is a reflection of the changes in consumer brand identity, internal marketing policies, and effectiveness of the competition strategies and sophistication.

**Table 6 Company market share NBO**

National Brand Owner	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)
Douwe Egberts SA	36.6	35.5	34.3	32.5	33.1	31.5	31.0	30.7
Etn Franz Colruyt NV	11.5	11.7	11.8	11.6	11.8	11.6	11.3	11.0
Delhaise 'Le Lion' SA	10.3	10.4	10.5	10.3	10.4	10.4	10.1	9.8

Nestlé Belgilux SA	5.1	5.6	6.0	6.3	6.9	7.7	8.9	9.6
Carrefour Belgium SA/NV	9.9	10.0	10.0	9.8	10.0	9.8	9.6	9.3
Koffie F Rombouts NV	4.5	4.7	4.7	4.7	4.8	4.7	4.6	4.4
Café Liégeois SA	0.7	0.7	0.7	0.7	0.8	1.1	1.3	1.4
Illycaffè France SAS	0.9	0.9	0.9	0.9	1.1	1.1	1.2	1.2
Lavazza Belgium SA	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1
Oxfam Fairtrade	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7
Delica AG						0.3	0.3	0.4
Other Private Label	9.3	9.7	10.3	10.8	11.9	12.4	12.8	13.2
Others	9.4	9.1	9.0	10.6	7.4	7.5	7.0	7.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Douwe Egberts SA	37.7	37.1	36.9	37.3	35.6	32.2	30.9	30.7
Nestlé Belgilux SA	16.2	17.0	17.6	18.0	19.9	21.6	23.5	24.8

Source: (Euromonitor International, 2020b)

From another point of view, the changes reflect the extent of customer sophistication and desire for unique experiences. Each of the listed coffee brands has a distinct taste, and aroma, which helps to predict market demand. The appraisal of the underlying factors that helped to shape the market demand for the specific brands of specialty coffee remains unknown, given there are no updated studies on the subject. However, it could be argued that the following factors helped to predict the demand for Douwe Egberts SA specialty coffee. First, the company is ranked among the leading producers of specialty coffee in the world and boasts of 260 years of heritage and craft. Second, the company had made tangible investments in sustainability and certification - 60% of its coffee is UTZ certified (Douwe Egberts, 2020). The company has invested in sustainable operations across its supply chains, including modification of its fleet to reduce CO<sub>2</sub> emissions. Additionally, the company also provides assorted environmentally friendly packaged products ranging from decaffeinated coffee to pure gold (balanced and aromatic) and pure indulgence (rich and velvety flavour).



The diverse measures adopted by Douwe Egberts provide key insights into the factors that motivate coffee consumers in Belgium. Ting *et al.* (2019) note that ethical and green practices translate to positive behavioural intentions among the consumers. The theory advanced by Ting *et al.* (2019) on the consumption of green products and services can be contested, given that green customers are often elusive. White, Hardisty and Habib (2019) observed that companies are often faced with a frustrating paradox after investing in sustainable and green products/services. In most cases, customers are often not willing to initiate green purchases, despite the expression of interest.

Based on the insights drawn from White, Hardisty and Habib (2019) and Ting *et al.* (2019), it could be argued that certified coffee products might not automatically guarantee better prices. Additionally, product diversity and ethical conduct cannot explain the growth in demand and market leadership; this means that Douwe Egberts SA leadership in the coffee sector could be due to brand loyalty and brand equity built over 260 years (Douwe Egberts, 2020). The role of brand royalty on purchase preferences among millennials was confirmed by Ordun (2015). In this case, brand loyalty was defined by a unique set of factors that defined the generation, including open-mindedness, innovativeness, energy, ambition and, confidence (Ordun, 2015). In brief, the diversification of products, great product offerings, ethical conduct, sustainability and certification and customer demand should be informed by market evidence-based practices.

Coffee customer's demand for certified coffee predicts general trends in the market. For example, there is a growing demand for ISO and Halal certification schemes due to the strong link between positive purchase behaviours and product certification (Alam and Sayuti, 2011). The link between product certification and consumer demand partly helps to explain why Fair Trade, UTZ, 4C, and Rainforest Alliance certification schemes were popular in the coffee sector (CBI Ministry of Foreign Affairs., 2020a). Customer preferences and their impact on coffee consumption can be predicted by the sales and marketing channels (see Table 3). Between 2012 and 2019, there was a marginal decline in sales via store-based retailing (91.6 versus 90%). A comparable decline was reported in the mixed retailing, and hypermarkets. Grocers and supermarkets had stagnated growth, while non-store based retailing had recorded a 1% improvement in sales.

The changes could be explained by price factors, environmental and altruistic attitudes. Belgian consumers opted to purchase coffee drinks in supermarkets because they offered competitive prices - about 2.35€; the coffee was fair-trade and organic certified (Maaya *et al.*, 2018). The role of organic certifications on Belgium coffee sales was confirmed by CBI Ministry of Foreign Affairs (2020a). The changes potentially demonstrate the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on coffee sales and marketing platforms. Considering that each marketing and sales platform provided consumers with distinct experiences, retailers should strive to satisfy the diverse customer needs, including the attainment of personal pleasure, including personal and cultural traditions, and habits.

Following the review of the changes in the sales and marketing channels (Euromonitor International, 2020b), the extent to which different channels satisfied personal pleasure, including personal and cultural traditions, and habits are unknown. The stagnation in sales in different platforms could be a potential indication of disutility. Based on this school of thought, customers derived the least satisfaction from coffee vendors, mixed vendors and frontcourt retailers. The extent of disutility could be attributed to the aroma of the coffee, method of preparation, and additives (sweeteners, milk, ice and unique flavours) (Samoggia and Riedel, 2018) and the accompaniments (Sousa *et al.*, 2016). From the researcher's point of view, non-store based coffee sales offered the least satisfaction based on personal pleasure because the stores lack access to specialty coffee making and brewing equipment (Rahn and Yeretizian, 2019), and other facilities available in leading coffee house Carrefour Belgium SA/NV, Delhaise 'Le Lion' SA, Etn Franz Colruyt NV and Douwe Egberts SA (Euromonitor International, 2020b). The supply chains also offer new insights on the impact of global supply and demand on coffee consumption and consumer preferences in Belgium. International store-based retailers such as Starbucks have a competitive advantage compared to mixed retailers; this helps to explain why Starbucks has recorded a growth in retail stores across Belgium, including Gare De Namur, Brussels Louis and Schuman Metro Stations, Gare Du Midi, Grand Place, Wetteren North and South, North Station, and Airport Concourse A and B and the Leuven station (Starbucks, 2020b). On the downside, the future growth of physical coffee shops could be compromised by online sales. The share of sales and marketing channels for each platform in Table 3 illustrate that internet retailing had increased from 2.6 to 6% - a twofold increase in 7 years.

### **3.3 Impact of COVID-19 and climate change on coffee consumption and consumer purchase preferences in Belgium**

#### **3.3.1 COVID-19**

The need to address and appreciate the influence of consumer preferences is reinforced by the diversity of the challenges facing the sector. Apart from the diverse consumer preferences, COVID-19 and climate change pose unquantifiable challenges. On the one hand, coffee houses, restaurants and other hospitality establishments have reported significant losses due to the restrictions on social gatherings and mandatory closure of hospitality establishments since the onset of the COVID-19 pandemic. The CBI estimates that these measures resulted in a 50% reduction in the demand for coffee in Europe. Other stakeholders such as the Hotels, Restaurants and Cafés (HORECA) estimate that the decline in consumption was about 80% (CBI Ministry of Foreign Affairs, 2020c). The inaccessibility of the niche market might amplify the threat posed by substitute products. The impact of the externalities is further amplified by price volatility. The Federal Reserve Bank estimates that the coffee price per pound had declined from 273 to \$173 cents (Federal Reserve Bank of St. Louis, 2020)

Studies forecast that the pandemic would have a long-term impact on traditional business models. In particular, the restrictions on movement have contributed to a surge in at-home consumption of coffee, which is less influenced by specialty, but highly sensitive to pricing. Based on the current body of knowledge, the COVID-19 pandemic would have the most profound negative impact on high-end retailers, especially the small and medium-sized roasters. The projected negative impact might be offset by greater investments in technology, customer loyalty and marketing power (CBI Ministry of Foreign Affairs, 2020d). If robust measures are not initiated, it would be challenging for specialty coffee retailers to continue their operations post-pandemic. For example, small businesses in the UK are relying on the government subsidy programs, VAT payments and other stimulus programs (UK Government, 2020a, 2020b). The implicit reliance on such programs makes it increasingly challenging to satisfy consumer expectations after the pandemic.

#### **3.3.2 Climate change**

On the other hand, climate change is diminishing global coffee acreage (Haggar and Schepp, 2012). If the current trend persists and the mitigation measures fail to

address the projected slump in demand, there could be an inadequate supply of coffee in the market and possibly higher prices. Considering that the impact of climate change on coffee production would become severe in the long-term, it would be impractical to address such complex challenges without addressing salient issues relating to consumer preferences.

### 3.3.3 The North – South trade dynamics

Beyond climate change and COVID-19, future coffee trade would continue to be defined by the North-South trade dynamics. On the one hand, southern countries produce at least 90% of the world's coffee (Fiorani, 2017). On the other hand, consumption is largely concentrated in the North, as demonstrated by the map based on the International Coffee Organization Membership (see Figure 2). The divide influences global coffee prices and supply chains. For example, the cost of value-added coffee products is fourfold higher compared to the non-value-added raw beans.



**Figure 4 Global map illustrating coffee-producing countries (black colour) versus dominant consumers (black and white stripes) (Fiorani, 2017)**

## 3.4 Consumer behaviour and purchase decision process

As noted in the preceding sections, consumer behaviours and its influence on coffee sales were moderated by a wide set of factors including the economy (disposable incomes), the coffee attributes, sales and taste, specialty coffee, brand name, brand packaging, availability of competing and alternative products. The role of branding and

organic/sustainable certification on coffee sales was confirmed by Euromonitor International (2020b) and (Douwe Egberts (2020)). However, both studies did not link willingness-to-pay for organic coffee to demographics, income, age and the sales and marketing practices adopted by leading coffee companies such as Nestlé Belgilux SA, Carrefour Belgium SA/NV and Koffie F Rombouts NV. A study of selected consumers in Flinders by Maaya *et al.* (2018) suggested the following. One, the price was not the sole consideration - customers expressed willingness-to-pay (WTP) a premium for certified coffee. The lack of price consciousness contrasts with the impact of price on customer purchase decisions in other sectors including manufacturing, and luxury sales (Karmarkar, Shiv and Knutson, 2015; Cattaneo *et al.*, 2016; Lee *et al.*, 2016). The unique phenomena could be attributed to COVID-19 induced changes in customer purchase preferences.

The COVID-19 mediated changes in customer purchase decisions are supported by Borsellino, Kaliji and Schimmenti (2020). The study acknowledged that COVID-19 had resulted in a significant change in traditional purchase decisions. In place of traditional purchases, customers expressed willingness to purchase sustainable and healthier foods; this helps to explain the demand for Rainforest Alliance, 4C, and UTZ certified coffee (CBI Ministry of Foreign Affairs., 2020a). However, the emphasis on sustainable foods is paradoxical, given the high premiums associated with certified coffee. For example, Fair Trade certification results in a 2.1 euros markup (Borsellino, Kaliji and Schimmenti, 2020).

A key issue is customer purchase decision sustainability, would the COVID-19 induced changes in customer purchase decision change post-pandemic or remain unchanged. Such concerns warrant further scholarly inquiry because of the unique events that mediated purchase decisions. Additionally, studies conducted in other markets suggested that COVID-19 had triggered austerity-driven purchase decisions and price consciousness that reflect the global recession and diminishing disposable incomes (Baum and Hai, 2020; Foroni, Marcellino and Stevanovic, 2020; Oxford Business Group, 2020; Saunders, 2020). The negative outlook was also confirmed by (CBI Ministry of Foreign Affairs, 2020d), who postulated that the COVID-19 crisis would have a negative spillover effect on the global coffee sector. Considering that the Flinders-based study was not nationally representative, there is inadequate understanding of how customer behaviours and attitudes towards coffee purchases vary

across different regions in Belgium. Despite the gaps in the body of knowledge, published studies provide insights on how specialty coffee influences the purchase decision process. Maaya *et al.* (2018) provided clear-cut evidence of the impact of socio-demographics on coffee purchases (see Table 4). Organic-certified coffee was preferred to a greater extent compared to Fair Trade certification- the difference could be explained by the higher price premiums, which were unaffordable for the unemployed.

**Table 7 Impact of demographics and coffee attributes on purchases**

Characteristic	%	Characteristic	%
Female	55.3	Social status	
		Unemployed	1.5
Age groups		Independent	9.9
19–24	29.5	Housewife/husband	2.7
25–29	20.7	Retired	2.7
30–44	24.5	Student	27.5
45–92	25.3	Employed	55.7
Education level		Purchasing behaviour	
Primary	0.4	Frequency	Organic
Secondary	19.8	At least every week	24.0
Higher non-university	33.2	At least every month	18.3
University	46.6	Not every month	35.9
Family income (e)		Never	21.8
<1500	8.4		
1500–2000	23.3		
2000–3000	14.1		
>3000	34.4		

Source: (Maaya *et al.*, 2018)

### 3.4.1 Specialty coffee in Belgium and brand preferences

Presently, there is no globally acceptable and unified definition of what constitute specialty coffees in Belgium's and other regions, with a critical population of coffee consumers. Various narratives have been advanced. For example, the (CBI Ministry of Foreign Affairs, 2020a) suggests that specialty coffee comprises of high-quality beans, farmed in compliance with sustainable certification standards such as Nestlé's AAA Sustainable Quality Program, Starbucks' CAFE Practices and, 4C, Rainforest Alliance/UTZ and traded through sustainable coffee value chains (CBI Ministry of Foreign Affairs, 2020b). Other merits for specialty coffee include single sourcing (from an estate or a farm), nano and micro-lots and cupping scores - 85/100 is

the threshold (Poltronieri and Rossi, 2016). Scholarly evidence drawn from agronomical practices, affirm the impact of farming location on the quality of the coffee beans. In particular, altitudes, and geographical locations predict the botanical varieties and the traditional post-harvest preparation methods for the coffee beans (wet and dry process). The cumulative effect is different bean shape, density and colours, different imperfections and defects, roast appearance, cup quality, taste and aroma (Poltronieri and Rossi, 2016), which in turn, predict the marketing price. Notable high and upper-end coffee products that fetch higher prices in the market include Macerated Yellow Honey processed by MOK Specialty Coffee Roastery in Belgium that is originally sourced from Las Lajas, Central Valley, Costa Rica and coffee processed by Parlor Coffee Roasters originally sourced from Kirinyaga, Kenya - the two products retail at 72 and 42€/kg, respectively (CBI Ministry of Foreign Affairs, 2020a). The differences in retail prices underscore the impact of market prices on product demand. The unique markers of specialty grade coffees proposed by Poltronieri and Rossi (2016) and CBI Ministry of Foreign Affairs (2020b) confirm that there is no harmonised system for coding specialty coffee in Belgium and the broader EU. Such a phenomenon might have an adverse effect on coffee marketing and sales.

From another point of view, the lack of globally accepted codes for specialty coffee makes Belgium an interesting market for specialty coffee, given the burgeoning demand for the coffee beans and the need for standardised market practices to help guide marketing and product differentiation. From the researcher's point of view, the absence of a nationally/globally accepted criteria for specialty coffees might contribute to the marketing of substandard coffees that do not satisfy the key requirements for niche markets. The argument is further reinforced by the adoption of different certification standards, including Nestlé: AAA, Rainforest Alliance/UTZ/4C, and Starbucks: CAFE Practices (CBI Ministry of Foreign Affairs, 2020e). Each class of certification standards emphasis on distinct priority issues, and there are no safeguards to ensure that customers would secure optimal based on the pricing system of the coffee beans; this is evident from the Coffee Taster's Flavor wheel developed by the World Coffee Research and Specialty Coffee Association of America, which only focuses on the flavour dimension. The emphasis on a single dimension of quality is a key limitation. The lack of a robust mechanism for grading specialty coffees is paradoxical,

considering Belgium's leadership in the global coffee supply chains and the growth of the hand-crafted coffee market in Brussels.

### 3.4.2 Popular coffee types in Belgium

The customer preferences for specific brands of coffee products reflect marketing, brewing and sourcing practices in Belgium. For example, robust supply chain systems had contributed to the availability of Robusta and Arabica coffee and unique blends of both (CBI Ministry of Foreign Affairs, 2020b, 2020a). A similar phenomenon was observed in Brazil, where the emergence of the specialty coffee market was augmented by a robust supply of coffee beans (Guimarães *et al.*, 2019). The Belgian specialty coffees occupy a niche market in the supply chain, which is made of variants of high-quality Arabica coffee beans. Arabica is the preferred specialty coffee species because it has an aromatic, smooth and better flavour compared to Robusta (CBI Ministry of Foreign Affairs, 2020a). The claims made by (CBI Ministry of Foreign Affairs, 2020a) concerning the superior quality of Robusta coffee (particularly the Bourban and Typa) are in agreement with Poltronieri and Rossi (2016). The study suggested that the superiority of Arabica was due to its unique ingredients, including a high concentration of polysaccharides and carbohydrates (fructose, galactose, Arabinose, and glucose). However, even though the specialty niche market is dominated by Arabica, Robusta coffee is blended with Arabica to create high-quality Espresso, and a majority of the specialty coffees sold by Starbucks in Belgium; this means that both species of coffee are indispensable (CBI Ministry of Foreign Affairs, 2020a) in the production of specialty coffee products such as Latte, Cappuccino, flat white, Espresso and Mocha.

Beyond supply chain domination, the growth of specialty coffee brands was independently influenced by customer needs and characteristics, including sophistication and emphasis on the coffee experience rather than satiety based consumption. The latter worldview is consistent with Carvalho and Spence (2018) who attributed the growing demand for specialty coffee to customer's hedonistic judgment, taste and aroma preferences. The claims underscore the unique drivers for specialty coffees in Europe.

The researcher supports both schools of thought given there is sufficient evidence linking the growth of the coffee sector had contributed to the advances in the



specialty coffee niche market and shaped customer preferences. Based on this worldview, Belgium's leadership in the global coffee sector had a direct influence on consumer preferences. However, coffee consumption preferences for Belgian consumers were not different relative to other EU consumers. Additionally, there is no clear evidence that consumer preferences result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha.

**Table 8 Concentration of fat, calories, and caffeine concentration in Starbucks Espresso**

Coffee product	Calories	Fat (g)	Carbohydrate (g)	Protein (g)	Sodium (mg)	Caffeine (mg)
Caffe Latte	190	7	19	13	170	150
Caffe Mocha	290	8	42	13	140	175
Cappuccino	120	4	12	8	100	150
Caramel Macchiato	250	7	35	10	150	150
Cinnamon Dolce Latte	270	7	41	11	160	150
Cordusio	230	7	30	12	140	315
Flat White	180	7	18	12	160	195

Source: (Koch, 2019)

Considering that research on Belgian consumer preferences for latte, cappuccino, flat white, Espresso and Mocha coffee products, is inadequate, non-Belgium studies were reviewed to provide a better outlook on demand. Various theories have been advanced in an attempt to explain unique customer preferences for different coffee products - at least three theories are discussed in this section to help delineate the phenomena. The first theory supposes that preference for a latte, cappuccino, flat white, Espresso, mocha is dependent on the average caffeine concentration (Zucconia *et al.*, 2013). The claims are also supported by studies on the metabolic pathways of caffeine (Loftfield *et al.*, 2016) and fatigue mitigation (Holmes, 2011). In most instances, the consumption of coffee is tied to the stimulating effect of caffeine. High concentrations of caffeine in coffee products would naturally appeal to consumers who want to maintain alertness and optimal cognitive function (Nehlig, 2016). Based on the coffee-concentration theory, customers would automatically prefer espresso coffee (1,916 mg/L) given it has the highest concentration of coffee compared to a cappuccino (250 mg/L) and instant coffees (400 mg/L) (Zucconia *et al.*, 2013). Even though there are valid grounds to presume that coffee consumption is moderated by caffeine

concentration, the point of view forgets to mention that a consumers purchase decisions are predicted by certain 'dictators' such as product similarities, cyclic preferences and availability of competing products (Broniatowski, 2018). Beyond the product-specific 'dictators' the utility of caffeine in predicting consumption is questionable given the emergence of caffeine tolerance (Valenti, McCullough and Stall, 2020) - a condition attributed to central nervous and cardiovascular system tolerance towards coffee and changes in inhibitory GTP-binding protein (Gi). Additionally, the caffeine concentration in Latte, Cappuccino, Flat white, Espresso, Mocha varies across different brands. According to the nutritional analysis of different coffee products depicted in Table 5, the caffeine concentration in Starbucks Espresso products varies between 315 and 150 mg/L (Koch, 2019); this contrasts with Zucconia *et al.* (2013) estimated caffeine concentration in cappuccino.

Considering that caffeine concentration is a poor predictor, Broniatowski (2018) postulated that the demand for Latte, Cappuccino, Flat white, Espresso, and Mocha was influenced by cyclic consumer preferences, which are inconstant. Based on this worldview, customers are always willing to settle for the second, third, and fourth choices, if they are unable to access the first choice, as shown in Table 6. If cappuccino is unavailable, customers can settle for a latte (second choice), Espresso and Mocha (third choice), hot chocolate (fourth choice) (Broniatowski, 2018). The latter claims provide a more representative understanding of how customer preferences would influence the consumption of specialty coffees compared to caffeine concentration.

**Table 9 Coffee ordering based on individual preferences - first to the fifth choice**

1st choice	2nd choice	3rd choice	4th choice	5th choice
American	Espresso	Macchiato or Latte	Cappuccino or Mocha	Hot chocolate
Espresso	Americano, Latte, or Macchiato	Cappuccino or Mocha	Hot chocolate	
Macchiato	Espresso or Cappuccino	Latte or Americano	Mocha	Hot chocolate
Cappuccino	Macchiato or Latte	Espresso or Mocha	Americano or hot chocolate	
Latte	Espresso, Cappuccino, or Mocha	Hot chocolate, Americano, or Macchiato		

Mocha	Latte or hot chocolate	Espresso or Cappuccino	Macchiato or Americano
Hot chocolate	Mocha	Latte	Espresso or Cappuccino
			Americano or Macchiato

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Source: (Broniatowski, 2018)

In brief, caffeine concentration is not an accurate predictor of customer preference for Latte, Cappuccino, Flat white, Espresso, and Mocha coffee products. The conclusion is drawn from the brand-specific formulations and ingredients and lack of standardised procedures for preparing latte, Cappuccino, Flat white, Espresso, and Mocha, and the cyclic preferences for different coffee products. The critical appraisal of research suggests the following. First, there is a marginal probability that variations in consumer preferences would result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha. On the downside, there is no adequate research on the differences in coffee consumption preferences among Belgian consumers and other EU consumers.

### 3.4.3 Coffee sensory appeal

Market data suggest that the sensory appeal of coffee is influenced by two distinct sets of factors namely the attributes of the coffee (see Table 7) (Poltronieri and Rossi, 2016) and brewing methods (CBI Ministry of Foreign Affairs, 2020b). A key question is whether there was any link between Belgium's leadership in the global coffee sector and the sensory appeal of specific brands of coffee in Belgium. Empirical evidence published by Poltronieri and Rossi (2016), Euromonitor International (2020b) and Euromonitor International (2020b) provides mixed perspectives. On the other hand, analysis of the key ingredients and properties of coffee by Poltronieri and Rossi (2016) suggest that the sensory appeal was product-based. For example, Arabica is highly preferred given it contains high concentrations of fructose, glucose, galactose, Arabinose, and polysaccharides. The narrative is augmented by empirical evidence relating to the aroma, taste, and hedonic judgments of specialty coffee (Carvalho and Spence, 2018), and impact of brewing and processing practices on the coffee drinks sold in Belgium and other countries (Rahn and Yeretizian, 2019; Poltronieri and Rossi, 2016).

Notable types of specialty coffees include Latte, Cappuccino, Flat White, Espresso and Mocha, which are prepared and sold by branded coffee shops such as McCafe, Starbucks and Costa Coffee (CBI Ministry of Foreign Affairs, 2020b) among other branded coffee shops listed in Table 8. The data suggests that consumption across different types of specialty coffees had stagnated, or declined. For example, Nescafe sold 1,027 units in 2017 and 1,133 in 2019. The changes are negligible (Euromonitor International, 2020b). The marginal changes reported by Euromonitor international contrast with CBI Ministry of Foreign Affairs (2020b) and Guimarães *et al.* (2019) observations on the growing demand for specialty coffees in Belgium and across the world.

**Table 10 Key components of Robusta and Arabica coffees**

Component	Arabica	Robusta	Constituents
Soluble carbohydrates	9–12.5	6–11.5	
Monosaccharide's	0.2–0.5		Fructose, glucose, galactose, Arabinose (traces)
Oligosaccharides	6–9	3–7	Sucrose (>90%), raffinose (0%–0.9%), stachyose (0%–0.13%)
Polysaccharides	3–4		Polymers of galactose (55%–65%), mannose (10%–20%), Arabinose (20%–35%), glucose (0%–2%)
Insoluble polysaccharides	46–53	34–44	Polymers of galactose (65%–75%), Arabinose (25%–30%), Mannose (0%–10%)
Hemicelluloses	5–10	3–4	
Cellulose, (1–4) mannan	41–43	32–40	
Acids and phenols			
Volatile acids	0.1		
Non-volatile aliphatic acids	2–2.9	1.3–2.2	Citric acid, malic acid, quinic acid
Chlorogenic acids	6.7–9.2	7.1–12.1	Mono-, dicaffeoyl-, and feruloyl quinic acid

Source: (Poltronieri and Rossi, 2016)

**Table 11 Consumption of specialty and non-specialty coffee in Belgium by volume**

Local Brand Name	2015	2016	2017	2018	2019
Douwe Egberts	5,689	5,769	5,803	5,672	5,530
Colruyt	4,873	4,843	4,680	4,514	4,333
Delhaize	4,321	4,270	4,161	4,007	3,865
Carrefour	4,127	4,082	3,950	3,808	3,649
Senseo	3,937	3,864	2,820	2,755	2,714
Jacqmotte	2,339	2,285	2,404	2,271	2,161
Rombouts	1,962	1,957	1,904	1,822	1,717

Nescafé	1,027	1,063	1,096	1,119	1,133
Nescafé Dolce Gusto	802	879	940	1,001	1,054
L'Or Espresso	848	891	949	1,005	1,047
Nespresso	714	780	846	900	961
Chat Noir	756	730	689	649	610
Café Liégeois	274	317	435	524	540
Starbucks				389	524
Illy	365	454	458	458	465
Lavazza	509	501	487	483	450
Oxfam	207	209	255	270	276
Café Royal			109	136	163
Nescafé Decaf	116	117	117	117	117

Source: (Euromonitor International, 2020b)

#### 3.4.4 Perceive coffee health outcomes

Research on the perceived health benefits of coffee provides mixed evidence - there are proven health benefits and potential side effects, which raise fundamental questions on the suitability of the coffee culture in the west. One school of thought suggests that coffee beans contain carcinogenic chemicals such as the furans (Rahn and Yeretziyan, 2019). The concentration is proportional to the brewing methods/processing and drinking methods. The presence of these compounds was also confirmed by Poltronieri and Rossi (2016). Based on the consistent observations made by Poltronieri and Rossi (2016) and Rahn and Yeretziyan (2019), it could be argued that extended consumption of coffee has adverse health effects.

The evidence presented on the potential cancer risks has been contested by scholars who suggest that the direct cancer risk is marginal and the potential negative effects are offset by the presence of anti-oxidants, chlorogenic acids (CGA) and polyphenolic and hydroxycinnamate (Mullen *et al.*, 2011). Additionally, proponents of the coffee consumption culture and marketers of coffee products have emphasised on the known health benefits linked to the presence of anti-oxidants and anti-radical activity of coffee (Yashin *et al.*, 2013). The observations reported by Yashin *et al.* (2013) and Mullen *et al.* (2011) on the positive health benefits of coffee were also confirmed by Abreu *et al.* (2011). The latter study confirmed that chronic ingestion of coffee helped to prevent age-associated cognitive decline. Considering that free radicals introduce multiple health risks, the health benefits of coffee offset any potential side effects; this means that coffee consumption has a negligible impact on human health. Despite the positive review of the perceived health benefits of coffee, daily consumption should not exceed the recommended 200 mg ( $\leq 2.5$  cups/sitting) or 400

mg ( $\leq 5$  cups of coffee/day) (Nehlig, 2016). In general, the positive actions of coffee on the brain and personal wellbeing are not absolute but concentration - specific. On the downside, the aggressive marketing schemes adopted by different marketers neglect to highlight these issues to consumers.

#### 3.4.5 Impact of social media on coffee consumption

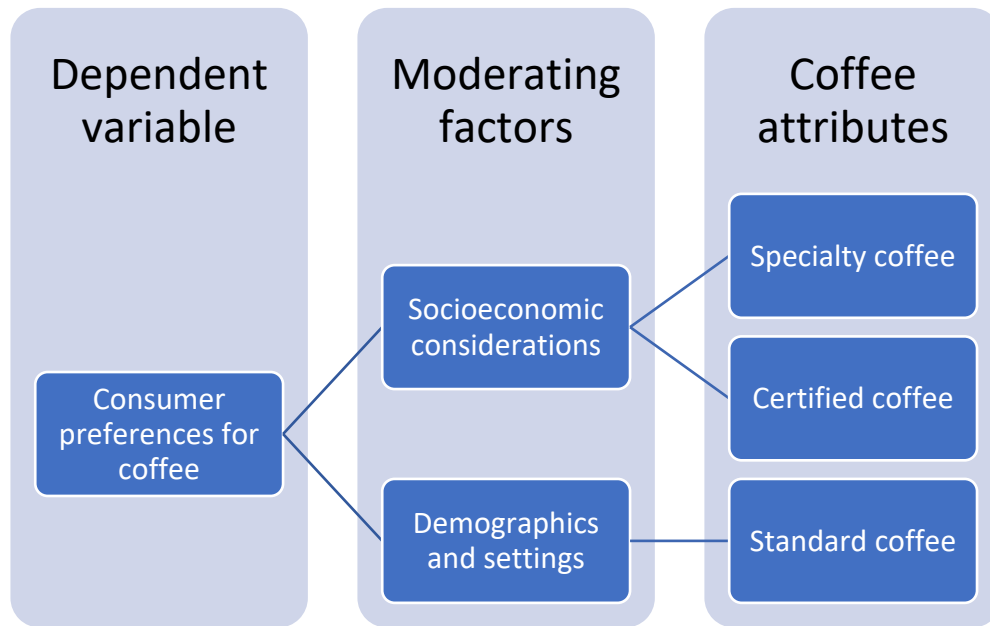
Social media had a mixed impact on coffee consumption in Belgium - two schools of thought have been advanced to help explain the phenomena. One school of thought suggests that social media usage had a positive impact on the consumption of coffee. Another school of thought acknowledges both the constructive and destructive effects of social media as a marketing tool. The first worldview is grounded on the proven relationship between social media usage and brand equity creation, and better product attributes perception among customers (Manfred, Verena and B., 2012; Antonella, Bettina and Arianna, 2020); this means that social media had a net positive impact on consumption patterns. The claim is further augmented by specific marketing practices adopted by selected coffee brand such as Douwe Egbert, which introduced an LGBT-themed advertisement on social media, which recorded more than 12 million views within a month (Griner, 2020). The broad viewership re-affirms the power of social media on branding and marketing of normal and specialty coffees. The positive assessment of the impact of social media negates the link between robust marketing practices and customer conversion. However, there are no guarantees that social media-based marketing would have a positive impact on consumption - this is evident from the mixed impact of social media influencers (Lou and Yuan, 2019; Lee and Eastin, 2020). From the researcher's point of view, the social media marketing strategy is as effective as the rate of customer conversion and positive purchase decision. Considering that research on Belgian coffee marketing via social media is inconclusive on the subject, further insights on the subject were drawn from other domains.

One study suggested that the impact of social media on customer purchase decisions would be dependent on the level of consumer trust of branded content on social media (Lou and Yuan, 2019). Similar claims were made by Lee and Eastin (2020) concerning the perceived sincerity of the social media influencers. Based on these worldviews, it is clearly evident that credibility is key to successful social media marketing—however, the observations made by Lou and Yuan (2019). Similar claims

were made by Lee and Eastin (2020) only provide a single dimension of the impact of social media on consumption patterns. Other studies indicate that social media is a channel for customers to provide reviews on the restaurants' performance (Kim, Li and Brymer, 2016). If the customer reviews are negative, aggressive social media marketing will not yield tangible improvements in sales. Based on published evidence, social media is only a catalyst. The effectiveness of social media marketing would be dependent on the retailers' ability to satisfy the sensory appeal of Belgian consumers through responsive creation of coffee products that satisfy the desired attributes (Poltronieri and Rossi, 2016) and brewing methods (CBI Ministry of Foreign Affairs, 2020b). Additionally, the products on sale must be aligned with the consumer's attitudes towards sustainability and ethical consumption; this means that certification by Starbucks' CAFE Practices and, 4C, Rainforest Alliance/UTZ and Nestlé's AAA Sustainable Quality Program is critical (CBI Ministry of Foreign Affairs, 2020a). In the event that the coffee products do not satisfy these requirements, marketing via social media would be non-value adding.

### **3.5 Theoretical framework**

The following theoretical framework was developed following the appraisal of scholarly research on the subject. First, Belgian customer coffee preferences (and demand for specialty certified coffees) are influenced by socio-cultural, economic, and demographic factors; this relationship is visualised in Figure 3. The theoretical framework postulates that socioeconomic factors were the leading moderating factors for customer's demand for specialty and certified coffee products. The assumption is premised on the retail pricing. (Ufer, Lin and Ortega, 2019) noted that only consumers with higher disposable incomes were willing to pay a premium for specialty coffee. The customer's expressed willingness-to-pay (WTP) a premium (about 1.2 Euros per cup) for certified coffee was also documented by Maaya *et al.* (2018) and Borsellino, Kaliji and Schimmenti (2020); this means that disposable income predicted the demand for certified and specialty coffee as illustrated in the theoretical framework.



**Figure 5 Theoretical framework, own work**

### 3.5.1 Summary of chapter

The chapter contributed to the understanding of the extent to which consumer preferences influence coffee consumption in Belgium, the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns and influence of global supply-demand and the threat of substitute products on coffee consumption and consumer preferences in Belgium.

The following insights were drawn from the critical appraisal of the literature. First, customer preferences are moderated by demographics. However, the impact of demographics is hierarchical. The socioeconomic status of the consumers has the most dominant impact on consumption patterns, given that specialty and certified coffee are expensive. The willingness to pay a premium for Nestlé's AAA Sustainable Quality Program, Starbucks' CAFE Practices and, 4C, and Rainforest Alliance/UTZ certified coffee depends on disposable incomes - only consumers with excess income can afford to pay about 1.2 Euros per cup. The second most important demographic factor was age. Younger consumers had distinct preferences relative to the older consumers; for instance, this group expressed a strong preference for a latte while older consumers preferred Espresso. Even though age and income predicted the demand and consumption of specialty coffees, the relationship was not direct. Empirical data confirmed that demand for different specialty coffees was cyclic and often aligned with



the availability of alternative and competing products. For example, if latte was not directly available consumers opted for Cappuccino, Flat white, Espresso, or Mocha; this means that the consumption preferences were not static.

From a marketing perspective, the evidence drawn from the literature presents multidimensional opportunities and challenges. The opportunities include the robust preference for ethically sourced, certified and sustainable coffee. Considering that customers expressed a strong willingness to pay for certified coffee - pricing is a non-issue for niche speciality products. Additionally, there is a strong and sustainable demand for coffee among Belgian consumers, which has a direct influence on the profits and operations of coffee roasters, brewers and retailers. However, the opportunities are offset by the multidimensional challenges ranging from lack of standardised product characteristics, different pricing mechanisms and standards of quality.

The lack of standardisation was a critical challenge because consumers were not assured of top quality. For example, the concentration of fat, calories, and caffeine concentration in Starbucks Espresso products is different compared to other brands. Additionally, marketers and retailers have adopted different nano and micro-lots, country of origin, estate/farm origins, agronomical practice standards, and cupping scores for assessing the grade of specialty coffee. In the absence of nationally accepted standards, the Belgian coffee market could be flooded by substandard products that do not satisfy the customer's preferences, resulting in disutility. The flexible consumer preferences for coffee and non-coffee products such as hot chocolate is a potential indication of consumer disutility. The claim is further reinforced by shrinking market share of premium coffee brands in Belgium including Nestlé Belgilux SA, Carrefour Belgium SA/NV, and Koffie F Rombouts NV, among others.

In brief, scholarly data suggests the following. Present consumer preferences in Belgium, the EU and other countries might not result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha; this is because existing products have addressed the sophisticated needs of modern consumers. In place of the development of new coffee products, the researcher notes that marketers should focus on standardising the quality of different coffee products. The lack of standardisation had led to the marketing of coffee products with different ingredients, flavours and aromas. Such practices could diminish the demand for specialty coffees

because the product attributes are indistinguishable from instant coffees. Based on available scholarly evidence, Belgium's leadership in the global coffee sector influence consumer preferences had both direct and indirect effects on consumption preferences. Additionally, multiple factors contributed to the rise of Belgium's coffee sector in the global supply chain, including robust market demand and market positioning. However, there is no evidence that coffee consumption preferences among Belgian consumers were different relative to other EU consumers.

## 4 Practical Part

This chapter outlines the theoretical justification for the research philosophy, design, data collection and analysis procedures, which are integral to the rigour, reliability and validity of the scholarly inquiry on Belgian customer preferences, socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns. The chapter is grouped into the following subsections; research design, research approach, population and sample, sources of data, data collection, data analysis, validity and reliability, and ethical concerns.

### 4.1 Research design

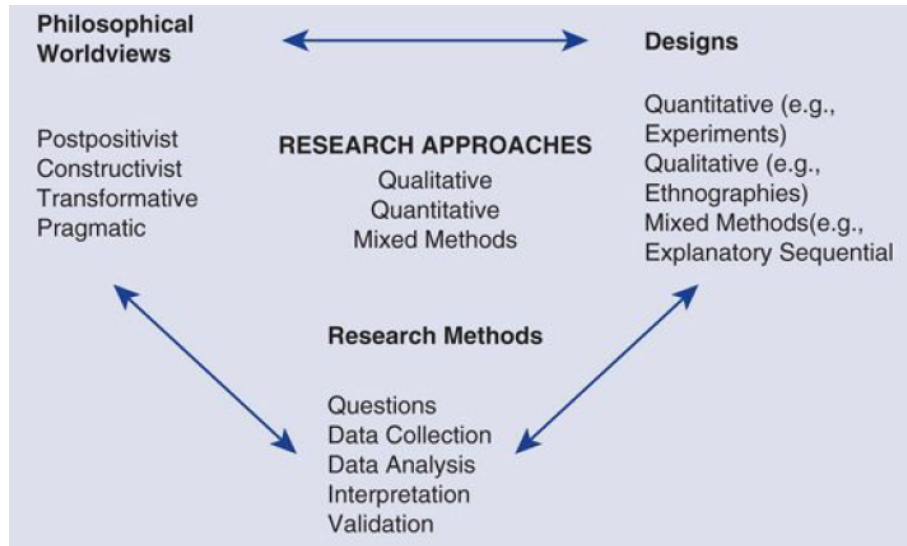
The scope of the research and focus on Belgium informed the choice of exploratory research design, which involves discovering new trends and phenomena or exploring a research problem (Attride-Stirling, 2001; Dablanc *et al.*, 2017), which is marked by high levels of ignorance and uncertainty (Wyk, 2012). The exploratory research yielded critical insights on how consumer preferences might result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha, the factors that defined Belgium's leadership in the global coffee sector and supply chains and domino effects on consumer preferences.

#### 4.1.1 Research approach

The plans and procedures for the research (research approach) were guided by the philosophical assumptions, procedures for data collection and analysis (see Figure 4). The secondary considerations were limited to the research problem (paucity of data on consumer preferences and how they influence the coffee consumption in Belgium) and personal exposure, experiences and worldviews. Prior to the study, the researcher had limited exposure to the Belgian coffee market; fundamental knowledge was guided by theories presented in literature and anecdotal evidence drawn from personal experiences in Belgian coffee shops. However, this knowledge was inadequate.

Based on the Creswell (2014) approach, the present study objectives and questions were best aligned with mixed methods approaches. On the one hand, quantitative data and statistical analyses established the extent to which consumer preferences influence coffee consumption in Belgium. On the other hand, qualitative

observations defined the review of the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns; the impact of global supply and demand and the threat of substitute products on coffee consumption and consumer preferences in Belgium.



**Figure 6 Framework demonstrating the link between research methods design and worldviews (Creswell, 2014)**

## 4.2 Population and sample

The population of interest comprised of coffee consumers in Belgium, who were randomly selected from the general population to reduce the risk of sampling bias and guarantees equal and independent representation (Robinson, 2014). From another point of view, the simple random sampling procedure contributed to the generalizability of the findings. There was no discrimination based on age, gender, social class, place of residence or race; this is because the demand for coffee is universal. Considering that it was impractical to study the entire population, a representative sample was drawn from Brussels and adjacent regions such as Leuven. The region was preferred given the concentration of specialty coffee shops including Starbuck's Gare De Namur, Wetteren North and South, North Station, Brussels Louis and Schuman Metro Stations, Gare Du Midi, Grand Place, Airport Concourse A and B and the Leuven station.

The only drawback was the transient nature of consumer preferences. Customer preferences were inconstant and often shaped by personal worldviews, including beliefs about sustainability, desire for unique coffee experiences, indulgence, and disposable

incomes. For example, consumers would opt for alternative products if the specialty coffee did not satisfy the utility function. The flexible purchase decisions were also influenced by retail prices. Consumers with higher disposable incomes expressed willingness to pay for premium coffee products. Considering that customer preferences are inconstant, the observations made by the respondents were only applicable during the study window. The factors contributed to the rise of Belgium's coffee sector in the global supply chain and coffee consumption preferences among Belgian consumers might change post-COVID-19 pandemic and post-economic recession.

### **4.3 Sources of data**

#### **The primary data**

The primary data was drawn from the dissemination of questionnaires to the target audience. The questionnaire focused on a broad range of issues including the demographics of coffee consumers in Belgium, the evolution of consumer preferences, market growth including certification and development of nice products, customer sophistication, and anticipated changes in the coffee supply chain (loss of cultivation area due to climate change, COVID-19 pandemic and its impact on the retail experience) and specialty coffee market.

#### **Secondary data**

The published qualitative data was sourced from the following databases: Elsevier, Springer, Sage, Emerald Insight, CBI Ministry of Foreign Affairs, and Euromonitor International. Supporting evidence was collected from stakeholders in the coffee value chain including Fair Trade, UTZ, 4C, and Rainforest Alliance, Douwe Egberts SA, Nestlé Belgilux SA, Carrefour Belgium SA/NV, Starbucks, and Koffie F Rombouts NV. The inclusion of diverse sources of data resulted in a broader understanding of the factors contributed to the rise of Belgium's coffee sector in the global supply chain and whether consumer preferences would result in the development of new coffee formulations beyond latte, cappuccino, flat white, Espresso and mocha.

#### **4.3.1 Data collection**

The data collection process is grouped into two key sections, namely primary data collection (quantitative) and secondary data collection (qualitative). The inclusion of qualitative and quantitative data was justified because objectives one and three were

unquantifiable; it was not practical to quantify the extent to which consumer preferences influence coffee consumption in Belgium or the factors that contributed to the rise of Belgium's coffee sector in the global supply chain. Additionally, the inclusion of the diverse sources of data provided a broader understanding of the impact of personal preferences, coffee consumption patterns, socio-demographics, context-specific elements, and coffee attributes on coffee consumption.

#### 4.3.1.1 Primary Data Collection (Quantitative)

The primary data was drawn from a target population comprising of coffee consumers in Brussels, Belgium. The study area was selected based on the concentration of coffee shops and vibrancy of the coffee sector city. For example, Starbucks (one of the world's leading coffee shops) has 21 coffee shops across multiple locations in Brussels including, 1210 Saint-Josse-ten-Noodle, Metro de l'Avenue Louise, Rue de la Loi, Robert Schumanplein, Avenue Louise, Grand Place 4, and the Montgomery metro station (Starbucks, 2020a). The locations were famous for their unique coffee experiences (signature roasts and light bites) and free Wi-Fi. The presence of multiple coffee brands suggests that there was a robust demand for coffee products in Belgium.

The target population was accessed through a purposive sampling process, which is defined by the targeting of an audience with the desired qualities. In the current case, the target population had advanced knowledge of coffee consumption. The knowledge was based on personal experiences as a coffee consumer and participation in the supply chains. The target population comprised of 30 coffee consumers in Brussels and two managers of the coffee shops or retailers.

The sample size was calculated using the formula presented in Equation 1. The symbols ME, SD, CI and p-value, denote the margin of error, standard deviation, confidence interval and the significance value, respectively. The significance value was set at 0.05, which is the limit of significance. A confidence interval of 95% was used to determine the Z-score from the reference tables. The reference table values indicate that the z-score at a 95% confidence interval is 1.96. The margin of error and p-values were set at 0.08 and 0.05, respectively; this means that a margin of error of 8% was acceptable. Following the inclusion of these values, the sample size was 28. The population comprised of 20 coffee consumers and eight stakeholders in the coffee

supply chain. The exclusion of other parties was necessary on the following grounds. First, the study primarily targeted coffee consumers and stakeholders in the coffee supply chain. Respondents who did not satisfy this criterion were excluded. Second, even though the sample size is small and not representative, it was sufficient. Considering the data collection challenges associated with the COVID-19 pandemic, it was impractical to survey a representative number of respondents in the supply chain and consumer segments.

$$n = \frac{p(1-p)Z^2}{ME^2} [1]$$

#### 4.3.1.2 Secondary Data Collection (Qualitative)

The quantitative data collected using purposive sampling procedure was complemented by qualitative literature drawn from selected publications. The following inclusion and exclusion criteria were applied in the selection of the publications (see Table 9). Even though the criteria are aligned with the study objectives and questions, it impacted the scope of the discussion. For example, comprehensive studies, which provided in-depth information about Belgian consumers were excluded based on the publication timelines.

**Table 12 Inclusion and exclusion criteria**

	Inclusion criteria	Exclusion criteria
Publication window	January 2010 to December 2020	Articles published before 2010
Relevant themes	Factors that contributed to the rise of Belgium's coffee sector in the global supply chain Coffee consumption preferences among Belgian consumers Coffee consumption preferences among EU consumers Personal preferences and coffee consumption patterns. Global supply and demand The threat of substitute products on coffee	Topics that are not related to coffee consumption, coffee marketing or consumer preferences

	consumption and consumer preferences. New coffee formulations Latte, cappuccino, flat white, Espresso and mocha Belgium's leadership in the global coffee sector Global supply chain	
Scope	Coffee consumer preferences	Other variables that are unrelated to coffee consumption preferences
Study area	Belgium	Other countries in the west except for comparison purposes
Quality of the publications	Peer-reviewed articles Findings reported by reputable organizations such as CBI Ministry of Foreign Affairs, Starbucks, OECD, UTZ, Euromonitor International and World Bank	Grey literature

Source: Own work

## 4.4 Data analysis

Both inferential and qualitative methods of data analysis were incorporated (see Table 10). The inclusion is justified by the diverse sources of data and the nature of the study objectives and questions.

### 4.4.1 Quantitative data analysis

**Table 13 Statistical measures**

Test	Function	Variables	Key values/benchmarks
Linear regression and multivariate regression	The linear regression test helped to confirm if the outcome variables could be determined using predictor variables such as customer profile and coffee attributes on demand for certified and specialty coffee.	Consumer preferences, customer profile, demographics, coffee attributes (specialty, certified and ethically sourced coffee), coffee value chains	The main measure is the $R^2$ value. Values close to one, suggest that the independent variable could help predict the dependent variable - in this case, consumer preferences could influence market demand.  F-statistic and p-values  P-values < 0.05 denote significant findings. The



			contrary is true for values > 0.05.
ANOVA	Independent factors-customer profile and coffee attributes on demand for certified and specialty coffee	Consumer preferences, customer profile, demographics, coffee attributes (specialty, certified and ethically sourced coffee), coffee value chains	P-value. F-statistic SE
Cronbach's alpha value	The test helped to demonstrate the reliability and internal consistency of data relating to coffee attributes and the market for certified and specialty coffee	Consumer preferences, customer profile, demographics, coffee attributes (specialty, certified and ethically sourced coffee), coffee value chains	Alpha values
Chi-square	Determined the link between different sets of variables such as customer profile and coffee attributes	Consumer preferences, customer profile, demographics, coffee attributes (specialty, certified and ethically sourced coffee), coffee value chains	Phi and Cramer's V test The changes are significant if $p < 0.05$
T-test	The measure validated/invalidated the core hypotheses	Consumer preferences, customer profile, demographics, coffee attributes (specialty, certified and ethically sourced coffee), coffee value chains	95% CI, degree of freedom, t-value, and p-value

Source: (Laerd Statistics, 2013a, 2013d, 2013c)

#### 4.4.2 Qualitative data analysis

The following qualitative methods of data analysis were employed. First, thematic analysis methods were employed to draw inferences from the qualitative studies. In particular, the researcher purposed to confirm whether the consumer consumption preferences were constant or variable. Such information was critical to marketers and retailers in Belgium. The process entailed critical appraisal of published data, followed by the coding and generation of the themes, this was then accompanied by the analysis of the themes and write-up. The insights drawn from thematic analysis

were augmented by grounded theory - a procedure that is best applied in cases when there is little knowledge about a phenomenon. In the current case, there was inadequate understanding of how consumer preferences predict the demand for specialty and ethically sourced coffee and how the demand predicted Belgium's demand and supply and global dominance in the coffee sector.

#### **4.5 Validity and reliability**

The selection of the theoretical and statistical measures of validity and reliability was guided by Taherdoost (2018) and (Mohamad *et al.* (2015). The studies suggest that different measures should be employed to determine the validity and reliability of research outcomes and methodologies. In the current case, the validity of the methodology, data collection tools and analytical procedures were grounded on qualitative methods including construct, face validity, content validity and the percentage agreement validity (Mohamad *et al.*, 2015). The reliability was based on a quantitative measure - the Cronbach's alpha test. The theoretical basis for selecting each measure is discussed in the next sections.

##### **4.5.1 Validity**

The primary measures of validity were construct, percentage agreement validity, and content validity (Mohamad *et al.*, 2015). The secondary measures of validity were and criterion validity, survey validity, questionnaire reliability, and face validity (Taherdoost, 2018). The content validity represented how well questions reflected the possibilities of the findings, while construct validity helped to confirm if the data collection measures were useful, purposive, significant, and meaningful. The percentage agreement validity facilitated the comparison between the study findings and published literature. A close alignment in the values between consumer preferences influence coffee consumption in Belgium, the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns in the published data and survey data denoted higher percentage agreement validity. The construct validity of the statistical analysis was informed by two concepts - discriminant and convergent validity (Taherdoost, 2018). In particular, the measure helps to determine how well the study transformed or operationalised an idea/concept/construct into a functioning operating reality. The criterion validity helped to establish whether

the statistical measures were related to the outcomes. From the researcher's point of view, the linear regression and multivariate regression, ANOVA, Pearson correlation, chi-square and Cronbach's alpha values were related to the outcomes because they helped to demonstrate the impact of global supply and demand and the threat of substitute products on coffee consumption and consumer preferences in Belgium; and how the following variables were interrelated - consumer preferences, customer profile, demographics, coffee attributes (specialty, certified and ethically sourced coffee), and coffee value chains. In brief, it is valid to presume that the present study had significantly higher construct validity, content validity and criterion validity.

#### 4.5.2 **Reliability**

The Cronbach's alpha value drawn from statistical analysis predicted the reliability of the statistical measures. Values close to one denoted better reliability and internal consistency. The contrary was true for values close to zero (Tavakol and Dennick, 2011; Laerd Statistics, 2013b). Additionally, reliability was assessed based on the extent of representativeness. A fundamental question is whether the outcomes reflected the general body of knowledge.

#### 4.6 **Ethical concerns**

The following were the main ethical concerns - informed consent (Jol and Stommel, 2016), anonymity, voluntary participation, and safe data handling. The ethical considerations adopted in this research were guided by established best practices in research. The informed consent requirements were satisfied by providing each participant with the participant information sheet. The document outlined why the study reviewed the impact of global supply and demand, the threat of substitute products, coffee consumption, consumer preferences, demand for a latte, cappuccino, flat white, Espresso and mocha, and general state of the coffee sector in Belgium. Additionally, the document highlighted the requirements for participation.

The anonymity of the participants was safeguarded by eliminating personal identifiers - the coffee consumers and stakeholders in the coffee supply chain were not required to provide their names, contact and other personal information. The anonymity requirements had secondary benefits in addition to compliance with the research ethics. For example, (Mohsin, Lengler and Aguzzoli, 2015) noted that the bias associated with

non-responses due to confidentiality was reduced. Additionally, it encouraged participants to participate in the study; this was particularly critical for key stakeholders in the supply chain whose insights on factors contributed to the rise of Belgium's coffee sector in the global supply chain and coffee consumption preferences among Belgian consumers were critical to the study.

Despite the positive benefits associated with the ethical considerations, different scholars have criticised the measures. For example, informed consent might not resolve issues arising from deception and other unethical techniques (Tai, 2012; Schofield, 2014). Additionally, informed consent in secondary-research based studies remains a challenge (Jol and Stommel, 2016). Considering the limitations of informed consent and ethics, the need to provide participants with an autonomous choice and protect the basis of autonomy can be challenged. The core limitations are outlined in the next section.

#### **4.7 Limitations**

Even though the inclusion of both qualitative and quantitative data was justified, there were critical challenges associated with the inclusion of both methods. For example, there was a pronounced probability of sampling bias, interpretation bias, response bias, and interpretation bias. Response bias is associated with inaccurate information provided by the participants (Schouten *et al.*, 2016); this remains a critical problem in self-reported data (Rosenman, Tennekoon and Hill, 2011), considering there are no independent means of verification. The interpretation bias was associated with the researcher's positionality - subjective understanding of the problem in question (Levers, 2013). Other constraints relate to the time-intensiveness of the data collection process and the impact of COVID-19 pandemic on consumer preferences. The researcher postulates that the timing of this research could be a limiting factor because extended lockdown and nationwide restrictions on social gatherings in Europe and Brussels, in particular, had led to the closure of coffee shops and restaurants and local governments had initiated economic stimulus programs. Each restaurant/café/eatery was eligible for 2000 Euros in financial support (City of Brussels, 2020).

The adverse effect of the pandemic on coffee retailing and consumer experiences could have an impact on consumer preferences because consumers had limited access to specialty coffee products within a restaurant setting - most of the products were consumed at home. Additionally, the economic hardships, job losses and

reduced disposable incomes attributed to the pandemic might diminish the consumers' willingness to pay a price premium for certified and specialty coffee; this means that there could be a demand for standard instant coffee. However, the patterns might not accurately reflect normal demand pre and post-pandemic.

Other critical limitations relate to the criteria employed in the selection of the primary and secondary measures of validity including construct, percentage agreement validity, and content validity, criterion validity, survey validity, questionnaire reliability, and face validity. Two critical arguments have been made in research relating to the subject. On the one hand, proponents of the reliability and validity measures argue that the adoption of the measures translate to greater transparency, and diminishes the opportunities to insert researcher bias in qualitative studies (Mohajan, 2017). Considering that the utility of the measures is largely confined to qualitative outcomes, the applicability of the measures in quantitative studies remains questionable.

The criticism of the measures is further grounded on the fact that the theoretical arguments made by Taherdoost (2018) and (Mohamad *et al.* (2015) on the utility of the validity and reliability measures do not address fundamental questions relating to bias and ethical considerations. For example, study findings might satisfy the basic criteria for criterion validity, survey validity, questionnaire reliability, and face validity, despite the presence of measurement, sampling and interpretation bias. In brief, the reliability and validity measures do not address methodological shortcomings associated with research bias or non-compliance with the research ethics. Despite the potential drawbacks of the survey validity, construct validity, questionnaire reliability, percentage agreement validity, and content validity, criterion validity, and face validity the tools were instrumental in mitigating bias and improving the reliability of the findings.

#### **4.8 Presentation of findings**

The chapter critiques the key findings of the survey using descriptive and inferential measures. The descriptive analysis of the respondents contributed to the appreciation of the impact of demographics and the individual attributes of the consumers on coffee preferences and, by extension, the global supply and demand. Additionally, the appraisal of data helped to predict if there would be a demand for new coffee formulations beyond Latte, Cappuccino, Flat White, Espresso and Mocha.

#### 4.8.1 Descriptive measures

According to the descriptive measures in Table 14 and Table 15, the coffee consumers were mainly young, and middle-aged persons - 76% were aged 18-49 years. In addition, there was a slightly higher population of males compared to females (56 versus 44%). The impact of the demographic factors on coffee preferences is reviewed in chapter five.

**Table 14 Age**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid 18-29	7	25.9	25.9	25.9
30-39	6	22.2	22.2	48.1
40-49	5	18.5	18.5	66.7
50-59	3	11.1	11.1	77.8
60-69	6	22.2	22.2	100.0
Total	27	100.0	100.0	

**Table 15 Gender**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Male	15	55.6	55.6	55.6
Female	12	44.4	44.4	100.0
Total	27	100.0	100.0	

Two-thirds of the respondents resided in Anderlecht - a region with a high concentration of coffee shops. There was an equal number of respondents from Elsene and Saint-Josse-Ten-Noode (see Table 16). The geographical diversity of the respondents contributed to the understanding of how consumer preferences differed in the Brussels suburbs. The insights drawn from the four suburbs would enable coffee marketers and retailers (coffee shops, roasters and brewers) to gauge the popularity of Latte, Cappuccino, Flat White, Espresso and Mocha against other coffee products such as instant coffee. Lower demand would be a potential indication of the need to reinforce marketing strategies and innovate. Considering that the place of residence predicts a consumer's socio-demographic/socio-economic characteristics, stakeholders in the coffee value chain should place significant emphasis on regional variations in consumption preferences.

**Table 16 Place of residence**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Saint-Josse-Ten-Noode	7	25.9	25.9	25.9

Anderlecht	11	40.7	40.7	66.7
Broeck	2	7.4	7.4	74.1
Elsene	7	25.9	25.9	100.0
Total	27	100.0	100.0	

As expected, most Belgian coffee consumers consumed coffee multiple times a day. The frequency distribution in Table 17 shows that 74% of the targeted audience loved coffee. The empirical findings are in line with theoretical evidence presented in the literature review concerning the demand for coffee in Belgium. A higher affinity for coffee among the consumers could diminish the demand for substitute products such as tea and chocolate - the claims are explored further in the literature review.

**Table 17 How often do you drink coffee?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Multiple times a day	20	74.1	74.1	74.1
Once a day	2	7.4	7.4	81.5
Valid Once a week	3	11.1	11.1	92.6
Once a month	2	7.4	7.4	100.0
Total	27	100.0	100.0	

The frequency distribution data affirms that a majority of the coffee consumers were typical coffee consumers - 77% had consumed coffee for three or more years (see Table 18). The duration for coffee consumption had practical implications for future demand from the following dimensions. On the one hand, it could sustain the existing trends in coffee consumption, especially the demand for Latte, Cappuccino, Flat White, Espresso and Mocha products. Additionally, demand might help sustain Belgium's leadership in the global coffee sector and motivate coffee roasters and brewers to develop new formulations. On the other hand, excessive knowledge and familiarity with coffee products could translate to higher caffeine tolerance. Higher tolerance for caffeine is detrimental to coffee demand because standard volumes of coffee would not be able to trigger the desired "feel-good effect" associated with reduced fatigue and stress; this means that the consumers could be motivated to explore alternative products that might trigger a similar effect such as energy drink. If such patterns are sustained, Belgium could witness a rise in the demand for alternative products such as energy drinks that can relieve stress and fatigue instantly. However, the observations are grounded on a hypothetical scenario - real evidence is inconclusive. In general, it is valid to presume that length of consumption predicts the rise of Belgium's coffee sector

in the global supply chain and the coffee consumption preferences for Belgian consumers different relative to other EU consumers.

**Table 18 For how long have you been drinking coffee?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid 0-1 year	4	14.8	14.8	14.8
1-3 years	2	7.4	7.4	22.2
3-6 years	11	40.7	40.7	63.0
Six years and above	10	37.0	37.0	100.0
Total	27	100.0	100.0	

The need to reduce fatigue and stress explained why 89% of consumers preferred coffee (see Table 19); this means that coffee attributes and personal preferences on the coffee consumption patterns have a higher impact relative to socio-demographics, context-specific elements. The need to relieve stress could also increase the threat posed by substitute products on coffee consumption and consumer preferences in Belgium.

**Table 19 Why do you prefer to take coffee rather than other beverages?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Reduce fatigue	12	44.4	44.4	44.4
Release stress and improve energy levels	12	44.4	44.4	88.9
Habit	1	3.7	3.7	92.6
Socialisation	2	7.4	7.4	100.0
Total	27	100.0	100.0	

The Belgians in the study did not have a preferred timeline for drinking coffee (see Table 20). Four out of every ten respondents consumed coffee in the morning. A majority of the remaining respondents preferred to take coffee in the evening and at night (25.9 and 22.2%, respectively). In contrast, only a minority of the consumers opted to drink coffee all times. The consumption patterns correlate with earlier observations on why consumers opt to consume coffee in place of other beverages. The timelines for coffee consumption are critical for coffee shops because they predict optimal customer traffic at given hours. The leading coffee retailers in Belgium such as Carrefour Belgium SA/NV, Delhaise 'Le Lion' SA, Etn Franz Colruyt NV and Douwe Egberts SA should prepare adequate coffee products during the morning and evening rush hours to reach 70% of the early and evening coffee consumers and 7.4% of the population who consume coffee all times of the day. However, nighttime coffee



consumers might opt to have their coffee at home rather than coffee shops. In brief, the preferred time for coffee has an impact on coffee sales and marketing strategies employed by coffee shops. From another dimension, the unique patterns are influenced by socio-demographics, context-specific elements, and coffee attributes. For example, early, all-time and evening consumption of coffee matches the consumption profile for working-class Belgians who need to consume coffee to reduce fatigue and increase energy levels.

**Table 20 When do you prefer to drink coffee?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Morning	12	44.4	44.4	44.4
Evening	7	25.9	25.9	70.4
Nighttime	6	22.2	22.2	92.6
All times	2	7.4	7.4	100.0
Total	27	100.0	100.0	

Coffee shops were the preferred social setting for coffee consumption by 44% of the respondents (see Table 21). The appeal of the coffee shops is further reinforced by strategic and convenient locations; this explains why there are multiple Starbucks coffee shops on busy streets such as Airport Concourse A and B, Wetteren North and South, North Station, Gare De Namur, Brussels Louis and Schuman Metro Stations, Gare Du Midi, Grand Place, and the Leuven station. On the downside, the preference for coffee shops in place of work or home environments also creates significant competition for the leading coffee brands such as Starbucks, Douwe Egberts SA, Carrefour Belgium SA/NV, Delhaise 'Le Lion' SA, and Etn Franz Colruyt NV coffee shops. Each brand has to appeal to the same market niche. The researcher also notes that coffee consumption in restaurants and coffee shops was impacted by COVID-19; this means that the preferred consumption setting could change post-pandemic.

**Table 21 What is your preferred social setting?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Workplace	3	11.1	11.1	11.1
Coffee Shop	12	44.4	44.4	55.6
Restaurant	2	7.4	7.4	63.0
At home	10	37.0	37.0	100.0
Total	27	100.0	100.0	

The data in Table 22 shows that instant coffee was the most preferred coffee product. One in three respondents opted for the expensive specialty premium coffees. The pattern could be attributed to disposable incomes -instant coffees were cheaper compared to specialty coffee. Additionally, the data demonstrates that the consumers were willing to pay a premium. The unique demand for specialty coffee coupled with the customers expressed willingness-to-pay (WTP) a premium confirms that price was not a key consideration for consumers with high disposable incomes. The observation is further correlated by the frequency distribution in Table 20. The latter confirms that taste and variety of flavours accounted for more than 50% of the coffee attributes (see Table 23).

**Table 22 Which type of coffee do you prefer the most?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Instant coffee	9	33.3	33.3	33.3
Traditional coffee	7	25.9	25.9	59.3
Specialty coffee	8	29.6	29.6	88.9
Valid Certified Mocha, Latte, Espresso, Flat White, and Cappuccino coffee	3	11.1	11.1	100.0
Total	27	100.0	100.0	

**Table 23 What is the most important coffee attributes to you?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Aroma	2	7.4	7.4	7.4
Cleanliness of the restaurant/shop	1	3.7	3.7	11.1
Convenient locations	1	3.7	3.7	14.8
Friendly services	1	3.7	3.7	18.5
Valid Price	4	14.8	14.8	33.3
Quality of coffee beans	4	14.8	14.8	48.1
Taste	8	29.6	29.6	77.8
Variety of coffee flavours	6	22.2	22.2	100.0
Total	27	100.0	100.0	

Apart from the taste, aroma and the flavours, the acidity and sourness of the coffee products predicted consumer preferences. A similar emphasis was also placed on the sweetness and bitterness of the coffee beans (29.6 and 22.2%, respectively) (see Table 24).

**Ta 24 What are the primary characteristics of your preferred cup of coffee?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Acidity/sourness	13	48.1	48.1	48.1
Sweetness	8	29.6	29.6	77.8
Bitterness	6	22.2	22.2	100.0
Total	27	100.0	100.0	

The data in Table 25 validate earlier observations on the unique moderating impact of coffee aroma, taste/flavour, and colour on purchase decisions. The cost and brand aspects only explained 22 and 11% of the demand. In brief, the cost does not impact consumers' expressed willingness-to-pay (WTP) a premium for certified and specialty coffee.

**Table 25 What factors influence your purchase decisions?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Cost	6	22.2	22.2	22.2
Coffee Brand	3	11.1	11.1	33.3
Coffee aroma, taste/flavour, and colour	18	66.7	66.7	100.0
Total	27	100.0	100.0	

The findings presented in Table 26 validate the existing body of knowledge concerning the ability of existing coffee products to satisfy the needs of the consumers. Based on the responses drawn from the 5-point Likert scale, at least 66% of the respondents agreed or strongly agreed (responded in the affirmative) after being asked whether existing coffee products satisfied their needs and expectations. A fundamental concern was that 26% responded to the contrary; this means that about one in four consumers were not content with the current product offerings. The lack of customer satisfaction might elevate the demand for alternative products. Additionally, it might provide sufficient impetus for the development of new coffee formulations beyond Latte, Cappuccino, Flat White, Espresso and Mocha and possibly threaten Belgium's leadership in the global coffee sector and rise in the global supply chain. In brief, the inability of the existing coffee products to address the needs of the consumers is an issue that warrants further research attention because this is an issue of concern for at least one in four coffee consumers.

**Table 26 Do existing coffee products satisfy your needs/expectations as a consumer?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	25.9	25.9	25.9
Neutral	2	7.4	7.4	33.3
Agree	7	25.9	25.9	59.3
Strongly Agree	11	40.7	40.7	100.0
Total	27	100.0	100.0	

Considering that consumers were cognisant about the need to source ethical products and focus on certified products, 70% of the respondents were concerned about the possible impact of climate change on the loss of cultivation area (see Table 27). The data also showed that a lesser number were concerned about the domino effects of COVID-19 possibly because the phenomena were transitory. The unequal concern for COVID-19 provides further insights into the customers. One, the researcher hypothesises that lesser regard for COVID-19 was an indication of consumer adaptability. Following the closure of restaurants and coffee shops during the pandemic, the consumers were willing to transition to the workplace or home environments to safeguard their strong consumption preferences.

**Table 27 Do you think the following factors will impact future coffee supply chains?**

	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid Loss of cultivation area due to climate change	19	70.4	70.4	70.4
COVID-19 pandemic	8	29.6	29.6	100.0
Total	27	100.0	100.0	

## 4.9 Inferential measures

### 4.9.1 Pearson correlation

The descriptive information was expounded using inferential measures, particularly Pearson correlation. The data presented in Table 28 shows that the duration of coffee consumption was positively aligned with age and the coffee attributes. However, both relationships were statistically insignificant.

**Table 28 Pearson correlation – age and consumer preferences**

		<b>Correlations</b>			
		For how long have you been drinking coffee	How often do you drink coffee	What is your age	What are the most important coffee attribute to you
For how long have you been drinking coffee	Pearson Correlation	1	-.152	.049	.077
	Sig. (2-tailed)		.449	.809	.702
	N	27	27	27	27
How often do you drink coffee	Pearson Correlation	-.152	1	.301	-.309
	Sig. (2-tailed)	.449		.127	.117
	N	27	27	27	27
What is your age	Pearson Correlation	.049	.301	1	-.230
	Sig. (2-tailed)	.809	.127		.249
	N	27	27	27	27
What are the most important coffee attribute to you	Pearson Correlation	.077	-.309	-.230	1
	Sig. (2-tailed)	.702	.117	.249	
	N	27	27	27	27

Similar to age, gender predicted the consumer preferences as demonstrated by the inferential statistics in Table 29. In this case, gender was positively correlated with how long the customer had been drinking coffee ( $r = 0.366$ ;  $p = 0.06$ ), but the relationship was not statistically significant. A positive relationship was also reported between the most important coffee attributes to the client. However, the positive relationship was weak and statistically insignificant. In contrast, there was a weak and negative relationship between the frequency of coffee consumption and gender ( $r = -0.095$ ;  $p = 0.637$ ); this means that the frequency of coffee consumption increased with a decrease in the age of the respondents. However, published studies do not support this narrative because both young and old consumers have a strong inclination to take coffee rather than other drinks. The inconsistent observations reported in literature and the published studies on the subject illustrate that the possible impact of gender on coffee consumption is not defined; this is an issue that warrants further scholarly attention. Considering that the existing body of knowledge is inconclusive, the moderating impact of gender on how long a person has been drinking coffee; how often they drink coffee and the most important coffee attributes remains unknown; this is because both men and

women have a strong preference for specific coffee products such as Mocha, Latte, Cappuccino and Flat White. In particular, published studies did not document any gender-specific differences in the consumption of coffee across Belgium; this could help explain the inconsistent impact of gender.

**Table 29 Pearson correlation - gender and consumer preference**

		For how long have you been drinking coffee	How often do you drink coffee	What are the most important coffee attribute to you	What is your gender
For how long have you been drinking coffee	Pearson Correlation	1	-.152	.077	.366
	Sig. (2-tailed)		.449	.702	.060
	N	27	27	27	27
How often do you drink coffee	Pearson Correlation	-.152	1	-.309	-.095
	Sig. (2-tailed)	.449		.117	.637
	N	27	27	27	27
What are the most important coffee attribute to you	Pearson Correlation	.077	-.309	1	.066
	Sig. (2-tailed)	.702	.117		.744
	N	27	27	27	27
What is your gender	Pearson Correlation	.366	-.095	.066	1
	Sig. (2-tailed)	.060	.637	.744	
	N	27	27	27	27

The linear regression model data showed that the type of coffee a person prefers the most; the duration of coffee consumption and the frequency of coffee consumption in a day/week/month did not help to explain whether the existing coffee products satisfies the needs/expectations of the consumer. The inability to predict the relationship is confirmed using the coefficient of determination and significance values ( $R^2 = 0.077$  and  $p = 0.598$ ) (see Table 30 and Table 28). Considering that  $p < 0.05$ , the relationship between the variables of interest was statistically insignificant. The observations inferred from the statistical measures are not in line with secondary data on coffee consumption, which suggested that the ability of the existing coffee products satisfies the needs/expectations of the consumer, could be ascertained from consumer's behaviour such as the duration of coffee consumption and the frequency of coffee

consumption in a day/week/month. Theoretical evidence drawn from peer-reviewed literature confirmed that coffee shops such as McCafe, Starbucks and Costa Coffee offered specialty coffees such as Latte, Cappuccino, Flat White, Espresso and Mocha because the products were on high demand compared to instant and traditional coffees. The observation was primarily true especially in cases when consumers expressed a strong willingness to pay a premium to enjoy their preferred product.

**Table 30 Linear regression model summary**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.277 <sup>a</sup>	.077	-.043	1.684	.077	.639	3	23	.598

a. Predictors: (Constant), Which type of coffee do you prefer the most, For how long have you been drinking coffee, How often do you drink coffee

The ANOVA results and standardised coefficients illustrate that the variance between the group means was not statistically significant (see Table 31 and Table 32 and Table 33). The outcomes suggest that it was challenging for marketers to distinguish between frequent and infrequent coffee consumers, using the following variables as a benchmark: the type of coffee that consumers preferred the most, and how long they had been drinking coffee and whether the existing coffee products satisfied the needs/expectations of the consumers. Since the F-statistic value was not within the degrees of freedom, it is clear that the regression model could not accurately predict the data. The patterns and relationships drawn from the linear regression model and ANOVA validate the Pearson correlation outcomes, which confirmed that there was an insignificant relationship between the variables.

**Table 31 ANOVA**

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.438	3	1.813	.639	.598 <sup>b</sup>
	Residual	65.229	23	2.836		
	Total	70.667	26			

a. Dependent Variable: Do existing coffee products satisfy your needs/expectations as a consumer

b. Predictors: (Constant), Which type of coffee do you prefer the most, For how long have you been drinking coffee, How often do you drink coffee

**Table 32 Standardized coefficients**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	5.284	1.311		4.031	.001
	How often do you drink coffee	-.221	.362	-.131	-.609	.548
	For how long have you been drinking coffee,	-.389	.322	-.245	-1.205	.240
	How often do you drink coffee					
	Which type of coffee do you prefer the most, For how long have you been drinking coffee	-.104	.336	-.066	-.310	.759

a. Dependent Variable: Do existing coffee products satisfy your needs/expectations as a consumer

**Table 33 Test of between subject effects**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Where do you reside in Brussels	22.609 <sup>a</sup>	17	1.330	1.051	.491
	What is your average monthly income	17.117 <sup>b</sup>	17	1.007	.615	.814
Intercept	Where do you reside in Brussels	15.179	1	15.179	11.992	.007
	What is your average monthly income	5.965	1	5.965	3.643	.089
What is your gender	Where do you reside in Brussels	1.976	1	1.976	1.561	.243
	What is your average monthly income	.065	1	.065	.040	.846
How often do you drink coffee	Where do you reside in Brussels	.562	2	.281	.222	.805
	What is your average monthly income	.526	2	.263	.161	.854
When do you prefer to drink coffee	Where do you reside in Brussels	2.282	3	.761	.601	.630
	What is your average monthly income	5.177	3	1.726	1.054	.415
What are the most important coffee attribute to you	Where do you reside in Brussels	9.325	6	1.554	1.228	.375



	What is your average monthly income	6.840	6	1.140	.696	.660
How often do you drink coffee * When do you prefer to drink coffee	Where do you reside in Brussels	.000	0	.	.	.
	What is your average monthly income	.000	0	.	.	.
How often do you drink coffee * What are the most important coffee attributes to you	Where do you reside in Brussels	.000	0	.	.	.
	What is your average monthly income	.000	0	.	.	.
When do you prefer to drink coffee * What are the most important coffee attribute to you	Where do you reside in Brussels	4.698	1	4.698	3.712	.086
	What is your average monthly income	.000	1	.000	.000	.992
How often do you drink coffee * When do you prefer to drink coffee * What are the most important coffee attribute to you	Where do you reside in Brussels	.000	0	.	.	.
	What is your average monthly income	.000	0	.	.	.
Error	Where do you reside in Brussels	11.391	9	1.266		
a. R Squared = .665 (Adjusted R Squared = .032)						
b. R Squared = .537 (Adjusted R Squared = -.336)						

The descriptive and inferential measures yielded conclusive evidence on how consumer preferences influence coffee consumption in Belgium. However, the relationship was not direct given it was moderated by socio-demographics, context-specific elements, coffee attributes. The most important coffee attributes were defined by the aroma, method of preparation, and additives (sweeteners, milk, ice and unique flavours, which contributed to the difference between Mocha, Latte, Cappuccino and Flat White). The certification status of the coffee brand was also a critical consideration. The coffee consumption patterns in Belgium are not different compared to the EU given that leading coffee brands in Belgium such as CaEtn Franz Colruyt NV, Douwe Egberts SA, Carrefour Belgium SA/NV, and Delhaise 'Le Lion' SA are present in the EU. In brief, the current consumer preferences might not result in the development of new coffee formulations beyond Latte, Cappuccino, Flat White, Espresso and Mocha.

## 5 Results and Discussion

The chapter presents a critical appraisal of the empirical findings to guide the confirmation or rejection of the null/alternative hypotheses and conclusively address the key issues and questions that informed the study including the extent to which consumer preferences influence coffee consumption in Belgium, the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns, global supply and demand and the threat of substitute products on coffee consumption and consumer preferences in Belgium.

### 5.1 Demographics as Mediators for Consumption

The survey data confirmed that coffee consumers were could afford expensive coffee products because the median income was above 1,000 Euros. The empirical data validates theoretical evidence, which demonstrated tha Belgian consumers were middle-class and affluent consumers. However, the empirical data did not provide conclusive evidence of how location-specific and time-specific benefits in household income impacted the demand for coffee. Based on the StatBel (2020) dataset, the researcher had postulated that the demand for specialty/premium coffee products would be slightly higher in the Flemish region compared to Brussels because the residents had higher incomes per capita (19,102 Euros versus 13,980 and 16,878 Euros, respectively) (StatBel, 2020a). However, the researcher is cognizant of contrasting evidence by Loftfield *et al.* (2016), which suggested that coffee demand and consumption in other markets was independent of income; it remains unclear whether such scenarios were prevalent in Brussels.

Even though household income is lower than the OECD average, it confirms that average Belgium can afford luxury products such as specialty coffees on a regular basis. On the downside, there are no guarantees that the high standards of living would automatically translate to robust demand for coffee. The contrasting observation is reinforced by research data drawn from the US, where the high rates of coffee consumption were independent of income (Loftfield *et al.*, 2016). Similar observations were also drawn from a demographic analysis of coffee consumers in the UK. Future studies should explore the issue to help establish whether the consumption patterns and

demand for Latte, Cappuccino, Flat White, Espresso and Mocha was higher in specific regions beyond the Brussels suburbs.

Beyond income, the survey data yielded inconclusive evidence regarding age and gender. Theoretical evidence presented in chapter two suggested that there were age-specific differences in the demand for different coffee products. The narrative was advanced by Samoggia and Riedel (2018) and Asioli *et al.* (2014). The two studies observed that the younger consumers opted for Latte while the older generations preferred Espresso. The main challenge with this narrative is that it does not link age with other coffee products such as Cappuccino, Flat White, and Mocha. A key issue that was not addressed by these studies is whether age had a moderating effect only on Espresso and Latte or the age-specific differences were negligible in the case of Cappuccino, Flat White, and Mocha. Considering that such issues were not addressed in literature, the role of age on consumer preferences is not adequately defined.

The uncertainty about the cumulative impact of age is further amplified by the survey data. Inferential statistical analyses did not establish a causal relationship between age and the strong preferences for Cappuccino, Espresso, Latte, Flat White, and Mocha. The relationship between age, type of coffee product preferred, and coffee attributes (aroma, coffee knowledge, cleanliness of the restaurant/shop, convenient locations, entertainment, friendly services, price, quality of coffee beans, sales promotion, and spacious environment, speed of services, taste, and variety of coffee flavours), and primary characteristics (acidity/sourness, sweetness, bitterness, coffee strength, aftertaste, colour, flavours and aroma). The absence of causality and significant relationships raises fundamental questions about the hypothesized impact of age on coffee marketing in Belgium in literature. One of the fundamental questions is whether marketers, coffee shops and brewers should disregard age and generational differences. Even though the survey data did not yield conclusive evidence linking age and customer preferences, it would be imprudent to disregard generational influences.

Marketers should be conscious of the generational influences because they indirectly predict consumption patterns. For example, it is normal for young consumers such as, recent graduates, college and high students, to have lesser disposable incomes relative to professionals (middle-aged adults) in advanced stages of their career. The theory is supported by OECD's Better Life Index (BLI) (OECD, 2018). On the one hand, the BLI reported higher earnings, lower risk of unemployment, and adult skills

scores for middle-aged professionals in Belgium (OECD, 2018). On the other hand, younger professionals recorded longer working hours, participation in governance, social support and life satisfaction, and contentment with personal relationships; it is of note that higher incomes did not feature in the latter demographic group. Considering that the Belgium's BLI is a reliable benchmark, coffee marketers should appreciate generational differences in coffee consumption-this might be partly attained through the development of generational specific products.

#### **5.1.1 Customer Preferences for Latte, Cappuccino, Flat White, Espresso and Mocha**

The consumer demand for Latte, Cappuccino, Flat White, Espresso and Mocha premium coffee brands was used as a benchmark to help predict consumption patterns, especially the most important coffee attributes, the type of coffee products, coffee attributes that predict the purchase intention, the length and frequency of consumption, and related issues. The empirical measures confirmed that there was a robust demand for specialty coffees despite the high price premiums. The empirical observations validate scholarly studies including Maaya *et al.* (2018), which confirmed that Belgian and global customers expressed willingness-to-pay (WTP) a premium for high quality/certified coffee.

Considering that price was not a primary factor, the inferential and descriptive measures indicate that the taste, variety of flavours and the quality of the coffee beans were important predictors of the consumption patterns. The observations predict the demand for Latte, Cappuccino, Flat White, Espresso and Mocha because each brand has a specific ratio of sweeteners, milk, coffee and other additives and (Samoggia and Riedel, 2018). The concentration of coffee in each drink further predicted demand and consumer preferences considering that higher caffeine ratios were associated with a higher relief from fatigue, and stress and better energy levels. Even though there is clear-cut evidence that draws a link between coffee consumption and optimal cognitive function and alertness (Nehlig, 2016), the four main specialty coffee products had a distinctive impact on alertness and fatigue, due to the variable coffee content. According to Zucconia *et al.* (2013), each product (Latte, Cappuccino, Flat White, Espresso and Mocha) had a variable coffee content, which in turn, translated to variable stress and fatigue relieving ability. For example, the caffeine content of espresso was 1,916 mg/L,

which is fourfold and eightfold higher than instant coffees and cappuccino. In contrast, Starbucks's Espresso had a lower caffeine content (150-315 mg/L) (Koch, 2019). If stress and fatigue reduction were the core issues that predicted demand, then consumers would be highly motivated to purchase espresso. However, the coffee concentration does not automatically translate to a higher demand for specific products such as espresso.

The inconsistencies could be explained by the lack of standardized guidelines for coffee preparation in leading coffee retailers such as McCafe, Starbucks and Costa Coffee (CBI Ministry of Foreign Affairs, 2020b); this translated to variable caffeine content in Latte, Cappuccino, Flat White, Espresso and Mocha products. Even though the lack of standardized products translates to unique marketing value proposition for the coffee retailers, it creates a dilemma for the consumers. Based on current information, consumer preferences might not lead to the development of new coffee formulations beyond Latte, Cappuccino, Flat White, Espresso and Mocha.

## **5.2 Customer Preferences and Global Supply Chains**

The empirical data yields inconclusive evidence on Belgium's leadership in the global coffee sector and how it is influenced by customer preferences. Considering that the data did not directly address the subject, the following observations were inferred. First, consumers had maintained a strong and robust demand for coffee despite the disruptive impact of the pandemic. Second, Belgium's dominance of the global coffee supply chains was partly linked to the robust local coffee sector and investments in value addition. According to CBI Ministry of Foreign Affairs (2020b), Belgium was an interesting case study because it imported > 90% of the coffee via the Port of Antwerp. The coffee imports represented about half's of the EU's coffee logistics. The observations made by the respondents suggest that Belgium would potentially retain its market leadership position because consumers had higher disposable incomes, which facilitated the purchase of specialty coffees. Additionally, the demographics of coffee consumers were diverse - both male and female, young and old coffee consumers preferred coffee rather than substitute beverages in the market. Other factors that contributed to the growth of the sector include the social culture - Belgians prefer to take coffee at the office, at home, in coffee houses, and other locations, which is critical because the pandemic had suppressed retail purchases in coffee shops.

## 5.3 Recommendations

The following recommendations were made for future research and for policy and practice for the development of coffee products and marketing strategies that appeal to the inherent needs of the coffee consumers in Belgium.

### 5.3.1 Recommendations for Future Research

The upcoming research studies should build upon these study findings on consumer preferences and how they influence coffee consumption in Belgium. The proposal is validated because the study area was confined to Brussels; this means that the coffee attributes, supply and demand aspects in other cities were not reviewed in detail. The broadening of the study area would provide better insights on the geographic-specific consumer patterns. Such insights are critical because the OECD BLI confirmed that there were pronounced income inequalities among households in Belgium. Belgians living in Brussels and Walloon regions had lower incomes compared to those living in the Flemish regions. Considering that the differences in earnings were profound, the willingness to purchase premium-priced coffee could differ. The investigation would inform future marketing strategies and coffee preparation methods in the country, and translate to better customer satisfaction. Another key proposal for future research concerns the coffee attributes and ambience of the coffee retailers on customer preferences. For example, it was challenging to determine the influence of the retailer's coffee knowledge, cleanliness of the restaurant/shops, convenient locations, and spacious locations, speed of service, sales promotions, entertainment, and friendly services; this is because most of the coffee shops were closed following the introduction of COVID-19 restrictions. Future studies should focus on these brands Delhaise 'Le Lion' SA, Etn Franz Colruyt NV, Carrefour Belgium SA/NV, and Douwe Egberts SA because they enjoy a significant market share according to Euromonitor International.

The scope of the investigation should be based on a post-COVID-19 setup to adequately determine whether the consumer preferences were moderated by the quality of services in the coffee shops (speed of service, sales promotions, entertainment, convenient locations, and spacious locations, and friendly services). The focus on the listed variables is important because the threat of substitute products remains real. The upcoming studies should also focus on other socio-demographics, context-specific

elements beyond those that were considered in this research. For example, the studies might review whether race and health status predicted coffee consumption. The information would contribute to the understanding of how changes in socio-demographics impact the global supply and demand and consumer preferences in Belgium.

### **5.3.2 Recommendation for policy and practise**

From the researcher's worldview, marketer coffee retailers and other key stakeholders in the coffee supply chain should appreciate the unique catalysts for coffee consumption, drivers for demand and customer concerns. The appreciation of the customer's needs should lead to the development of products that satisfy the customer's needs. Another critical recommendation relates to the impact of externalities. The future of coffee as we know it remains uncertain due to global warming and climate change, which have reduced the area under coffee cultivation. The data in the public domain is inconclusive - it is not clear whether the stakeholders had adopted any interventions to help mitigate the adverse effects of the pandemic. The lack of adequate preparedness for future disruptions should be an issue of concern because consumer demand for coffee would be eroded if there is no guaranteed supply. Additionally, there is an unquantifiable risk that the consumers would opt to transition to alternative products. The listed concerns should be addressed to help guarantee a sustainable supply of coffee and help Belgium retain its dominance in the global coffee supply chain.

## 6 Conclusion

The study confirmed that diverse factors contributed to the rise of Belgium's coffee sector in the global supply chain, including robust local demand, value addition, and foreign demand for Belgian coffee products. In addition, socio-demographics, context-specific elements such as disposable incomes, age, place of residence and coffee attributes and personal preferences on the coffee consumption patterns predicted consumption patterns. For example, the caffeine content determined the demand for latte, Cappuccino, Flat White, Espresso and Mocha. Other notable observations made in the study include the role of gender on earning - young consumers such as, recent graduates, college and high students were less capable financially. Lack of income predicted the willingness to pay a premium for coffee products. In contrast, this was not a concern for middle-aged professionals with higher disposable incomes and advanced careers. The dominant discourses on gender-specific income inequalities were delineated using the rational choice theory, and specifically human capital theory, which presumed that women were naturally less qualified. However, the researcher challenged these discourses because empirical evidence suggests otherwise. Nonetheless, the BLI data affirmed that age influenced social support and life satisfaction, participation in governance, and contentment with personal relationships. Based on these observations, coffee stakeholders should factor generational differences in marketing and the development of generational specific products. The observation reaffirms the impact of socio-demographics, context-specific elements, coffee attributes and personal preferences on the coffee consumption patterns.

The empirical study yielded little evidence that consumer preferences result in the development of new coffee formulations beyond Latte, Cappuccino, Flat White, Espresso and Mocha. Additionally, the scholarly data confirmed that Belgium's leadership in the global coffee sector does influence consumer preferences because it contributes to the ready availability of coffee beans and specialty products. The key factors that contributed to the rise of Belgium's coffee sector in the global supply chain included strategic positioning, specialisation in value addition, robust local demand for coffee, stakeholder support and lack of significant competition from other EU countries. However, it was not clear whether coffee consumption preferences for Belgian



consumers different relative to other EU consumers because the study was limited to Belgium.

## 7 References

- Abreu, R. V. *et al.* (2011) 'Chronic coffee and caffeine ingestion effects on the cognitive function and antioxidant system of rat brains', *Pharmacology Biochemistry and Behavior*. Elsevier Inc., 99(4), pp. 659–664. doi: 10.1016/j.pbb.2011.06.010.
- Alam, S. S. and Sayuti, N. M. (2011) 'Applying the Theory of Planned Behavior (TPB) in halal food purchasing', *International Journal of Commerce and Management*, 21(1), pp. 8–20. doi: 10.1108/10569211111111676.
- Antonella, S., Bettina, R. and Arianna, R. (2020) 'Social media exploration for understanding food product attributes perception: the case of coffee and health with Twitter data', *British Food Journal*. Emerald Publishing Limited, 122(12), pp. 3815–3835. doi: 10.1108/BFJ-03-2019-0172.
- Asioli, D. *et al.* (2014) 'Consumer preferences for iced coffee determined by conjoint analysis: an exploratory study with Norwegian consumers', *International Journal of Food Science & Technology*. John Wiley & Sons, Ltd, 49(6), pp. 1565–1571. doi: <https://doi.org/10.1111/ijfs.12485>.
- Attride-Stirling, J. (2001) 'Thematic networks: an analytic tool for qualitative research', *Qualitative Research*, 1(3), pp. 385–405.
- Barrea, L. *et al.* (2018) 'Coffee consumption, metabolic syndrome and clinical severity of psoriasis: good or bad stuff?', *Archives of Toxicology*, 92(5), pp. 1831–1845. doi: 10.1007/s00204-018-2193-0.
- Baum, T. and Hai, N. T. T. (2020) 'Hospitality, tourism, human rights and the impact of COVID-19', *International Journal of Contemporary Hospitality Management*, 32(7), pp. 2397–2407. doi: 10.1108/IJCHM-03-2020-0242.
- Borsellino, V., Kaliji, S. A. and Schimmenti, E. (2020) 'COVID-19 drives consumer behaviour and agro-food markets towards healthier and more sustainable patterns', *Sustainability (Switzerland)*, 12(20), pp. 1–26. doi: 10.3390/su12208366.
- Broniatowski, D. A. (2018) 'Do design decisions depend on “dictators”?', *Research in Engineering Design*, 29(1), pp. 67–85. doi: 10.1007/s00163-017-0259-2.
- Carvalho, F. M. and Spence, C. (2018) 'The shape of the cup influences aroma, taste, and hedonic judgements of specialty coffee', *Food Quality and Preference*, 68, pp. 315–321. doi: <https://doi.org/10.1016/j.foodqual.2018.04.003>.
- Cattaneo, M. *et al.* (2016) 'Quantity price discrimination in the air transport industry: The easyJet case', *Journal of Air Transport Management*. Elsevier Ltd, 54, pp. 1–8. doi: 10.1016/j.jairtraman.2016.03.008.
- CBI Ministry of Foreign Affairs. (2020a) *Entering the Belgian coffee market*. Available at: <https://www.cbi.eu/market-information/coffee/belgium/market-entry> (Accessed: 2 December 2020).

CBI Ministry of Foreign Affairs. (2020b) *The Belgian market potential for coffee*. Available at: <https://www.cbi.eu/market-information/coffee/belgium/market-potential> (Accessed: 2 December 2020).

CBI Ministry of Foreign Affairs (2020a) *Entering the Belgian coffee market*. Available at: <https://www.cbi.eu/market-information/coffee/belgium/market-entry> (Accessed: 15 December 2020).

CBI Ministry of Foreign Affairs (2020b) *European market potential for specialty coffee*. Available at: <https://www.cbi.eu/market-information/coffee/specialty-coffee/market-potential> (Accessed: 15 December 2020).

CBI Ministry of Foreign Affairs (2020c) *How to respond to COVID-19 in the coffee sector*. Available at: <https://www.cbi.eu/market-information/coffee/how-respond-covid-19-coffee-sector> (Accessed: 4 December 2020).

CBI Ministry of Foreign Affairs (2020d) 'The COVID-19 crisis spills over into the global coffee sector'.

CBI Ministry of Foreign Affairs (2020e) *What is the demand for coffee on the European market?* Available at: <https://www.cbi.eu/market-information/coffee/trade-statistics> (Accessed: 15 December 2020).

City of Brussels (2020) 'Support measures for cafes, bars and restaurants'.  
Creswell, J. (2014) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. SAGE Publications.

Dablanc, L. *et al.* (2017) 'The rise of on-demand "Instant Deliveries" in European cities', *Supply Chain Forum*. Taylor & Francis, 18(4), pp. 203–217. doi: 10.1080/16258312.2017.1375375.

Douwe Egberts (2020) *Douwe Egberts Sustainability*. Available at: <https://www.douwe-egberts.co.uk/sustainability/>.

Euromonitor International (2020a) *Coffee in Belgium*. Available at: <https://www.euromonitor.com/coffee-in-belgium/report> (Accessed: 2 December 2020).

Euromonitor International (2020b) 'Passport: Hot Drinks 2020'.

Federal Reserve Bank of St. Louis (2020) 'Global price of Coffee, Other Mild Arabica'. Available at: <https://fred.stlouisfed.org/series/PCOFFOTMUSDA>.

FGTB (2019) 'Socio-economic Barometer 2019'.

Fiorani, G. (2017) *The Economic Analysis of the International Espresso Coffee Market*. Universit\_a degli Studi di Macerata.

Foroni, C., Marcellino, M. and Stevanovic, D. (2020) 'Forecasting the COVID-19 recession and recovery: Lessons from the financial crisis', *CEPR*.

Griner, D. (2020) 'This Sweet LGBTQ Coffee Ad Has Been Viewed 12 Million Times'. Available at: <https://www.adweek.com/creativity/this-sweet-lgbtq-coffee-ad-has-been-viewed-12-million-times/>.

Guimarães, E. R. *et al.* (2019) 'The brand new Brazilian specialty coffee market', *Journal of Food Products Marketing*. Routledge, 25(1), pp. 49–71. doi: 10.1080/10454446.2018.1478757.

Haggar, J. and Schepp, K. (2012) 'Coffee and Climate Change Impacts and options for adaption in Brazil, Guatemala, Tanzania and Vietnam', *NRI Working Paper Series: Climate Change, Agriculture and Natural Resources*, pp. 1–55.

Holmes, A. (2011) *Using caffeine strategically to combat fatigue*.

Jol, G. and Stommel, W. (2016) 'Ethical considerations of secondary data use: What about informed consent?', *Dutch Journal of Applied Linguistics*, 5(2), pp. 180–195.

Karmarkar, U. R., Shiv, B. and Knutson, B. (2015) 'Cost Conscious? The Neural and Behavioral Impact of Price Primacy on Decision Making', *Journal of Marketing Research*, 52(4), pp. 467–481. doi: 10.1509/jmr.13.0488.

Kim, W. G., Li, J. (Justin) and Brymer, R. A. (2016) 'The impact of social media reviews on restaurant performance: The moderating role of excellence certificate', *International Journal of Hospitality Management*, 55, pp. 41–51. doi: <https://doi.org/10.1016/j.ijhm.2016.03.001>.

Koch, L. (2019) 'Starbucks Espresso Drinks: More Than the Average Cup of Joe', *Journal of Renal Nutrition*. National Kidney Foundation, Inc., 29(1), pp. e1–e4. doi: 10.1053/j.jrn.2018.10.004.

Laerd Statistics (2013a) *Chi-Square Goodness-of-Fit Test in SPSS Statistics*, Lund Research Ltd. Available at: <https://statistics.laerd.com/spss-tutorials/chi-square-goodness-of-fit-test-in-spss-statistics.php#>.

Laerd Statistics (2013b) *Cronbach's Alpha ( $\alpha$ ) using SPSS Statistics*, Lund Research Ltd. Available at: [https://www.google.co.ke/?gws\\_rd=ssl#q=yardstick+synonym](https://www.google.co.ke/?gws_rd=ssl#q=yardstick+synonym).

Laerd Statistics (2013c) *Paired T-Test - An Introduction to when to use this test*, Lund Research Ltd. Available at: <https://statistics.laerd.com/independent-t-test/>.

Laerd Statistics (2013d) *Pearson's Product-Moment Correlation using SPSS Statistics*, Lund Research Ltd. Available at: <https://statistics.laerd.com/spss-tutorials/pearsons-product-moment-correlation-using-spss-statistics.php>.

Lee, J. A. and Eastin, M. S. (2020) 'I Like What She's #Endorsing: The Impact of Female Social Media Influencers' Perceived Sincerity, Consumer Envy, and Product Type', *Journal of Interactive Advertising*. Routledge, 20(1), pp. 76–91. doi: 10.1080/15252019.2020.1737849.

Lee, K. Y. *et al.* (2016) 'Online consumers' reactions to price decreases: Amazon's Kindle 2 case', *Internet Research*, 26(4), pp. 1001–1026. doi: 10.1108/IntR-04-2014-

0097.

Levers, M. J. D. (2013) 'Philosophical paradigms, grounded theory, and perspectives on emergence', *SAGE Open*, 3(4), pp. 1–6. doi: 10.1177/2158244013517243.

Loftfield, E. *et al.* (2016) 'Coffee drinking is widespread in the United States, but usual intake varies by key demographic and lifestyle factors', *Journal of Nutrition*, 146(9), pp. 1762–1768. doi: 10.3945/jn.116.233940.

Lou, C. and Yuan, S. (2019) 'Influencer Marketing: How Message Value and Credibility Affect Consumer Trust of Branded Content on Social Media', *Journal of Interactive Advertising*. Routledge, 19(1), pp. 58–73. doi: 10.1080/15252019.2018.1533501.

Maaya, L. *et al.* (2018) 'Effect of environmental and altruistic attitudes on willingness-to-pay for organic and fair trade coffee in Flanders', *Sustainability (Switzerland)*, 10(12), pp. 1–21. doi:

## 8 Appendix

### QUESTIONNAIRE

1. What is your age?
  - 18-29
  - 30-39
  - 40-49
  - 50-59
  - 60-69
  - 70 and above
2. What is your gender?
  - Male
  - Female
3. Where do you reside in Brussels?
  - Saint-josse-ten-noode
  - Anderlecht
  - Broeck
  - Elsene
4. What is your average monthly income?
  - 0-2,999 Euros
  - 3,000-6,999 Euros
  - 7,000-9,000 Euros
  - 10,000 Euros and above
5. How often do you drink coffee?
  - Multiple times a day
  - Once a day
  - Once a week
  - Once a month
  - Never
6. For how long have you been drinking coffee?
  - 0-1 year
  - 1-3 years
  - 3-6 years
  - Six years and above
7. Why do you prefer to take coffee rather than other beverages?
  - Reduce fatigue
  - Release stress and improve energy levels
  - Habit
  - Socialisation
8. When do you prefer to drink coffee?
  - Morning
  - Afternoon
  - Evening
  - Night-time
  - All times

9. What is your preferred social setting?  
 Workplace  
 Coffee shop  
 Restaurant  
 At home
10. Which type of coffee do you prefer the most?  
 Instant coffee  
 Traditional coffee  
 Specialty coffee  
 Certified Mocha, Latte, Espresso, Flat White, and Cappuccino coffee  
 Non-certified Mocha, Latte, Espresso, Flat White and Cappuccino coffee
11. What is the most important coffee attributes to you?  
 Please rate the attributes on a scale of 1 (Not important) to 5 (Extremely important)
- Aroma
- Coffee knowledge
  - Cleanliness of the restaurant/shop
  - Convenient locations
  - Entertainment
  - Friendly services
  - Price
  - Quality of coffee beans
  - Sales promotion
  - Spacious environment
  - Speed of services
  - Taste
- Variety of coffee flavours
12. What are the primary characteristics of your preferred cup of coffee?  
 Please rate from 1 (low) to 3 (high)
- Acidity/sourness
  - Sweetness
  - Bitterness
  - Coffee strength
  - Aftertaste
  - Colour
- Flavours
- Aroma
13. What factors influence your purchase decisions?  
 Cost

- Presence of substitute products
  - Coffee brand
  - Coffee aroma, taste/flavour, and colour
  - Supply chains - ethical sourcing/single sourcing
14. Do existing coffee products satisfy your needs/expectations as a consumer?
- Strongly Disagree
  - Disagree
  - Neutral
  - Agree
  - Strongly Agree
15. Do you think the following factors will impact future coffee supply chains?
- Loss of cultivation area due to climate change
  - COVID-19 pandemic
  - Coffee Alternatives
  - Changes in customer preferences/sophistication
16. What is your perspective on the coffee supply chains in Belgium?