The Influence of National Culture in Consumers' Pro-Environmental Behavior – The case of Too Good To Go

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Dissertation written under the supervision of Marta Bicho

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‘… As one man’s meat is another man’s poison,
so one man's rubbish is another man’s treasure’
Chamber’s Journal of Popular Literature, Science and Arts (1879)

Abstract

Food waste has become a great issue, nowadays. It concerns society overall – governments, companies and consumers. This way, more and more businesses have been created with the goal of fighting food waste. Too Good To Go (TGTG) is an example of one of those businesses. It fights food waste by connecting food establishments with unsold surplus and consumers. In the 17 countries where TGTG operates, big discrepancies can be verified results wise. Various factors can influence them – Marketing, the supply side, the demand side, among others. This thesis' focuses on the demand side – the consumer. The decisions we make, not only as consumers, but also as individuals are influenced by diverse factors – being one of them our culture.

This way, in this dissertation, I study how the consumer's National Culture (measured by the Cultural Dimensions by Hofstede) influences his/her decision-making process, more precisely regarding TGTG. In that sense, I explore the correlations between the cultural dimensions and some TGTG KPIs – for the 17 countries where it operates.

Findings present two strong correlations and nine moderate correlations - positive and negative - highlighting the influence of LTO, IDV, UAI and MAS in TGTG results. PDI and IVR Indexes don't seem to influence TGTG's performance.

Additionally, findings are discussed, this study's limitations are presented, as well as ideas for future research.

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Keywords: Food Waste, Too Good To Go, National Culture, Dimensions of Culture

Sumário

O desperdício alimentar é um tema cada vez mais preocupante. Esta preocupação verifica-se de modo geral – a nível governamental, por parte das empresas e dos consumidores. Neste contexto têm vindo a ser criados novos negócios com o objetivo de colmatar o desperdício alimentar e os seus efeitos nefastos no ambiente. A Too Good To Go (TGTG) é um exemplo de uma empresa que está envolvida nesta luta, através da conexão de estabelecimentos alimentares com excesso de produto aos consumidores. Ao longo dos 17 países onde a TGTG opera, existem grandes discrepâncias de resultados. Vários fatores os podem afetar – Marketing, o lado da oferta, o lado da procura, entre outros. Esta tese foca-se no lado da procura – o consumidor. As decisões que tomamos não só como consumidores, mas como pessoas individuais são influenciadas por, entre outros, a nossa cultura.

Assim, nesta tese, estudo como a Cultura Nacional (medida através das Dimensões Culturais do Hofstede) do consumidor influencia a sua tomada de decisão, mais concretamente em relação ao seu comportamento perante a TGTG. Para isso explorei as correlações entre as várias Dimensões Culturais com algumas das métricas da TGTG – para os 17 países onde a empresa opera.

Os resultados apresentam, duas correlações fortes e nove correlações moderadas – positivas e negativas - destacando-se a influência do LTO, IDV, UAI e MAS nos resultados da TGTG. As dimensões PDI e IVR não aparentam influenciar a performance da empresa.

Além disso, os resultados deste estudo são discutidos, as suas limitações e ideias para investigação futura.

Título: O Impacto da Cultura Nacional no Comportamento Pro-Ambiental dos Consumidores – Caso da Too Good To Go

Autora: Alice da Fonte Pacheco

Palavras-chave: Desperdício Alimentar, Too Good To Go, Cultura Nacional, Dimensões da Cultura

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Delivering this thesis brings me mixed feelings.

On the one hand, it was a very meaningful work in which I have put a lot of hours and effort, being naturally very proud of myself for having successfully achieved this goal.

On the other hand, it means that my life as a student has come to an end. These past 6 years were incredible – they were not always perfect, especially with a pandemic in the middle, but I sure was genuinely happy, made a lot of friends (some of them for life), had so much fun and, above all, grew more than I could ever imagined.

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"Life's journey to the grave isn't about arriving safe and sound but skidding in sideways screaming: *What a ride!*". And what a wonderful ride it has been. Onto the next challenge!

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List of Abbreviations

FAO	Food and Agriculture Organization of the United Nations
TGTG	Too Good To Go
UN	United Nations
IVR	Indulgence versus Restraint
LTO	Long Term Orientation versus Short Term Normative Orientaion
MAS	Masculinity versus Femininity
PDI	Power Distance Index
TQ	Teaching Question
UAI	Uncertainty Avoidance
KPI	Key Performance Indicator
i.e.	id est, this is
&	And
e.g.	for exemple
AVG	Average

1. Introduction

According to Food and Agriculture Organization of the United Nations (FAO), around 1/3 of the world's food produced for human consumption is lost or wasted every year - corresponding approximately to 1.3 billion tons (FAO, 2019).

Food lost and waste is becoming a topic of great concern as it is firmly reflected in the 2030 UN's Agenda for Sustainable Development - target 12.3 of the Sustainable Development Goals (SDGs) which, according to The Global Goals website, aims to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses (Global Goals 2022).

Too Good To Go (TGTG) is an app created in 2015 in Denmark that aims to fight food waste. In 2020, TGTG became a certified B-Corporation. It connects customers to restaurants, bakeries, supermarkets, or any food establishment that has unsold food surplus. Customers, when buying this food surplus through TGTG app, never know what they are getting. It's a "magic box" - as TGTG calls it - that saves food and costs ⅓ of the value inside of it.

TGTG is now present in 17 countries - Austria, Belgium, Canada, Denmark, EUA, France, Germany, Italy, Ireland, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Food waste is a global concern and TGTG's main goal is to fight it and ultimately reach zero waste. However, its performance across its markets varies quite a lot.

Another thing that varies greatly across societies with different socio-cultural orientations is the extent to which personal concern about environmental issues predicts pro-environmental participation (Eom, Kim, Sherman, & Ishii, 2016; Tam & Chan, 2017; Eom et al., 2018).

Therefore, while there are numerous strategies for analyzing worldviews and values in the context of sustainability (Hedlund-de Witt, 2011), a cultural development comes with particular interest since it appears to carry a special potential for sustainable development (Campbell, 2007; Dryzek, 2005; Hanegraaff, 1996; Taylor, 2010; Hedlund-de Witt, 2011).

As it will be seen in greater depth, there are various ways of studying culture, but for the purpose of this thesis, Hofstede's tool will be the chosen one.

1.1. Teaching Questions

This thesis examines the case of TGTG, more specifically, how National Culture - represented by Cultural Dimensions developed by Hofstede - influences its results across its different markets, which leads me to the following Teaching Questions:

TQ 1: How are the 6 Dimensions of Culture impacting TGTG's performance?
TQ 2: What patterns and outliers can be identified amongst the countries where TGTG is present?

1.2. Methodology & Contributions

This thesis's methodology was focused on quantitative data, both primary and secondary. The first one was collected through an online survey to perform a nonexperimental descriptive research. The secondary data - quantitative data provided by TGTG - was analyzed and later used in a nonexperimental correlational research – alongside the survey results.

This study helps to tackle the limitation of the French's TGTG market qualitative research (Vo-Thanh et al., 2021) by providing quantitative research of the entire TGTG market and comparisons across different cultures. Moreover, it provides a new set of results that can, hopefully, provide new insights in the literature.

1.3. Thesis organization

This thesis is divided in seven parts.

The first part of this thesis (Introduction) explains the Research topic, its relevance, the Teaching Questions, and the methodology used. Literature Review (part two) presents in depth relevant concepts and tools for this case. In the third part, Case Study presents TGTG, its results over the years, its Business Model and relevant KPIs to analyze this case, which will enable students to gain a comprehensive overview of the company. The fourth part contains the Methodology, while the fifth part is related to the Teaching Notes, which serve as a guidance for a teacher to successfully integrate the case study in the classroom. They should be used as a basis for discussion and aim to help answering the addresses teaching questions.

The sixth and last part assesses Conclusions and, finally, the seventh part, integrates Limitations and Future Research.

2. Literature Review

2.1. Food waste

Across the literature, the definition of food waste varies among authors. However, FAO (2022) refers to food waste as the "decrease in the quantity or quality of food resulting from decisions and actions by retailers, food service providers and consumers". This includes:

- Fresh produce that doesn't meet what's considered desirable and optimal, such as shape, size, and color, is frequently eliminated from the supply chain during sorting operations.
- Foods that are close, at, or past their "best-before" date are frequently thrown by retailers and consumers.
- Household kitchens and eating facilities where large quantities of wholesome edible food are frequently underutilized or left over and discarded.

In the last decade, food waste has become an issue of societal concern and an important topic of research due to its environmental, economic and social impact - including threatening sustainable food systems and generating negative externalities for the environment.
FAO also states that nearly one-third of the world's food produced for human consumption is lost or wasted each year, amounting to approximately 1.3 billion tons (FAO, 2019). Boston Consulting Group (BCG) estimates that by 2030 annual food loss and waste will hit 2.1 billion tons (BCG, 2018).

2.2. Environmental, economic and social impact of food waste

When observing this event in a holistic view, food waste only represents part of the problem. Like previously mentioned, the depletion of natural resources involved in food production is another element of this problem - which according to FAO (2019), the carbon footprint of food waste, the loss of soil nutrients, energy and water can amass up to an additional 3.3 billion tons of CO2 each year. Reducing food loss and waste would result in a more efficient land use and better water resource management, both of which would benefit climate change and livelihoods (FAO, 2022). FAO (2014) estimates the environmental cost of food waste at $700 billion per

year, which was calculated by quantifying carbon, land, and water costs and potential savings, along with the semi-quantifiable cost factor of biodiversity.

Additionally, there's also social implications (Salhofer et al., 2008, cited in Papargyropoulou et al., 2014). These tend to center on the ethical and moral dimensions of food waste, particularly in regard to the disparity and inequality between wasteful practices on the one hand, and food poverty on the other (Evans, 2011c; Stuart, 2009; Wrigley, 2002; al cited in Papargyropoulou et al., 2014). Social cost is estimated by FAO (2014) to be approximately $900 billion per year.

As if this wasn't enough, food waste also means economic cost. A substantial amount of money is wasted producing food that is never used – there's wasted labor, material resources, time and energy that go into food production. The economic cost of food waste is currently estimated at $1 trillion (FAO, 2014) and could increase to $1.5 trillion by 2030 if the trend continues (BCG, 2018).
Globally, the total cost of food waste is estimated at $2.6 trillion per year (FAO, 2014).

2.3. Food waste in the supply chain

Food loss and waste occurs predominantly in the early stage (e.g., food processing and manufacturing) and the later stages (e.g., retail and consumption) of the food supply chain, as Figure 1 shows. In developing countries, 40% of losses occur in the early stage, whereas more than 40% of losses occur at the later stages in industrialized countries (FAO, 2019). In this dissertation, the focus is going to be in the later stages of food waste as it represent the higher proportion of avoidable loss, i.e., food that could be redistributed or sold elsewhere by applying appropriate strategies (Apostolidis et al., 2021, cited in Vo-Thanh et al., 2021; Papargyropoulou et al., 2014) and where the most responsible actors for this waste include markets, grocers, bakers, supermarkets, household and food services such as restaurants, cafes, and other institutions such as schools and hospitals (Papargyropoulou et al., 2014).

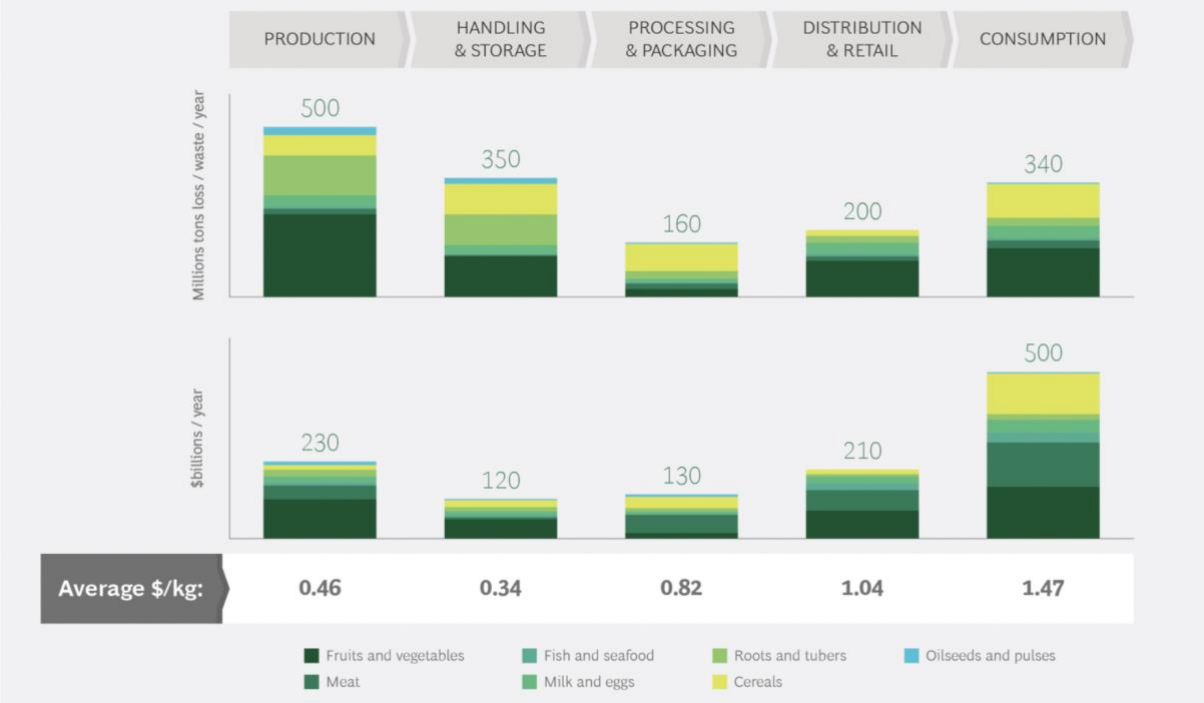


Figure 1 - Food Loss and Waste across the value chain.

Sources: FAO, *Global Food Losses and Food Waste*, 2011; FAOSTAT database; BCG FLOW Model. 2015 findings.

There is an increasing body of research dedicated to the topic, looking both at the consumer (e.g. Block et al., 2016; Delley and Brunner, 2017; Visschers et al., 2016) and the retail level (e.g. Cicatielloet al., 2017; Eriksson et al., 2017; Filimonau and Gherbin, 2017; all cited in Aschemann-Witzel et al., 2019).

Retailers have began to address the issue as part of their Corporate Social Responsibility (CSR) efforts, or they allowed their waste streams to be explored (Cicatiello et al., 2017; Erikssonet al., 2012; Teller et al., 2018). For example, for addressing CSR, several retailers have discontinued some pricing incentives, such as 'buy one get one free.' (BOGOF) (Aschemann-Witzelet al., 2017a).

At the consumer level, food waste often stems from the trade-offs that consumers perceive between the different food-related goals in their daily life (Aschemann-Witzel et al., 2015) - which can be influenced by several factors, as it will be studied in greater depth - and food waste occurs at several stages during the consumer's interaction with it (Block et al., 2016; Hebrok and Boks, 2017; Richter and Bokelmann, 2018).

2.4. Food waste as a consumer issue

As claimed by multiple scholars, food waste is frequently regarded as an unavoidable and acceptable habit within consumers, going as far as being well recognized as a consumer issue (Cox and Downing, 2007; Evans, 201; Quested et al., 2013; Graham-Rowe et al., 2014; Aschemann-Witzel et al., 2015; Jorissen et al., 2015; Thyberg and Tonjes, 2016; Hebrok and Boks, 2017; Roodhuyzen et al., 2017; all cited in Wakefield & Axon, 2020).

Looking into consumers' individual factors, there seems to be an agreement that age is thought to have a favorable impact on food waste reduction, with older consumers producing less food waste than younger consumers (Cox and Downing, 2007; Quested and Johnson, 2009; Monier et al., 2010; Stancu et al., 2016). However, the same cannot be stated regarding gender. According to some research (Barr, 2007; Visschers et al., 2016), women are less likely than males to waste food, whilst some other studies defend the opposite - females waste more food when compared to males (Koivupuro et al., 2012; Charbel et al., 2016).

On a different topic, a question that may arise is: does a bigger household produce more food waste? Those who live alone are the ones that generate the most waste per capita (Koivupuro et al., 2012; Jorissen et al., 2015). Furthermore, some research presents a clear association between the number of household members and the amount of waste generated, demonstrating that larger households waste more food (Koivupuro et al., 2012; Jorissen et al., 2015; Stancu et al., 2016; Ilakovac et al., 2020). However, there's also research identifying that larger households generate less food waste than smaller households (Baker et al., 2009; Williams et al., 2012).

An interesting topic to look into is how income influences food waste generation. Households with diverse income levels have different attitudes and behaviors around food waste (Principato et al., 2015; Setti et al., 2016). There is research indicating that lower household incomes correspond to lower volumes of food waste (Ganglbauer et al., 2013; Gustavsson et al., 2011; Stancu et al., 2016). Supporting this idea, according to various research, food waste increases with household income (Cox and Downing, 2007; Baker et al., 2009). Other studies, however, have found little or no correlation between income and food waste (Wenlock et al., 1980; VanGarde and Woodburn, 1987; Koivupuro et al., 2012).

A study by Eom et al. in 2018 (p. 60) that aimed to "examine whether individuals who vary in their socioeconomic status significantly differ in their psychological antecedents of support for pro-environmental action", demonstrated significant variation across individuals, groups, and communities from various socioeconomic backgrounds in terms of how effective it is in generating support for pro-environmental action by educating people about the urgency of environmental problems and the environmental impact of their choices.

According to the mentioned authors, such initiatives that intend to raise environmental awareness may be more effective among individuals who have more fortunate life situations that provide a stronger sense of control. Focusing on social factors—changing perceived and actual social norms about environmental action—might be more beneficial for individuals with fewer resources (Eom et al., 2018). It is important to keep in mind that people with different backgrounds have different perspectives, goals and priorities, and so, they may face same initiatives or even policies differently.

2.5. Consumers' environmental awareness and pro-environmental behavior

A study conducted by Wakefield & Axon (2020) concluded that food waste is seen as a financial loss rather than an environmental loss, for individual householders. Consequently, there is a link between an intention-driven action to reduce food waste in order to save money (Whitmarsh, 2009). The study (p. 11) also showed "that a lack of understanding about food waste management affects the 'how to' carry out sustainable food waste practices" and that "participants understood the need to address food waste yet the issue is framed as a collective one with multiple environmental and socio-economic impacts". As a conclusion of these findings, there is a "wastage underestimation" (p.11). Additionally, for private households in the developed world, the effects of food waste can almost comfortably be dismissed as a non-issue with no personal consequences (Wakefield & Axon, 2020).

Literature suggests that there is a considerable discrepancy between environmental awareness and pro-environmental behavior (for reviews, see Fransson & Gärling, 1999; Kollmuss & Agyeman, 2002) and this gap has been identified as a massive obstacle to address environmental challenges (Gifford, 2011; Eom et al., 2018). There is, therefore, an urge to understand this relationship (or lack of if) between environmental attitudes/beliefs and pro-environmental engagement and actions, and ultimately what drives it.

2.6. Sustainable behavior as a demographics' result

Individuals' environmental attitudes, environmental concerns, and beliefs about climate change have received quite attention in the literature as potential psychological factors driving pro-environmental action (Milfont & Page, 2013).

Previous academic studies state that food waste behaviors and practices at the household level are influenced by both socio-demographic factors and customers' individual perspectives and

attitudes (Quested et al., 2013; Grasso et al., 2019; Wakefield & Axon, 2020). Therefore, a deeper comprehension of demographics may provide a better understanding of how consumer waste patterns may evolve over time (Thyberg and Tonjes, 2016).

Following up on that idea, research shows that everyday consumption decisions are tightly entwined with a network of non-instrumental values, emotions, motivations, self-conceptions, and cultural associations (Sorin, 2010) which means that values, worldviews and beliefs tend to be indicative for consumer trends and economic spending patterns including those concerning environmental behavior (e.g. Karp, 1996; Milfont and Duckitt, 2004; Schultz and Zelezny, 1999; all cited in Hedlund-de Witt, 2011). Building on this, more recent research has found that the extent to which personal concern about environmental concerns predicts pro-environmental participation quite differs across societies with different socio-cultural orientations (Eom, Kim, Sherman, & Ishii, 2016; Tam & Chan, 2017; all cited in Eom et al., 2018).

For instance, personal concern about sustainability predicted that individuals from individualistic cultures were more likely to take pro-environmental action than those from collectivistic cultures (Eom et al., 2016). Additionally, environmental concern and pro-environmental support were found to be more strongly associated in societies with higher levels of cultural looseness. (i.e., the extent to which societies affords a tolerance of individuals' discretion; Gelfand, Nishii, & Raver, 2006)(Tam & Chan, 2017, cited in Eom et al., 2018). Morevover, Hofstede (2001) assessed that cultural traits of femininity and uncertainty avoidance influence our willingness to take action to protect the environment.

To conclude, even though there are numerous possible strategies to analyze worldviews and values in the context of sustainability (Hedlund-de Witt, 2011), a cultural development may be of particular interest since it appears to carry a special potential for sustainable development (Campbell, 2007; Dryzek, 2005; Hanegraaff, 1996; Taylor, 2010).

2.7. Culture

In the human sciences, the concept of culture itself is elusively all-inclusive but contradictory, and claimed by some to be virtually discarded by anthropologists and sociologists (Freilich, 1989). Others believe there is general agreement about what culture involves: for example, Clifford Geertz suggested that culture is ‘‘an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitudes

toward life'' (Geertz, 1993, p. 89). A shorter definition provided by Kuper was that culture is ''a matter ofideas and values, a collective cast of mind''(Kuper, 1999, p. 227). Hofstede prefers to define culture has:

"(1) the training or refining of the mind; civilization;

(2) the unwritten rules of the social game, or more formally the collective programming of the mind that distinguishes the members of one group or category of people from another" (Hofstede et al., 2010, p. 516).

Schwartz, another important contributor in the fields of social learning, sees culture as a "latent hypothetical variable that shapes and influences manifestations, such as symbols, beliefs, actions and goals" (Schwartz, 2014). In this view, culture is "outside the individual", not being in the minds and actions of individual people (Schwartz, 2014).

In the end, culture, according to anthropological definitions, can be defined as "patterns of and for behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values" (Kroeber & Kluckhohn, 1952)

2.8. Culture Dimensions

To capture and compare cultural differences across societies, cross-cultural research in several large-scales studies have frequently aimed at reducing values to a handful of meaningful culture dimensions (e.g., Gelfand et al., 2011; Welzel, 2013; Beugelsdijk and Welzel, 2018). These dimensions are scales on which countries have been given a score. "A dimension is an aspect of a culture that can be measured relative to other cultures" (Hofstede et al., 2010).

The first one to do so was Geert Hofstede (Hofstede 2001; Hofstede, Hofstede and Minkov 2010a). In 1967, employees in an organization, IBM, were asked to complete a survey. This survey process repeated until 1973, resulting in 117,000 responses from 88,000 employees in 67 countries. The results of this data led Hofstede to develop cultural indices. These indices provided four dimensions of national culture for each one of the countries surveyed (Baskerville, 2003).

Schwartz also conducted a survey to achieve cultural dimensions. He derived a set of dimensions for comparing cultures by considering societal values. These cultural value

dimensions are based on apriorithеorizing, unlike Hofstede (Schwartz, 1994b, 1999, 2008, cited in Schwartz 2014). He considered that societies were placed in dimensions depending on the most common answers given by people of that culture (Schwartz, 2014). Based on a survey in 25 countries, that included a list with 56 or 57 value items (Schwartz & Boehnke, 2004 and Schwartz, 1992, cited in Schwartz, 2014), Schwartz defined 7 cultural dimensions: conservatism, intellectual autonomy, affective autonomy, hierarchy, egalitarian commitment, harmony and mastery.

A few large-scale value studies such as the World Values Survey, developed by Ronald Inglehart and Misho Minkov, delineate regions within nations, and analysis of these data has proven that differences across nations are larger than regional, within-nation differences (Minkov and Hofstede 2012).

Hofstede's Cultural Dimensions Theory is arguably the most influential framework of this type (Gerlach & Eriksson, 2021).
On one hand, Hofstede's dimensions raise issues such as the weak theoretical basis which makes it unclear what Hofstede was theorizing (Baskerville, 2003), while the study is oversimplifying, ignores within-nation heterogeneity, and assumes a static, single national culture (Baskerville, 2003). It is also said that Hofstede overestimated the number of dimensions, while using data of "questionable quality" (Beugelsdijk & Welzel, 2018), misrepresenting the dynamics of culture. Another critic is that Hofstede's study is supported in just one case (IBM) - with mostly "highly educated, well-paid, predominantly male, white-collar" employees - and in one industry (Lonner & Berry, 1986). Literature goes as far as claiming that it "partly rests on faith" (Orr and Hauser, 2008).
On the other hand, Hofstede's Cultural Dimensions Theory has been widely recognized and inspired cross-cultural research across a wide range of academic disciplines, from sociology to international administration, since its seminal publication in 1980 (Orr and Hauser, 2008). That is the reason why Hofstede's tool was the chosen one for this thesis.

Hofstede argues that each of us must find our place in a variety of moral circles throughout our lives and that every group or category of people has a set of shared "mental programs" that make up their culture (Hofstede et al., 2010). This set of "mental programs" correspond to different levels of culture, being those: national level, regional and/or ethnic and/or religious and/or linguistic affiliation level, gender level, generation level, social class level and, for those

who are employed, organizational, departmental, and/or corporate levels (Hofstede et al., 2010).

Due to the scope of this thesis, the focus is on the national culture level, which Hofstede defines has "the collective programming of the mind acquired by growing up in a particular country" (Hofstede et al., 2010, p. 520). Additionally, it is the most feasible level as it is easier to get data from nations than from other group categories (Hofstede et al., 2010).

Initially, Hofstede (1980) identified four dimensions of national culture: Power Distance, Uncertainty Avoidance, Individualism (or individualism/collectivism), and Masculinity (or masculinity/femininity). The Asia-Pacific Rokeach Value Survey and, later, the Chinese Value Survey, both used by Michael Harris Bond, compelled Hofstede to add a fifth dimension: Long-term vs. Short-term orientation (Ng et al., 1982 and Chinese Culture Connection, 1987, both cited in Hofstede, 1991). Finally, with the development of the World Values Survey – mentioned before - a sixth dimension was more recently added: Indulgence vs. Restraint (Inglehart et al., 1998). As a result, the cultural dimensions presented by Hofstede are:

- **Power Distance Index (PDI):** the degree to which the less powerful members of a society accept and expect that power is distributed unequally. Societies with a high index, accept a hierarchical order in which everybody has a place and which needs no further justification. In societies with a low index people strive to equalise the distribution of power and demand justification for inequalities of power.
- **Individualism versus Collectivism (IDV):** Whether societies have a preference for a loosely knit social framework in which individuals are expected to take care of only themselves and their immediate families (Individualism) or the opposite (Collectivism) where a society have a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular ingroup to look after them in exchange for unquestioning loyalty.
- **Masculinity vs. Femininity (MAS):** whether there's a preference in society for achievement, heroism, assertiveness, and material rewards for success (Masculinity) or a preference for cooperation, modesty, caring for the weak and quality of life (Femininity).
- **Uncertainty Avoidance Index (UAI):** the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity, how a society deals with the fact that the future can never be known. Countries with a high index maintain rigid codes of belief and behaviour, and are intolerant of unorthodox behaviour and ideas, while in

the opposite scenario societies maintain a more relaxed attitude in which practice counts more than principles and the uncertainty inherent in life is accepted and each day is taken as it comes.

- **Long Term Orientation vs. Short Term Normative Orientation (LTO):** whether societies prefer to maintain time-honoured traditions and norms while viewing societal change with suspicion (Short-term Oriented) or take a more pragmatic approach, encouraging thrift and efforts in modern education as a way to prepare for the future.
- **Indulgence vs. Restraint (IVR):** whether a society allows relatively free gratification of basic and natural human drives related to enjoying life and having fun (Indulgence) or suppresses gratification of needs and regulates it by means of strict social norms (Restraint).

3. Case Study

3.1. Introduction to Too Good To Go

TGTG was founded in 2015, but its first saved meal was in March 2016 in Copenhagen - where it is still headquartered with local offices in 17 countries now - Austria, Belgium, Canada, Denmark, EUA, France, Germany, Italy, Ireland, The Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland and the United Kingdom. Despite its presence in numerous countries, TGTG remains a single entity, with everything under one global holding. This means that the company does not have any franchises and that all local entities are part of the global structure. Each organization has a country manager coordinating operations with a local team.

3.2. The movement against Food Waste

Too Good To Go's vision has remained consistent since the beginning: fighting food waste by inspiring and empowering everyone to fight food waste together.
This is achieved by providing a solution (app) for food service providers to sell their surplus which otherwise would have gone to waste at the end of the day. However, the app is just one way the company fights food waste. TGTG also directly encourages households, schools, and

policymakers to change their behavior and seeks to influence legislation that will further reduce food waste.

Table 1 - TGTG's pillars.

1st pillar: Households	The pillar provides educational messages as well as tips and tricks for reducing food waste daily through better purchasing, storing, and cooking. The overall goal is for citizens to rediscover the value of food and to make the issue more visible.
2nd pillar: Businesses	The goal is to expand beyond retail and food services to address food waste and losses that occur further upstream in the food value chain. It includes plans to improve the sustainability agendas of the company's existing business partners.
3rd pillar: Schools	Targeting younger generations, with the creation of educational toolkits containing exercises and teacher guides.
4th pillar: Public Affairs	The company wishes to work with policymakers to ensure that the appropriate regulatory framework is in place to reduce food waste and enable change to make food systems more sustainable.

Source: TGTG, 2022.

3.3. Too Good To Go Mobile Application

The app works as a marketplace, connecting food service providers to consumers.

After downloading the app and creating an account, users have access to a range of unsold meals - known as *Magic Boxes* within TGTG - available nearby and the corresponding pick-up times (defined by the stores).

Several filters can be used for a more specific search on the app:

- Food category (meals, bread & pastries, groceries, other)
- Diet preferences (none, vegan, vegetarian)
- Collection time where users choose the wanted time frame for pick-up

Users can also select the area where they want to search Magic Boxes for and choose between a range of 3, 5, 10, 15 or 30Km of distance within the selected area.

After buying the Magic Box(es) – the payment is done through the app – the store(s) receive a notification and an email alerting for the new purchase(s). When the time comes to pick the Magic box up, the user shows a code generated after the purchase to the store representative and the latter hands the Magic box to the user.

Consumers, when buying this surplus that would otherwise have been thrown away, always pay 1/3 of the Box's original price – inspired by precisely 1/3 of the food produced being wasted (TGTG, 2022). The prices vary between ~3€ and ~5€.

Consumers know the food category and a brief description of what the box can contain is provided on the app but the exact content of the box is always a surprise – thus the *Magic* box name.

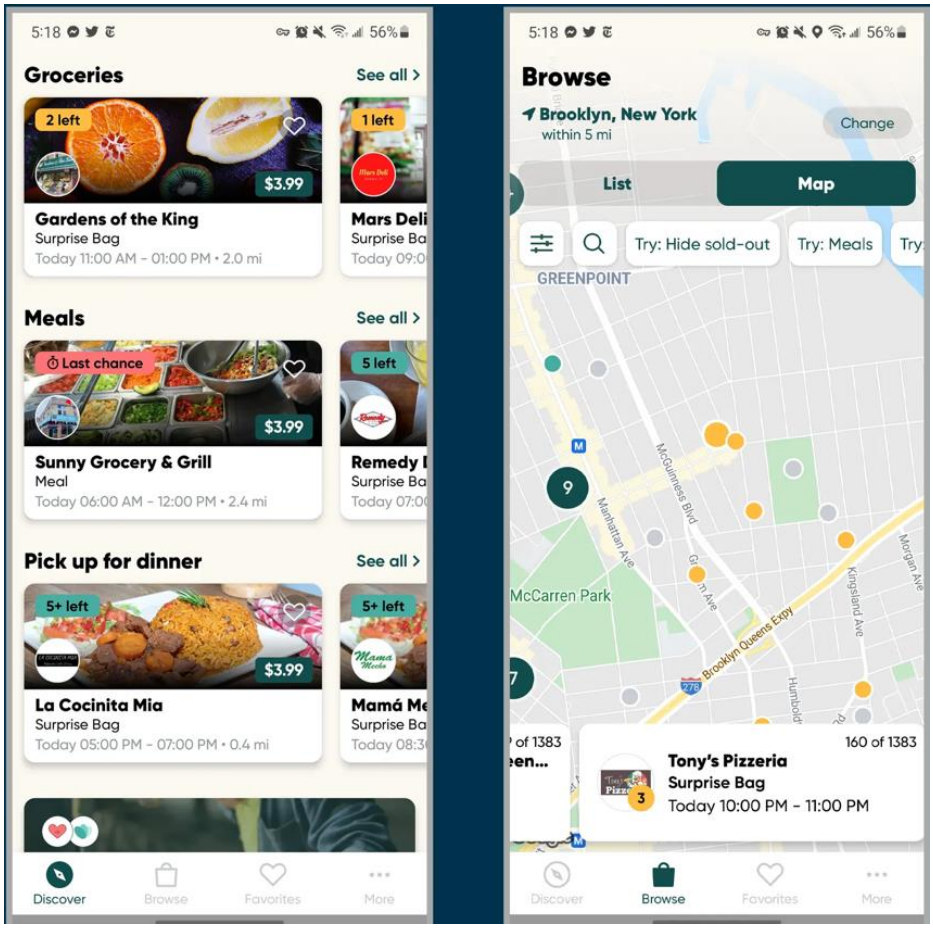


Figure 2 - TGTG app.

3.4. Social and Financial Impact

As of May 2022, TGTG counts 56.6 million app users, 135 million meals saved (since 2016), 152093 stores signed up and more than 1200 employees – across 17 countries.

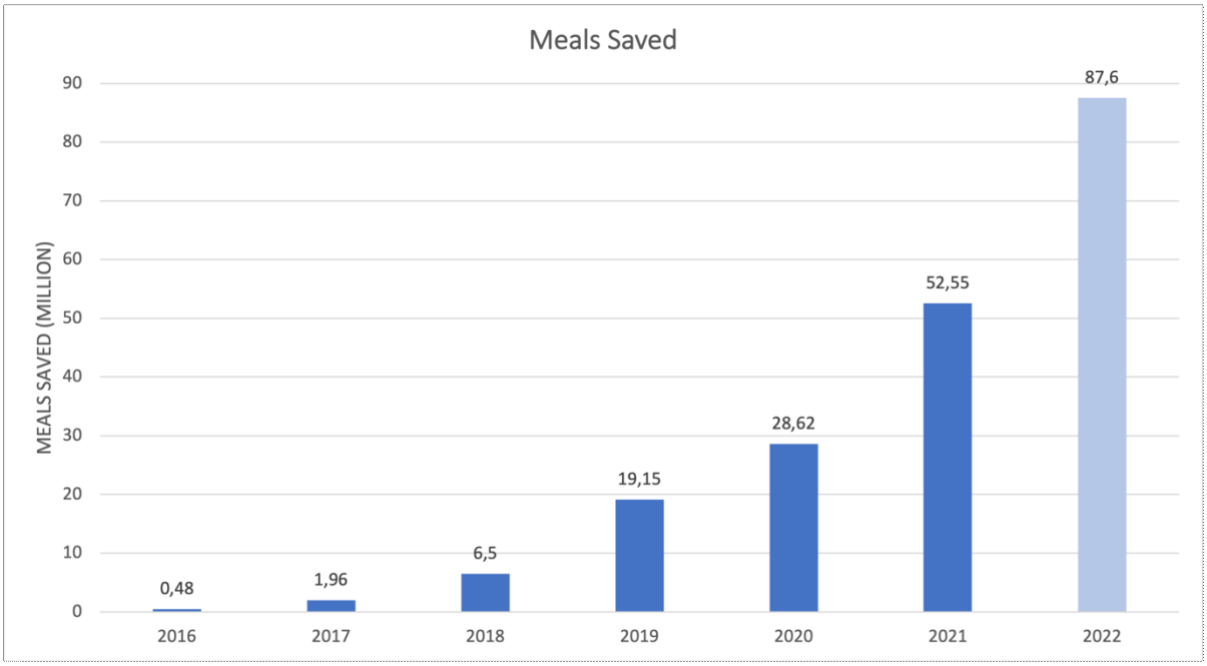


Figure 3 - Meals Saved over the years.

Source: TGTG Impact Report 2021 and data provided by TGTG.

Note: 2022's value is a prediction made by the company.

Increases in Meals Saved can be verified in Figure 3:

- 308% increase between 2016 and 2017
- 232% increase between 2017 and 2018
- 195% increase between 2018 and 2019
- 49% increase between 2019 and 2020
- 84% increase between 2020 and 2021

Even though the years of 2020 and 2021 were clearly very affected by COVID-19 - stores were shut at unprecedent levels, while consumers were forced to change their habits - these values assess TGTG fast growth.

Regarding the financial side, TGTG generates revenue from two main streams:

1. A yearly subscription to Too Good To Go
2. A small commission fee to Too Good To Go for each meal sold

Both paid by the business partners (food service providers) active on the platform.

Even though revenue jumped 87%, to $73.6 million (516,99 million DKK), from 2020 to 2021 (TGTG, 2021), TGTG's operating result was still negative, as it can be seen in Figure 4.

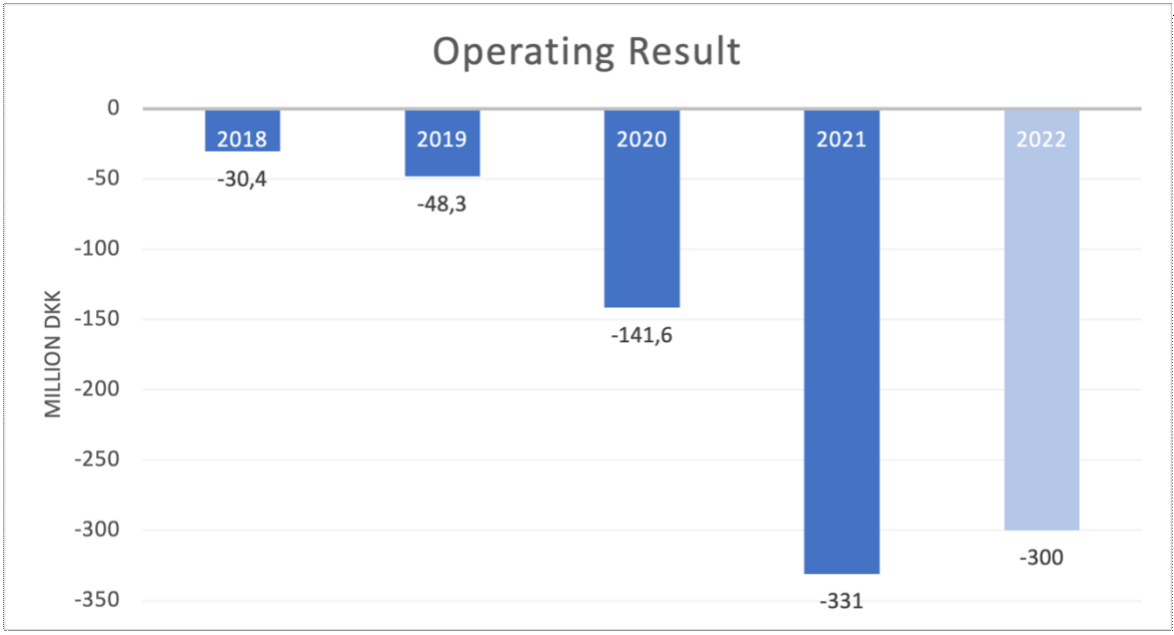


Figure 4 - TGTG's Operating Result over the years.

Source: TGTG Annual Report 2020 and data provided by TGTG.
Note: 2022's value is a prediction made by the company. 1 DKK = 0.13 Euro (according to European Central Bank, as of 14th May 2022).

TGTG is a hypergrowth company. The company turns a positive gross profit and a positive operating result in most mature markets (TGTG, 2022). However, due to planned reinvestments and constant new country launches, its operating result is still negative.

3.5. Business Model

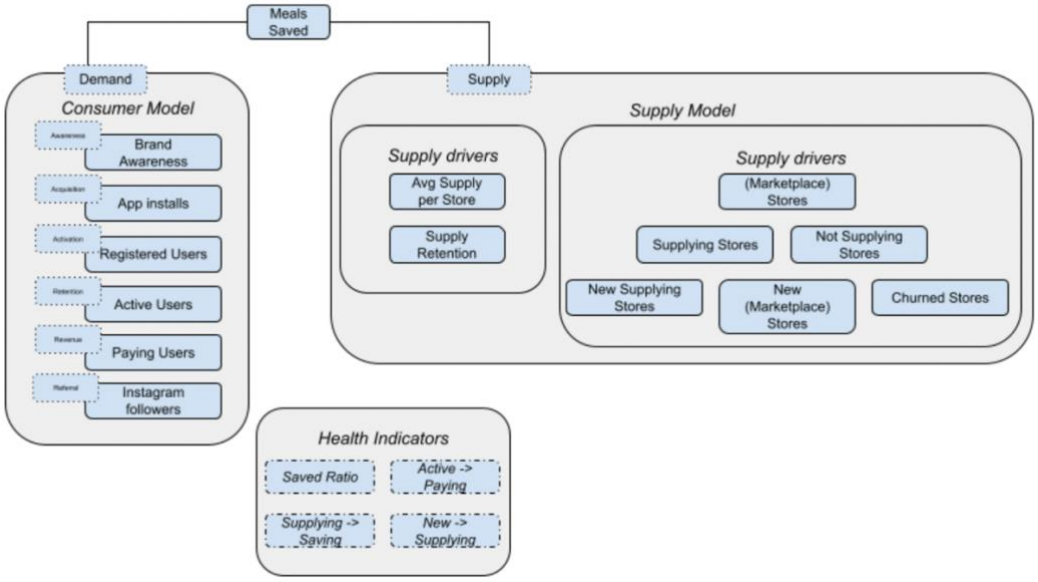


Figure 5 - TGTG's Business Model.

For the purpose of this thesis, of which focus is on the consumer side, supply KPIs were not studied in great depth, shifting the focus to the Demand and Health Indicators parts.

However, for a greater comprehension of this case, it's necessary to have some concepts in mind:

- **Meals Saved**: A reservation that have not been cancelled by consumer or store. Meals that have been paid (by the consumer or TGTG), refunded by TGTG - where either TGTG or the store pays
- **Unsaved Meals:** A meal that is available for sale during a sales window and/or still available for sale at the end of its sales window
- **Total Supply:** Meals Saved + Unsaved Meals (same as net supply)
- **Saved Ratio:** Ratio of meals saved from the total supply. i.e. Meals Saved / Total Supply
- **Registered users:** how many people created an account
- **Active users:** how many people open the app
- **Paying Users:** how many people save a meal

- **Active users that turn into Paying users**
- **AVG Meals per Paying User:** how many meals a user saves on average
- **Months Live:** number of months TGTG has been performing in a certain country

3.6. TGTG results

In Table 2, the results of April 2022 can be found.

Country	Months Live	Meals Saved	Supply	Saved Ratio	Registered Users	Active Users	Active users/Registered users	Paying users absolute	Paying users/Registered Users	Paying users/Active users	Avg. Meals Saved per Paying User
IE	8	17 081	20 557	83,09%	131 526	50 260	38,21%	8 473	6,44%	16,86%	2,02
CA	10	72 818	90 614	80,36%	394 603	152 506	38,65%	25 093	6,36%	16,45%	2,90
US	19	205 696	321 848	63,91%	2 275 844	393 519	17,29%	74 728	3,28%	18,99%	2,75
SE	23	33 302	51 317	64,89%	547 429	109 747	20,05%	14 626	2,67%	13,33%	2,28
PT	30	84 628	181 043	46,74%	1 122 826	189 620	16,89%	36 369	3,24%	19,18%	2,33
AT	33	286 696	331 055	86,60%	1 147 476	354 696	30,91%	91 828	8,00%	25,89%	3,12
PL	35	210 644	232 180	90,72%	1 661 598	348 626	20,98%	64 592	3,89%	18,53%	3,26
IT	37	439 718	767 802	57,27%	5 798 654	1 067 989	18,42%	187 990	3,24%	17,60%	2,34
ES	43	401 322	553 392	72,52%	4 574 235	826 667	18,07%	153 613	3,36%	18,58%	2,61
CH	45	203 832	297 151	68,60%	1 684 668	303 890	18,04%	74 853	4,44%	24,63%	2,72
BE	50	293 616	351 056	83,64%	2 022 858	399 254	19,74%	92 635	4,58%	23,20%	3,17
NL	52	539 413	592 621	91,02%	3 077 083	687 327	22,34%	195 851	6,36%	28,49%	2,75
FR	71	1 312 434	1 607 459	81,65%	11 531 634	2 071 161	17,96%	422 767	3,67%	20,41%	3,10
GB	71	863 103	1 081 198	79,83%	8 628 014	2 089 308	24,22%	377 081	4,37%	18,05%	2,29
DE	75	775 386	924 119	83,91%	7 203 197	1 328 886	18,45%	284 134	3,94%	21,38%	2,73
NO	75	210 859	264 017	79,87%	1 517 973	312 625	20,59%	82 159	5,41%	26,28%	2,57
DK	78	265 143	322 262	82,28%	1 908 636	453 111	23,74%	119 660	6,27%	26,41%	2,22

Table 2 - TGTG's results in April 2022.

To provide some context about each countries' results throughout time and, as national cultural dimensions will be used in this study and these tend to be related to the countries' geographical location, countries were divided per geographical location (based on the United Nations Statistics Division).

This way the countries were divided into 4 groups:

- Northen Europe (Denmark, Sweden, Norway, UK and Ireland)
- Western Europe (Belgium, The Netherlands, Germany, Austria, France and Switzerland) and Poland
- Southern Europe (Portugal, Spain and Italy)
- USA and Canada

The results of the main general KPIs – Meals Saved, Total Supply, Saved Ratio and Paying users throughout time are presented in Appendix 1.

4. Methodology

4.1. Research Method

The main objective of this thesis is to study the influence of National Culture – represented by the six culture dimensions by Hofstede – on TGTG results across its markets.

For this purpose, this thesis has a case-study design, which can be defined as an extensive study of a single situation or organization (White, 2003).

The chosen methodology was quantitative research. Quantitative research is particularly strong at studying large groups of people and generalizing from the sample being studied to broader groups beyond that sample (Holton & Burnett, 2005). Additionally, nonexperimental research was also applied. This kind of research uses existing situations in the field to study phenomena and can be thought of as casual-comparative, correlational and descriptive research (Ary, Jacobs & Razavieh, 1996, cited in Holton & Burnett, 2005). In this thesis a nonexperimental descriptive and nonexperimental correlational research were used, being the latter used to determine relationships among variables, as it will be seen later in greater depth.

Furthermore, both primary and secondary data were used in this study.

Primary data is original, collected by the researcher, for a specific research problem; while secondary data is data previously collected by others or for a different initial purpose (Hox & Boeije, 2005).

As a first step, secondary data (internal data provided by TGTG) was analyzed in order to understand TGTG's performance across its different markets over the years, and its most relevant KPIs for this case.

As a second step, primary data was collected from a survey (nonexperimental descriptive research) spread across the countries where TGTG is present. The use of a questionnaire has many benefits including efficiency and low cost, particularly when a web questionnaire is used (as opposed to a postal questionnaire)(Bryman, 2016). The previous mentioned nonexperimental correlational research was after used to try to correlate retrieved data (variables) from these two steps.

Hofstede's IBM questionnaire was widely used and improved in what are known as Values Survey Modules (e.g., Hoppe, 1990, Shane, 1995, de Mooij, 2001 and van Nimwegen, 2002, all cited in Hofstede, 2010). The survey used for this study was based on Values Survey Module 2013 (VSM 2013), developed by Geert Hofstede and Michael Minkov (2010). It is an update of the previous surveys VSM 08, VSM 82, and VSM 94.

VSM 2013 was developed for comparing "culturally influenced values and sentiments of similar respondents from two or more countries, or sometimes regions within countries" (Hofstede and Minkov, 2013, p.2). It is important to highlight that the dimensions of this Module only correlate to the country level and do not correlate to the personal or organizational level (Hofstede and Minkov, 2013).

4.2. Data Collection and Sampling

The population under analysis includes people that live or have lived in one of the 17 countries where TGTG is present and are or already have been TGTG users. These restrictions were guaranteed by using filter questions.
Due to a lack of instruments to reach a sample of the targeted population in an equal manner, allowing the ability to generalize the results for the entire population, a nonprobability sample was chosen, and the respondents were chosen according on their availability and convenience (Creswell, 2014).
The survey was divided into 5 parts. The two filter questions were the first part of the survey. If the respondent passed these two questions, the survey continued. If the respondent failed one or both the filter questions, the survey ended, as including those answers wouldn't allow me to have similar samples among all countries.

The 4 remaining parts were the VSM 2013 itself (divided into 4 blocks). It contained 30 questions, 24 of which correspond to each national culture dimension (4 questions x 6 dimensions) and the remaining 6 questions are related to demographics. The answers to all 24 content questions were based on a 5-point Likert-type scale, allowing scores to be computed on the 6 dimensions of national culture (developed by Geert Hofstede and his co-researchers, described extensively in Hofstede, Hofstede & Minkov, 2010).

In the second block, an attention check was performed to guarantee the respondents were paying attention to the survey. The last block assessed demographics.
The participants were forced to respond to all items, to avoid losing observations. The English version of the survey can be consulted in Appendix 2.

Respondents had the option to select, at the beginning of the survey, the language of the survey - English, Portuguese, Italian, German, Spanish or French. For the first 4 languages, I used the

translated versions of VSM 2013 available on Geert Hofstede website. For the French and Spanish versions, as they were not available, I asked two natives to translate the survey from the original version in the most accurate way possible to the questions didn't lose its original meaning. For the introduction of the survey and the 2 first questions (filter questions) I wrote them myself (in English and Portuguese) and asked natives from the remaining Nationalities to translate them.

The survey was designed with Qualtrics and distributed on social media (Facebook, Instagram, LinkedIn and WhatsApp) and on Prolific from 27th March to 22nd of April.

4.3. Data preparation

The survey was answered by 1124 respondents from 38 countries (Appendix 3), from which 683 respondents passed both filter questions.

Table 3 - Survey's first filter outcome.

First filter: "Do you live/have you ever lived in one of following countries? Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, Norway, Poland, Portugal, Spain, Sweden, Switzerland, The Netherlands, United Kingdom, United States"	**Number of respondents**
"Yes, I live/I have lived in one of these countries"	1091 respondents (97,06%)
"No, I live/lived in a different country"	33 respondents (2,94%)
	Total: 1124 respondents

Table 4 - Survey's second filter outcome.

Second filter: "Too Good To Go is an app that aims to fight food waste. It connects customers to restaurants, bakeries, supermarkets, or any food establishment that has unsold food surplus. Consumers buy this surplus for a reduced price while they fight food waste. Do you use/have you ever used this app?"	**Number of respondents**
"Yes"	683 respondents (62,6%)
"No"	148 respondents (13,57%)
"No, but I know what it is"	260 respondents (23,83%)
	1091 respondents 33 missing respondents Total: 1124 respondents

The 33 missing answers in the second filter correspond to the 33 respondents that didn't pass the first filter (and so the survey ended but the response was recorded).

As only 17 specific National cultures are being taken into consideration for this study, 31 answers were excluded because the Nationality of the respondents didn't match one of the studied 17.
Then I proceeded to eliminate 38 answers that failed the attention check (*"Here, please select the option "of utmost importance""*).
Therefore, 614 is the number of valid answers and therefore this study's sample number.

4.4. Sample characterization

Out of the 614 valid participants, 397 (64.7%) were female, 213 (34.7%) were male and 4 (0.7%) were non-binary. The great majority (75.4%) of the participants had an age gap between 20 and 34 years old – representing Millennials and Gen Z. Additionally, 77% had at least 15 complete years of education, leading to 74.3% of the participants having a college degree (Bachelor's, Master's or PhD).

Additionally, the great majority (77,5%) of the respondents save meals through TGTG less than 4 times a month.

As for the Nationalities, Portuguese nationality was the most common one (23.6%), followed by Poland (7.3%) and Spain (7%). The Nationalities list can be consulted in Appendix 4 and demographic sample characteristics is present in Appendix 5.

4.5. Scale reliability

The scales used in this study were considered reliable in previous literature (Hofstede, 1980), using Cronbach's Alpha:

Table 5 - Scale Reliability (Hofstede, 1980).

Power Distance Index	Alpha = .842
Individualism Index	Alpha = .770
Masculinity Index	Alpha = .760
Uncertainty Avoidance Index	Alpha = .715

The rule of thumb for test reliability is a value over .700 (Hofstede, 1980; Kline, 1999).

From the introduction of VSM 94 onwards, the scale format was standardized so that each dimension is measured using four items. For the revised scales, Hofstede noted that the "new items in the new version were chosen because of their similarity to items in reliable other studies, but the reliability of the new dimensions (Long Term Orientation Index and Indulgence versus Restraint) scores cannot be proven a priori" (Hofstede and Minkov, 2013, p.10).

Hofstede (2002) assures the validity of VSM country scores to be well-established and therefore that the scale must also be reliable.

4.6. Analysis Procedure

To get the scores of each index for each country, the formulas on table 6 must be applied. As previously mentioned, except from the 6 demographic questions, the other 24 content questions were 5-point Likert-typescale, from 1 to 5. This allowed the means of each question to be calculated (for each country), which is the first step of the Analysis Procedure. The means can be consulted in appendix 6.

According to Hofstede and Minkov (2013), respondents' nationality influences their responses to the 24 content questions - because this instrument and statistics are used at the country level, the results reflect the average choices of respondents of the same nationality; however, this does not imply that every respondent of the same nationality would give the same answer (Hofstede and Minkov, 2013).

The second step is to calculate the score of each of the 6 dimensions for each country, using the means calculated before.

Table 6 - Indexes' formulas (Hofstede and Minkov, 2013).

Dimension	Formula
Power Distance Index (PDI)	PDI = 35(m07 –m02) + 25(m20 –m23) + C(pd)
Individualism Index (IDV)	IDV = 35(m04 –m01) + 35(m09 –m06) + C(ic)
Masculinity Index (MAS)	MAS = 35(m05 –m03) + 35(m08 –m10) + C(mf)
Uncertainty Index (UAI)	UAI = 40(m18-m15) + 25(m21 –m24) + C(ua)
Long Term Orientation Index (LTO)	LTO = 40(m13–m14) + 25(m19 –m22) + C(ls)
Indulgent Index (IVR)	IVR = 35(m12 –m11) + 40(m17 –m16) + C(ir)
Notes	1) m07 is the mean score for Q7, etc.

	2)C(pd)/C(ic)/C(mf)/C(ua)/C(ls)/C(ir) represent the constant (positive or negative) that depends on the nature of the samples; it does not affect the comparison between countries. It can be chosen by the user to shift the dimension scores to values between 0 and 100

Source: Hofstede and Minkov, 2013.

The result of the mentioned calculations can be consulted in Table 7.

Table 7 - Countries' scores for each Index.

Country/Dimension	*PDI*	*IDV*	*UAI*	*MAS*	*LTO*	*IVR*
Austria	73,5	99,75	66,75	51,5	36,75	84,5
Belgium	82,9	89,6	53,15	85,8	39,15	68,35
Canada	88	69,3	51,35	73,2	36,3	70,05
Denmark	72,85	79,45	62,8	63,75	34,5	58
France	88,65	96,25	77,75	69,7	24,7	73,05
Germany	64,95	81,9	38,75	62,35	52,75	98,65
Ireland	78	71,75	62,5	72,5	41,25	69
Italy	46,75	58,8	80,1	85,1	61,8	63,45
Netherlands	73,4	87,15	35,55	65,15	28,45	90,3
Norway	57,15	60,9	50,2	66,55	45,65	56
Poland	81,65	78,05	98,3	84,4	98,4	29
Portugal	93,25	76,3	93	86,15	51,1	76,4
Spain	99,65	72,8	81,7	65,15	48,95	65,8
Sweden	81,75	82,25	40,5	98,75	35,25	48
Switzerland	73	82,6	74	62	58,6	62,6
United Kingdom	64,6	77,35	79,25	81,25	48,6	82,45
EUA	71,65	74,9	56,35	50,8	73,05	75,1
Constant used	58	21	130	76	62	-7

Table 8 - Min, max and average for each dimension.

	PDI	IDV	UAI	MAS	LTO	IVR
Min	46,75	58,8	35,55	50,8	24,7	29
Max	99,65	99,75	98,3	98,75	98,4	98,65
Average	73,2	79,28	66,93	74,78	61,55	63,82

4.7. Spearman rank correlation

In this study, the Spearman correlation test was conducted to identify the correlation between the independent variables (6 dimensions of culture) and the dependent ones (TGTG KPIs). Spearman rank correlation is a non-parametric test that is used to measure the degree of association between two variables. This test does not carry any assumptions about the data's distribution and is the appropriate correlation analysis when the variables are measured on a scale that is ordinal (Zar, 2014).

Researchers frequently use correlation analysis to identify relationships and determine the strength of the relationship between the variables being studied. Correlation refers to the relationship between the variables being studied, and the correlation strength in an analysis is represented by the correlation coefficient value ($\boldsymbol{\rho}$).The stronger the association of the two variables, the closer the Spearman correlation coefficient, $\boldsymbol{\rho}$, will be to +1 (for positive relationships) or -1 (for negative relationships). The strength of the correlation, in this study, is determined by the size of the correlation coefficient proposed by Davies (1971), as shown in Table 9.

Correlation Coefficient Value (ρ)	**Correlation Strength**
0.70 – 1.00	Very strong
0.50 – 0.69	Strong
0.30 – 0.49	Moderate
0.10 – 0.29	Weak
0.01 – 0.09	Very weak

Table 9 - Strength of the correlation, Davies (1971).

4.8. Results

As mentioned in the Case Study chapter, the focus of this study is the consumer, therefore I selected some KPIs (from the Demand and Health Indicators part) to assess the relation between the users' National culture and TGTG performance:

- Saved Ratio
- Avg. Meals Saved per Paying User
- Paying users/Active users
- Active Users/Registered Users
- Paying Users/Registered Users

As the survey's respondents are TGTG users, I opted to use the ratio between Active and Registered users, and Paying and Registered users, bellow referred to as % active users and % paying users, respectively.

Firstly, some correlations were calculated using only some of TGTG KPIs, excluding the culture Indexes (Table 10). From Table 11-16 the correlations were based on Cultural Dimensions and TGTG KPIs.

Table 10 - Correlations within TGTG KPIs.

x	y	ρ
Months live	Saved Ratio	0,27
Months live	% Paying Users	0,12
Months live	% Active Users	-0,09
Months live	Avg. Meals Saved per Paying User	-0,02
Months live	Paying users/Active users	0,66

Table 11 - Correlations between LTO Index and TGTG KPIs.

x	y	ρ
LTO Index	Saved Ratio	-0,34
LTO Index	Avg. Meals Saved per Paying User	0,07
LTO Index	Paying users/Active users	-0,23
LTO Index	% Paying Users	-0,42
LTO Index	% Active Users	-0,40

Table 12 - Correlations between PDI Index and TGTG KPIs.

x	y	ρ
PDI Index	Saved Ratio	0,03
PDI Index	Avg. Meals Saved per Paying User	0,25
PDI Index	Paying users/Active users	-0,22

PDI Index	% Paying Users	-0,13
PDI Index	% Active Users	-0,14

Table 13 - Correlations between IDV and TGTG KPIs.

x	y	ρ
IDV Index	Saved Ratio	0,48
IDV Index	Avg. Meals Saved per Paying User	0,43
IDV Index	Paying users/Active users	0,47
IDV Index	% Paying Users	0,18
IDV Index	% Active Users	-0,06

Table 14 - Correlations between UAI and TGTG KPIs.

x	y	ρ
UAI Index	Saved Ratio	-0,31
UAI Index	Avg. Meals Saved per Paying User	0,01
UAI Index	Paying users/Active users	-0,23
UAI Index	% Paying Users	-0,37
UAI Index	% Active Users	-0,29

Table 15 - Correlations between MAS and TGTG KPIs.

x	y	ρ
MAS Index	Saved Ratio	-0,24
MAS Index	Avg. Meals Saved per Paying User	-0,19
MAS Index	Paying users/Active users	-0,55
MAS Index	% Paying Users	-0,40
MAS Index	% Active Users	0,02

Table 16 - Correlations between IVR and TGTG KPIs.

x	y	ρ
IVR Index	Saved Ratio	0,22
IVR Index	Avg. Meals Saved per Paying User	0,17
IVR Index	Paying users/Active users	0,20
IVR Index	% Paying Users	0,23
IVR Index	% Active Users	0,01

5. Teaching Notes

5.1. Case overview

This dissertation presents Too Good To Go, an app that aims to fight food waste operating in several countries in Europe, Canada and the US. The case describes how TGTG operates, its business model and how its success is measured. At the same time, it also studies culture, using Hofstede's 6 dimensions of culture.

The main goal of this dissertation is to understand how the National Culture of TGTG consumers is influencing their relationship with the app and therefore TGTG results.

This way, this case should be discussed considering Hofstede's tool detailed in the Literature Review, the quantitative TGTG data presented in the Case study chapter and the information provided in the Results Analysis.

5.2. Learning objectives

This case's main learning goal is to provide students with a renowned and world-wild utilized tool combined with enriching primary data from a survey distributed in 17 countries applied to TGTG case to, eventually, enable a deviation and discussion grounded in scientific knowledge, as well as field and industry data.

Having studied the case, students should be able to assess:

- How culture can influence consumer's engagement with a company and therefore its success

- How can specific cultural dimensions affect specific (TGTG) KPIs

- What the most and least performing countries where TGTG operates have in common, culture wise.

5.3. Assignment questions

The teaching questions are intended to enable students to apply concepts from the Literature Review to the case. Using their analytical skills, they should be capable of coming up with solid answers to the following teaching questions:

- How are the Hofstede's 6 Dimensions of Culture impacting TGTG's performance?
- What patterns and outliers can be identified amongst the countries where TGTG is present?

5.4. Guidelines for the instructor

I suggest using this case study as a teaching tool in a Master's course with an international, social or cultural scope and, ideally, with students from different nationalities in the class – since different cultures are studied in this case.

The following teaching discussion is structured for a 90-minute class, covering and analyzing all the data provided in the case – Hofstede tool, TGTG quantitative data and results found (present in Results Analysis).

The case study should be distributed to the class before the discussion – ideally one class prior – and assigned as a mandatory reading for the class of the case discussion.

This way, students are asked to first read the case and find answers to the assigned questions individually. At the start of the teaching session, the teacher should introduce TGTG, its goal, its results so far and collect opinions about it amongst students - who use/have used it and in what country, level of satisfaction and general testimonies to collect their perception as consumers (~15 min). The next 15 minutes should be focused on Hofstede's definition of culture, national culture and explaining his 6 cultural dimensions, giving some examples of different scores in different countries.

Then students should form groups of four to discuss and compare their findings within the group for both questions (~30 minutes) and afterwards present a group conclusion in class (~20 min).

The last 10 minutes would be for the instructor to wrap the case up, presenting the answers for the questions, summing up the main takeaways of the case and clarifying any doubt.

5.5 Class discussion

5.5.1. Teaching Question 1

TQ 1: How are the Hofstede's 6 Dimensions of Culture impacting TGTG's performance?

For this answer, table 9 (in Results) should be consulted to assess the correlations strengths.

Analyzing Table 10, we can observe strong, weak and very weak correlations between months live and the chosen KPIs.
Regarding the first KPI, the number of months live has a weak positive correlation with Saved Ratio, indicating that the number of months TGTG has been operating in a country has a weak influence on each country's Saved Ratio. A very weak negative correlation was found between months live and Avg. Meals Saved per Paying User; and between months live and the percentage of active users. Another very weak but positive correlation can be noticed between moths live and the percentage of paying users.
On the other hand, a strong positive correlation is verified between months live and the percentage of active users that turn into paying users.

Regarding Table 11, moderate and weak correlations can be verified.
There is a moderate negative correlation between LTO (Long term orientation versus Short term orientation) Index and Saved Ratio; percentage of paying users; and percentage of active users. This indicates that there's a moderate tendency for a highest Saved Ratio; percentage of paying users; and percentage of active users when countries have a lower score in this dimension – countries that prefer to maintain time-honoured traditions and norms while viewing societal change with suspicion.
A weak negative correlation is identified between LTO Index and Paying users/Active users; while a very weak positive correlation was found between LTO Index and Avg. Meals Saved per Paying User.

By contrast to table 11, in Table 12 all the correlations found were weak - except for the very weak positive correlation between PDI (Power distance Index) and Saved Ratio - being some of them positive and the others negative.
From the weak correlations, the only positive is between PDI and Avg. Meals Saved per Paying User, while the correlations between PDI and Paying users/Active users; percentage of Paying users and percentage of Active users are all negative.
From these results, it can be concluded that there's a weak association between countries where the less powerful members of a society accept and expect that power is distributed unequally and less engaging users.

When looking at Table 13, all the correlations presented are positive, except from the correlation between IDV Index and the percentage of active users which presents a very weak negative correlation. Regarding the remaining correlations, a weak positive correlation can be seen between the Index and the percentage of Paying users. The correlations between the Index and Saved Ratio; Avg. Meals Saved per Paying User; and Paying users/Active users are all moderate positive, indicating the following moderate association: the more individualist a society is, the highest the Saved Ratio; Meals Saved per Paying User; and Paying users/Active users.

Regarding table 14, all the correlation values are negative, except from the correlation between UAI Index and Avg. Meals Saved per Paying User – which is positive (and almost inexistent). The correlations between UAI Index and Saved Ratio; and the percentage of paying users are moderate negative, while the remaining correlations – UAI between Paying users/Active users; and percentage of Active users – are weak negative. This moderately highlights that the more a country maintains rigid codes of belief and behaviour and stays intolerant of unorthodox behaviour and ideas; the lower is the Saved Ratio and the percentage of paying users.

When interpreting Table 15, it's visible that all the correlations are negative, apart from the one between MAS Index and the percentage of active users – which is positive (and almost inexistent). Correlations between MAS Index and Saved Ratio; and Avg. Meals Saved per Paying User are weak negative. The correlation between the Index and the percentage of paying users is moderate negative, while the correlation between the Index and Paying users/Active users is negative strong, pointing that, generally, the more masculine a society is, the less meals the users save.

Lastly, table 16 shows that all the correlations between IVR Index and TGTG KPIs are weak positive - specially the one between IVR Index and the percentage of active users which is almost nonexistent - pointing a weak relation between societies that enjoy life and having fun and TGTG performance.

Table 17 summarizes the findings.

Table 17 - Correlations summary.

Correlation's nature/strength	**Very weak**	**Weak**	**Moderate**	**Strong**
Positive	-LTO * Avg. Meals Saved per Paying User -PDI * Saved Ratio -UAI * Avg. Meals Saved per Paying User -MAS * % Active users -IVR * % Active users	-Months live * Saved Ratio -Months live * % Paying users -PDI * Avg. Meals Saved per Paying User -IDV * % Paying users -IVR * Saved Ratio -IVR * Avg. Meals Saved per Paying User -IVR * Paying users/Active users -IVR * Paying users	-IDV * Saved Ratio -IDV * Avg. Meals Saved per Paying User -IDV * Paying users/Active users	-Months live * Paying users/Active users

Negative	-Months live * Avg. Meals Saved per Paying User -Months live * & % Active users -IDV * % Active users	-LTO * Paying users/Active users -PDI * Paying users/Active users -PDI * % Paying users -PDI * % Active users -UAI * Paying/Active users -UAI * % Active users -MAS * Saved Ratio -MAS * Avg. Meals Saved per Paying Users	-LTO * Saved Ratio -LTO * % Paying users -LTO * % Active users -UAI * Saved Ratio -UAI * % Paying users -MAS * % Paying users	-MAS * Paying users/Active users

To conclude, the longest the time TGTG has been operating on a country, the highest is the conversion between users that open the app and end up buying a meal.

Regarding LTO, countries that score lower in this index - societies that prefer to maintain traditions and norms, disliking societal changes (short-term oriented) – have a moderate relation with higher percentage of Saved Ratio, paying users and active users. On the other hand, being a short-term or long-term oriented society, doesn't seem to influence the Avg. Meals Saved per Paying User, neither the percentage of users that when open the app and end up buying a meal.

Concerning PDI, as all the correlations were weak or very weak, the degree to which the less powerful members of a society accept and expect that power is distributed unequally doesn't seem to influence TGTG results considerably.

On the other hand, IDV plays a moderate role in some of TGTG results, reveling that societies where individuals are expected to take care of only themselves and their immediate families (individualism) present higher Saved Ratios, Avg. Meals Saved per Paying User and percentage of paying users/active users, than societies that expect their relatives or members of a particular ingroup to look after them (collectivism).

UAI doesn't appear to play a considerable influencing role in TGTG results, except for two KPIs that present a moderate influence: the more the individuals of a society feel comfortable with uncertainty and ambiguity, the highest is the percentage of paying users and the saved ratio.

MAS is an interesting Index to look at. It doesn't seem to influence any of the KPIs with a few exceptions: there's a moderate relation between Feminine societies (preference for cooperation, modesty, caring for the weak and quality of life, i.e., consensus-oriented) and the percentage of paying users. Furthermore, there's a strong influence of this Index in the percentage of paying/active users – there's a bigger conversion of users that open the app to users that save a meal in Feminine societies.

Lastly, IVR doesn't seem to play a considerable influence in TGTG results – if a society allows free gratification related to enjoying life or if it represses the idea of having fun with the use of strict social norms doesn't generally affect TGTG performance.

This way, it can be assessed that National Culture has different levels of impact in TGTG's performance. Summarizing:

Table 18 - Indexes' influence in TGTG's performance.

Index	Influence on TGTG's results
LTO	Short-term oriented societies moderately present higher percentages of Saved Ratio, Paying users and Active users.

PDI	Doesn't considerably influence TGTG's performance.
IDV	More individualistic societies moderately present higher percentages of Saved Ratio and Paying users/Active users; and a higher number of Avg. Meals Saved per Paying User.
UAI	Societies that feel comfortable with uncertainty and ambiguity moderately present higher percentages of Paying users and Saved Ratio.
MAS	Feminine societies moderately present a higher percentage of Paying users and strongly present a higher percentage of Paying/Active users.
IVR	Doesn't considerably influence TGTG's performance.

5.5.2. Teaching Question 2

TQ 2: What patterns and outliers can be identified amongst the countries where TGTG is present?

For this TQ, only strong and moderate correlations are going to be considered as well as the top 3 and bottom 3 performing countries, to facilitate and concentrate the analysis.

Table 19 - Strong correlations.

x	y	Correlation's Nature
Months Live	Paying users/Active users	Positive
MAS	Paying users/Active users	Negative

Table 20 - Moderate Correlations.

x	y	Correlation's nature
LTO	Saved Ratio	Negative
LTO	% Paying users	Negative
LTO	% Active users	Negative
IDV	Saved Ratio	Positive
IDV	Avg. Meals Saved per Paying User	Positive

IDV	Paying users/Active users	Positive
UAI	Saved Ratio	Negative
UAI	% Paying users	Negative
MAS	% Paying users	Negative

From Table 7 (in Analysis Procedure), the scores for the Indexes that strongly or moderately influence each KPI can be retrieved, and observed bellow:

Table 21 - Indexes that influence Saved Ratio.

Saved Ratio	LTO	IDV	UAI
NL (91,02%)	28,45	87,15	35,55
PL (90,72%)	98,4	78,05	98,3
AT (86,60%)	36,75	99,75	66,75
…			
US (63,91%)	73,05	74,9	56,35
IT (52,27%)	61,8	58,8	80,1
PT (46,74%)	51,1	76,3	93

LTO and UAI have a negative correlation between Saved Ratio, while IDV has a positive one. Considering the maximum and minimum values for LTO Index (Table 8), and taking in consideration the analysis in TQ1 - *countries that score lower in this index - societies that prefer to maintain traditions and norms, disliking societal changes (short-term oriented) – have a moderate relation with higher percentage of Saved Ratio* - Poland can be considered an outlier, meaning that even though it has the highest LTO score, it still scores at Top 3 Saved Ratio.

Regarding IDV, no outliers are observed, confirming that *societies where individuals are expected to take care of only themselves and their immediate families (individualism) present higher Saved Ratios.*

Regarding UAI, outliers can be identified both in top and bottom 3. Poland and the US are outliers meaning that, *the more the individuals of a society feel comfortable with uncertainty and ambiguity, the highest is the percentage of the saved ratio,* doesn't apply for these two countries. Even though Poland scores the highest in this Index, it still is on top 3 and the US the opposite – even though it scores somewhat low, it still is on bottom 3 of the Saved Ratio percentages.

Table 22 - Indexes that influence Avg. Meals Saved per Paying User.

Avg. Meals Saved per Paying User	**IDV**
PL (3,26)	78,05
BE (3,17)	89,6
AT (3,12)	99,75
…	
SE (2,28)	71,75
DK (2,22)	79,45
IE (2,02)	82,25

When it comes to Avg. Meals Saved per Paying User and IDV, even though that *IDV plays a moderate role in some of TGTG results, reveling that societies where individuals are expected to take care of only themselves and their immediate families (individualism) present higher Avg. Meals Saved per Paying User,* there's not a clear distinction in the IDV scores between top 3 and bottom 3 countries. When computing the average value of the Avg. Meals Saved per Paying User in all the countries, we come to a result of 2,66 avg. meals saved per paying user. At the same time the lowest scoring country at IDV is Italy with an Avg. Meals Saved per Paying User = 2,34; while the highest scoring country is Austria which does not present the highest value of Avg. Meals Saved per Paying User.

One hypothetical justification might be due to the small variation between the Avg. Meals Saved per Paying User in each country – the values don't differ that much.

Table 23 - Indexes that influence Paying users/Active users.

Paying users/Active users	IDV	MAS
NL (28,49%)	87,15	65,15
DK (26,41%)	79,45	63,75
NO (26,28%)	60,9	66,55
…		
IE (16,86%)	71,75	72,5
CA (16,45%)	69,3	73,2
SE (13,33%)	82,25	98,75

Norway in the top 3 and Sweden in the bottom 3 can be identified as outliers when it comes to IDV which *plays a moderate role in some of TGTG results, reveling that societies where individuals are expected to take care of only themselves and their immediate families (individualism) present higher percentage of paying users/active users.* Norway still scores top 3 in this KPI even though it has a quite low IDV score, while Sweden still is bottom 3 while having a quite high IDV score.

Regarding MAS there are no major outliers, building up on the previous conclusion - *there's a bigger conversion of users that open the app to users that save a meal in Feminine societies*.

Table 24 - Indexes that influence % Paying users.

% Paying users	LTO	UAI	MAS
AT (8,00%)	36,75	66,75	51,5
IE (6,44%)	41,25	62,5	72,5
NL (6,36%)	28,45	35,55	65,15
…			
IT (3,24%)	61,8	80,1	85,1
PT (3,24%)	51,1	93	86,15
SE (2,67%)	35,25	40,5	98,75

Regarding LTO and percentage of paying users, Sweden and Portugal can be pointed out as outliers. *Societies that prefer to maintain traditions and norms, disliking societal changes (short-term oriented) – have a moderate relation with higher percentage paying users,* which doesn't happen for the two mentioned countries.

Computing the average for the percentage of paying users, we come to the result of 4,68%. On the one hand, Poland is the country that scores the highest in LTO (98,4) having a percentage of paying users of 3,89%. On the other hand, Netherlands being the country that scores the lowest in LTO, belongs to top 3 of percentage of paying users, which proves this correlation to be only moderate.

Regarding UAI*, the more the individuals of a society feel comfortable with uncertainty and ambiguity, the highest is the percentage of paying users*. However, not for Sweden that can also be considered as an outlier when it comes to UAI and percentage of paying users because it scores quite low in this index.

Lastly, when it comes to MAS there are no major outliers, building up on the assessment: *there's a bigger conversion of users that open the app to users that save a meal in Feminine societies*.

Table 25 - Indexes that influence % Active users.

% Active users	**LTO**
CA (38,65%)	36,6
IE (38,21%)	41,25
AT (30,91%)	36,75
…	
FR (17,96%)	24,7
US (17,29%)	73,05
PT (16,89%)	51,1

Societies that prefer to maintain traditions and norms, disliking societal changes (short-term oriented) – have a moderate relation with higher percentage paying users, which doesn't

happen for Portugal and France. Even though they have a quite low (France having the lowest) LTO, they still are in bottom 3.

In summary, the results were overall consistent with the findings from TQ 1, however some outliers were identified, mainly Poland and Sweden.

Poland is the most long-term oriented country and still has the second highest Saved Ratio – and it doesn't rank bottom 3 in percentage of paying users and percentage of active users (as it would be expected). It also is the most uncomfortable country with uncertainty and ambiguity, that moderately also affects (negatively) Saved Ratio and the percentage of paying users.
Sweden is the most Masculine country while it has the lowest percentage of paying users, as it would be expected. However, it is part of the less uncomfortable countries with uncertainty and ambiguity and still is bottom 3 in percentage of paying users/active users and Avg. Meals Saved per Paying User.

6. Conclusion

The goal of this thesis was to understand how National Culture impacts TGTG results. For that, quantitative nonexperimental descriptive and nonexperimental correlational methods were applied – being conducted an online survey and correlations were after tried to be found between the outcome of that survey and TGTG results.

The findings suggest that national culture indeed influences TGTG results, but not in a linear way, being the strongest correlation verified between MAS Index and the percentage of paying/active users – there's a bigger conversion of users that open the app to users that save a meal in Feminine societies. Moderate correlations were found between four (out of six) indexes – LTO, IDV, UAI and MAS – and TGTG KPIs. IVR and PDI don't seem to affect TGTG results, as only weak or very weak correlations were found related to these Indexes.

I would say it makes sense that the four first mentioned dimensions influence TGTG's results. Societies with a low weak uncertainty avoidance are more tolerate, considering what is different to be curious instead of dangerous, so it's natural to present better results. One hypothetical reason for Individualistic societies to also present overall better results might be

associated with the low prices of the boxes. Individualistic people might want to take advantage of it for their own (and immediate family) good. In Feminine societies there's a strong presence of modesty and cooperation which might lead to developing feelings of wanting to belong to a group or a movement, which resonates with TGTG. The fact that short-term oriented societies moderately present better results came as a surprise to me. I would expect long-term societies - that consider traditions to be adaptable to changed circumstances and consider thrift and perseverance as important goals – to have better results**.** This association, in my opinion, would benefit from a greater in-depth analysis in future studies.

Moreover, this thesis' findings show that the extent to which a society accepts (or not) hierarchical order without questioning it, doesn't influence its behavior towards TGTG. The same applies to enjoying more, or less, life and having more, or less, fun. I would say this happens because these characteristics don't especially resonate with TGTG concept (neither in a positive or negative way), suggesting they are not in the equation of consumers and their interaction with TGTG.
Furthermore, some external factors such has months live, supply (which has not been studied in this dissertation) and the marketing of TGTG in each country can affect its results in different ways. In the end, culture is a very complex topic and there weren't any very strong correlations - only a couple of strong ones - proving the results not to be linear, creating opportunity for outliers to appear. Poland and Sweden came out as the main outliers in the findings.

As previously mentioned, this study helps to tackle the limitation of the French's TGTG market qualitative research (Vo-Thanh et al., 2021) by providing quantitative research of the entire TGTG market and comparisons across different cultures.
TGTG's goal is to fight food waste. Thus, it needs to deeply comprehend their markets to reach more people and, ultimately, gains more consumers – who will join the movement and will help to tackle food waste. Based on this study's findings, I would recommend TGTG to get to grips with their markets (current and potential) culturally wise, in order to create tailored Marketing campaigns and approaches to its different markets to ultimately maximize its investments, gains and performance. For instance, in feminine societies, the sense of a movement can be reinforced, while in long-term oriented societies the thrift factor can be encouraged.
This recommendation applies to every company/organization that tries to promote sustainability (or other theme) across different cultures – target different consumer groups. This

paves a way for developing an understanding of the cultural influences of pro-environmental behaviors (or other matters).

7. Limitations & Future Research

The framework used in this thesis is based on Hofstede's 6 dimensions of culture. Even though this model is very well supported in the Literature, is frequently criticized for being supported in just one case (IBM) – with a very specific and not inclusive target - and in one industry (Lonner & Berry, 1986) claiming this study to be oversimplifying.

Furthermore, "an ideal size for a homogeneous sample is 50 respondents. Sample sizes smaller than 20 should not be used, as outlying answers by single respondents will unduly affect the results" (Hofstede and Minkov 2013, p.2). Although the minimum number of 20 respondents was achieved, a sample of 50 respondents was not achieved in most of the countries. This also means that the countries were not equally represented. The respondents' sample was also not equally representative given that the great majority of the respondents were Millennials and Gen Z.

Lastly, using an online survey carries some limitations as they do not allow the collection of a randomized sample and representative samples, which, consequently, does not allow generalizations (Lee & Kent, 1999). Additionally, it has as disadvantage the low attention of participants (Reips, 2000). However, to decrease the potential lack of attention, an attention check was used, the participants who failed on it were identified and were excluded from the study analysis.

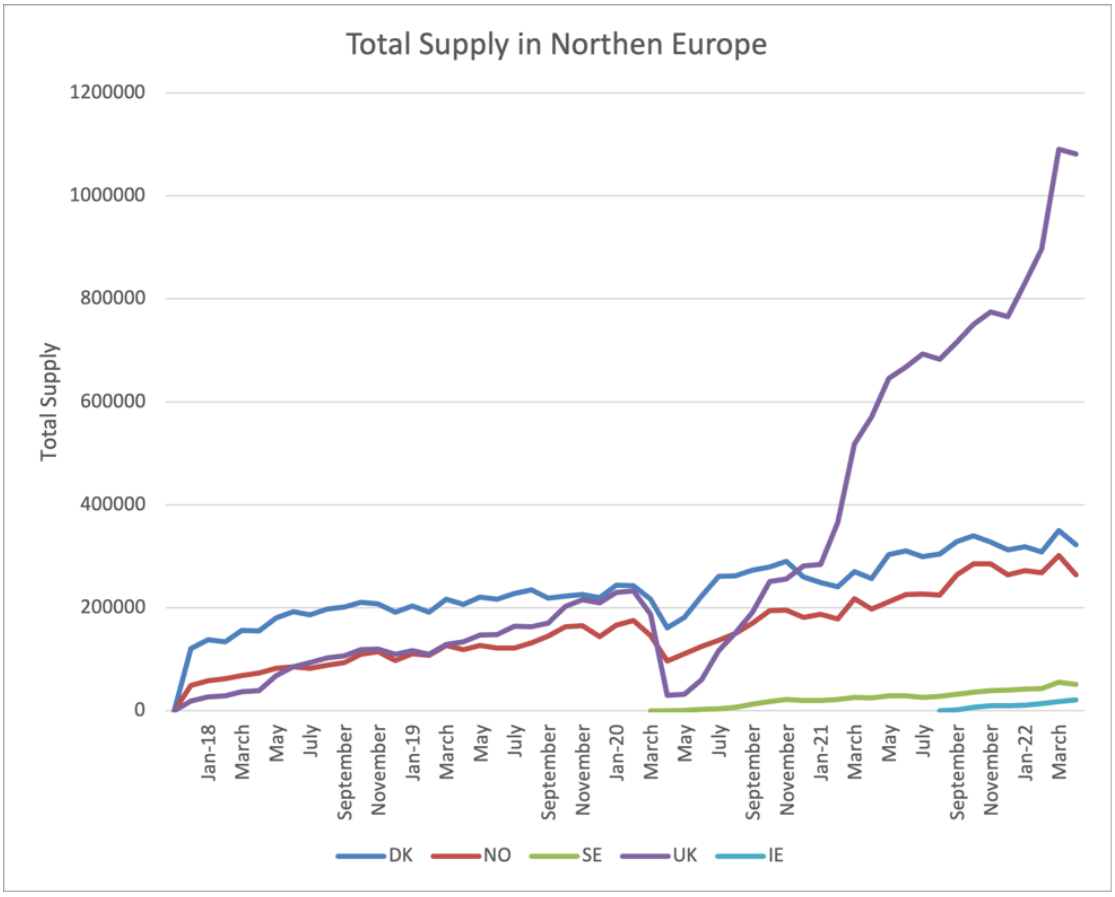
It should also be kept in mind that TGTG is growing very fast and in some countries, it has been operating for only, for example, 6 months, which might not be enough time to conduct a study in that country.

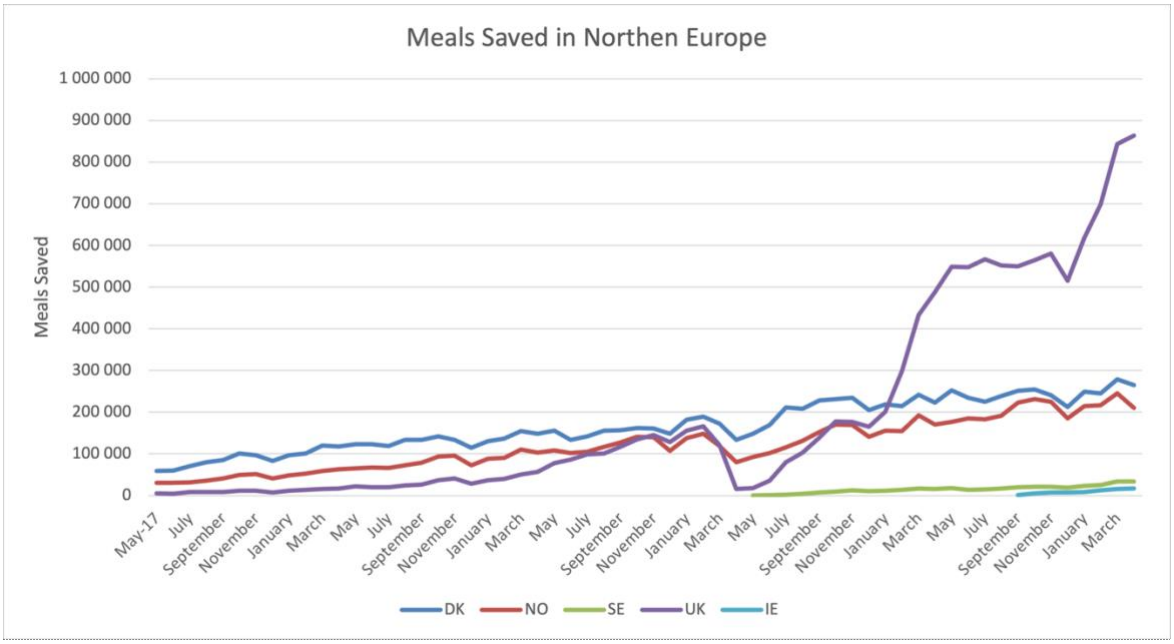
For future research, and to tackle what was previously mentioned, it would be important to improve data collection method, by expanding the sample size to a minimum of 50 respondents per country. It would also be important to achieve a representative and inclusive respondents' sample. Finally, future research could try to explore the supply side (which was not analyzed in this thesis) by for example conducting in-depth interviews with stores owners across the 17

countries where TGTG is present to understand their motivations when joining the movement and ultimately verify if they vary across different cultures.

8. Appendix

Appendix 1 – TGTG's KPIs (Total supply, Meals Saved, Saved Ratio and Paying users) over time in the 17 countries (divided by groups).




Meals Saved in Northen Europe
Meals Saved
1 000 000
900 000
800 000
700 000
600 000
500 000
400 000
300 000
200 000
100 000
0
May-17
July
September
November
January
March
May
July
September
November
January
March
May
July
September
November
January
March
May
July
September
November
January
March
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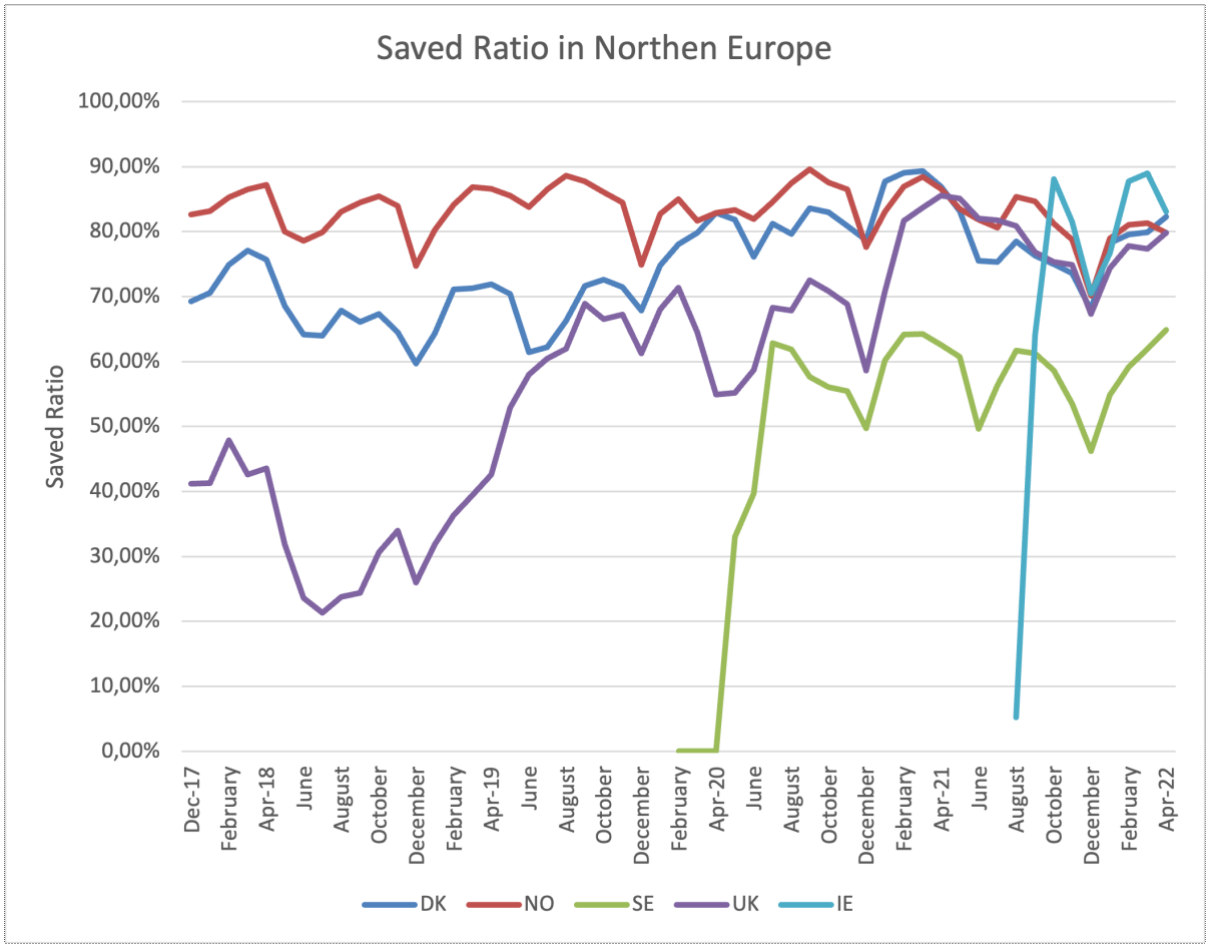
July
September
November
January
March
DK
NO
SE
UK
IE


Saved Ratio in Northen Europe
Saved Ratio
100,00%
90,00%
80,00%
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
10,00%
0,00%
Dec-17
February
Apr-18
June
August
October
December
February
Apr-19
June
August
October
December
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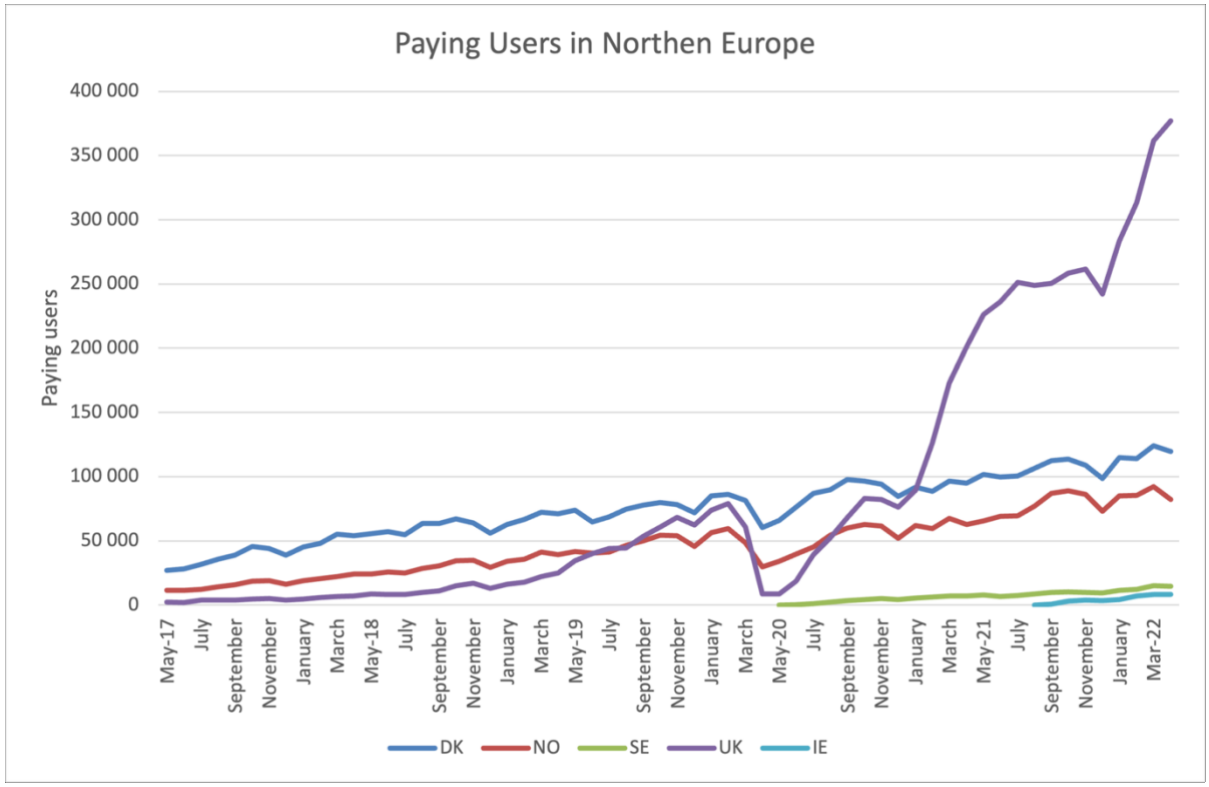
Apr-21
June
August
October
December
February
Apr-22
DK
NO
SE
UK
IE


Paying Users in Northen Europe
Paying users
400 000
350 000
300 000
250 000
200 000
150 000
100 000
50 000
0
May-17
July
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November
January
March
May-18
July
September
November
January
March
May-19
July
September
November
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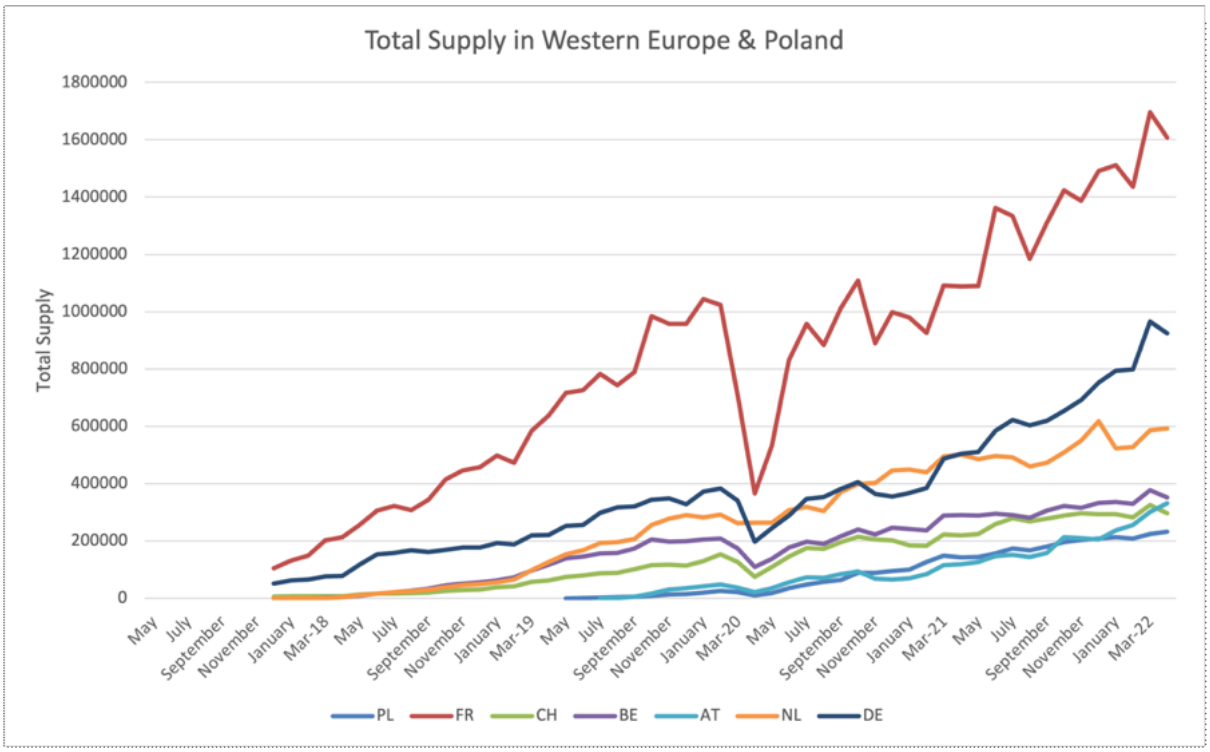
November
January
Mar-22
DK
NO
SE
UK
IE


Total Supply in Western Europe & Poland
Total Supply
1800000
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
May
July
September
November
January
Mar-18
May
July
September
November
January
Mar-19
May
July
September
November
January
Mar-20
May
July
September
November
January
Mar-21
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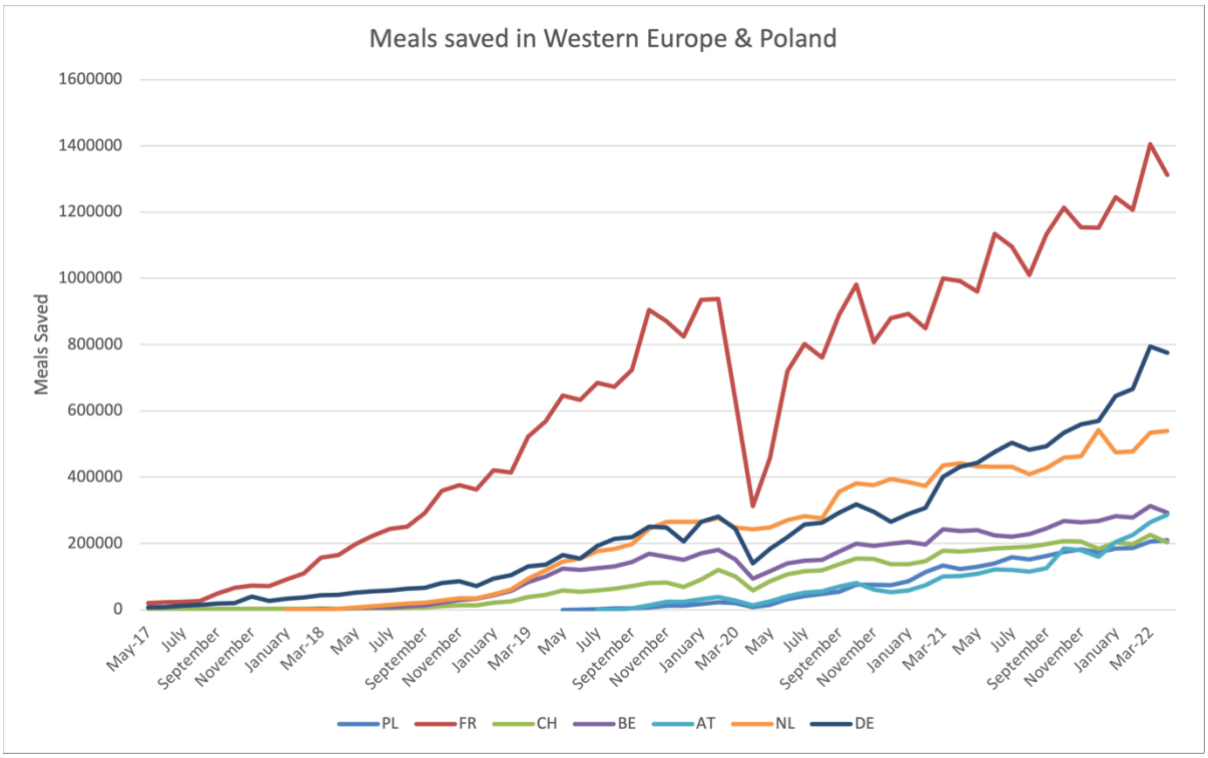
January
Mar-22
PL
FR
CH
BE
AT
NL
DE


Meals saved in Western Europe & Poland
Meals Saved
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
May-17
July
September
November
January
Mar-18
May
July
September
November
January
Mar-19
May
July
September
November
January
Mar-20
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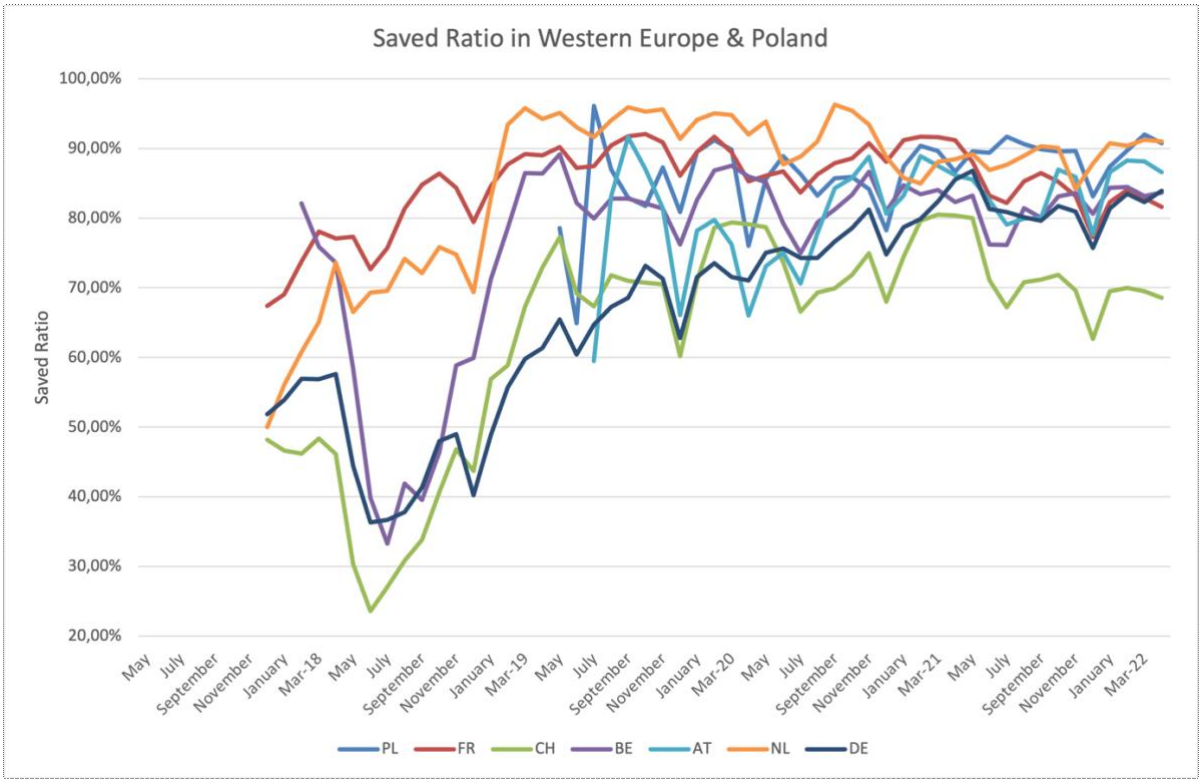
January
Mar-22
PL
FR
CH
BE
AT
NL
DE


Saved Ratio in Western Europe & Poland
Saved Ratio
100,00%
90,00%
80,00%
70,00%
60,00%
50,00%
40,00%
30,00%
20,00%
May
July
September
November
January
Mar-18
May
July
September
November
January
Mar-19
May
July
September
November
January
Mar-20
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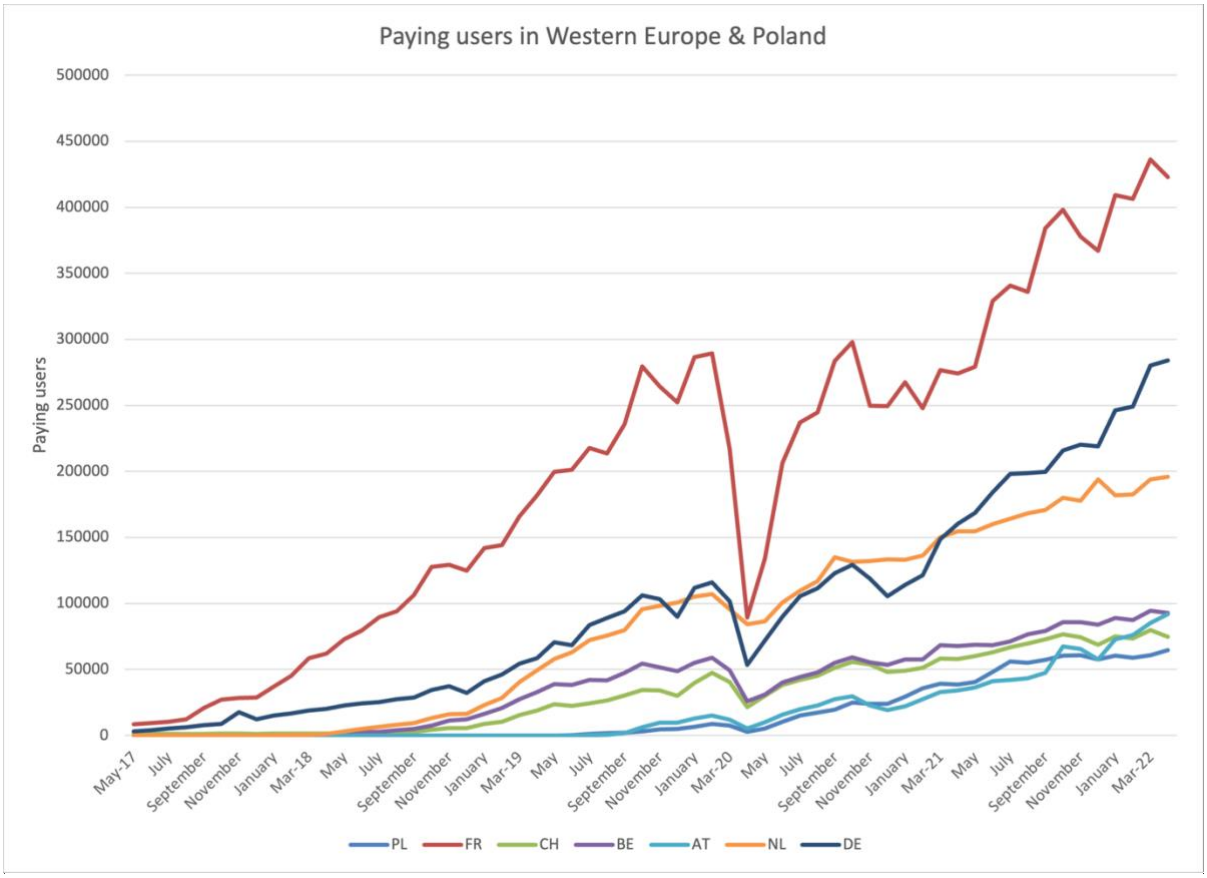
May
July
September
November
January
Mar-22
PL
FR
CH
BE
AT
NL
DE


Paying users in Western Europe & Poland
Paying users
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
May-17
July
September
November
January
Mar-18
May
July
September
November
January
Mar-19
May
July
September
November
January
Mar-20
May
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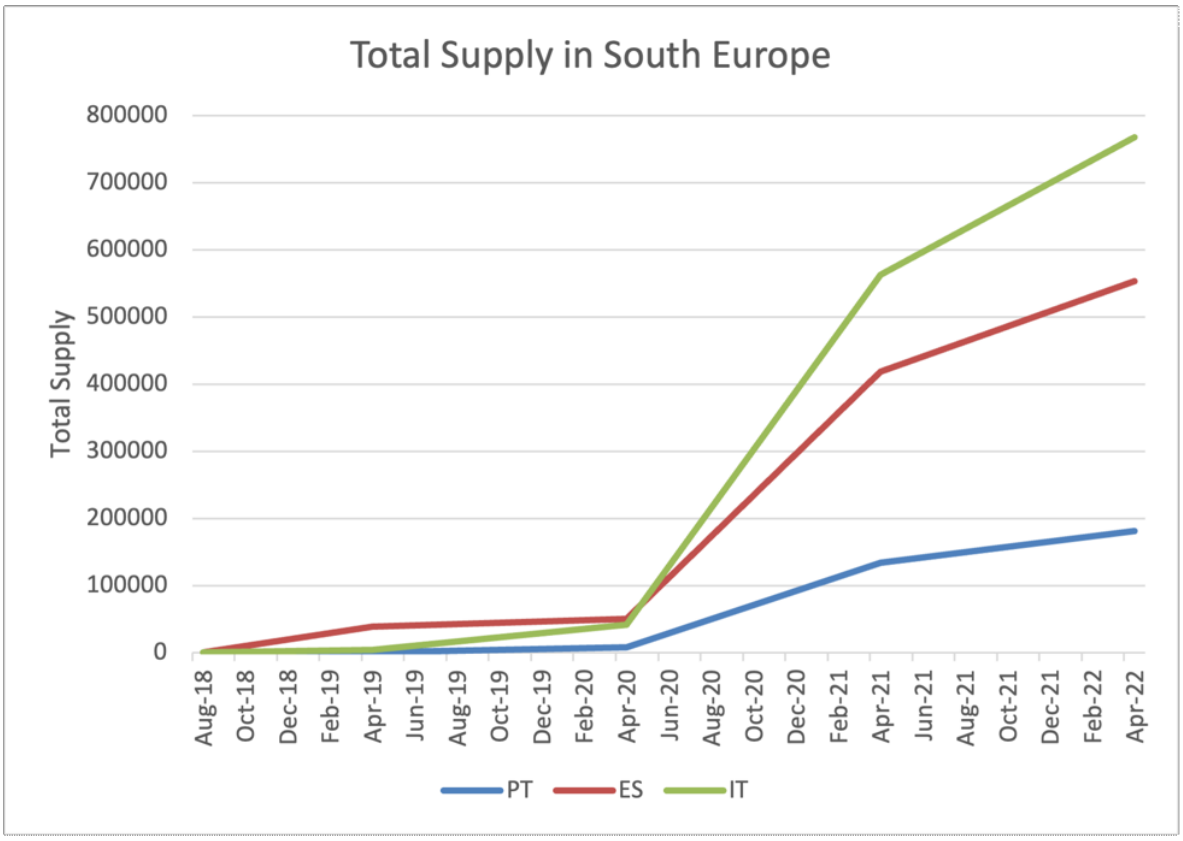
January
Mar-22
PL
FR
CH
BE
AT
NL
DE


Total Supply in South Europe
Total Supply
800000
700000
600000
500000
400000
300000
200000
100000
0
Aug-18
Oct-18
Dec-18
Feb-19
Apr-19
Jun-19
Aug-19
Oct-19
Dec-19
Feb-20
Apr-20
Jun-20
Aug-20
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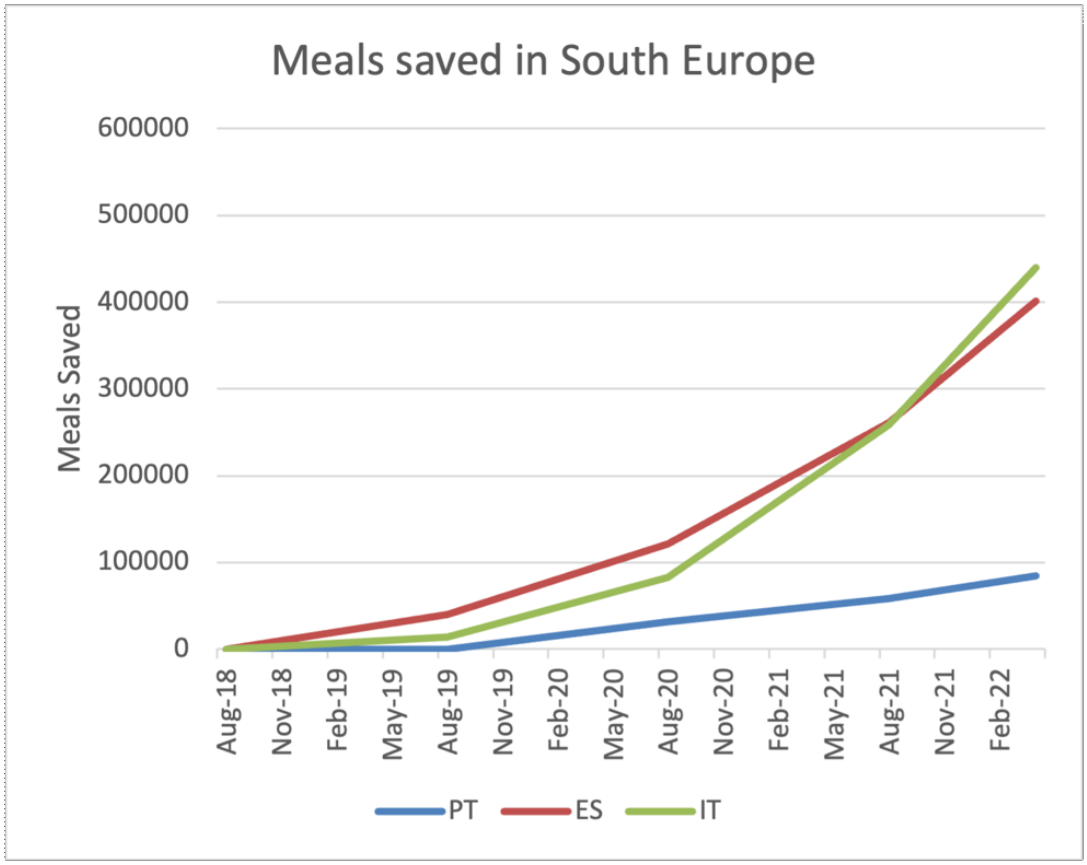
Oct-21
Dec-21
Feb-22
Apr-22
PT
ES
IT


Meals saved in South Europe
Meals Saved
600000
500000
400000
300000
200000
100000
0
Aug-18
Nov-18
Feb-19
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PT
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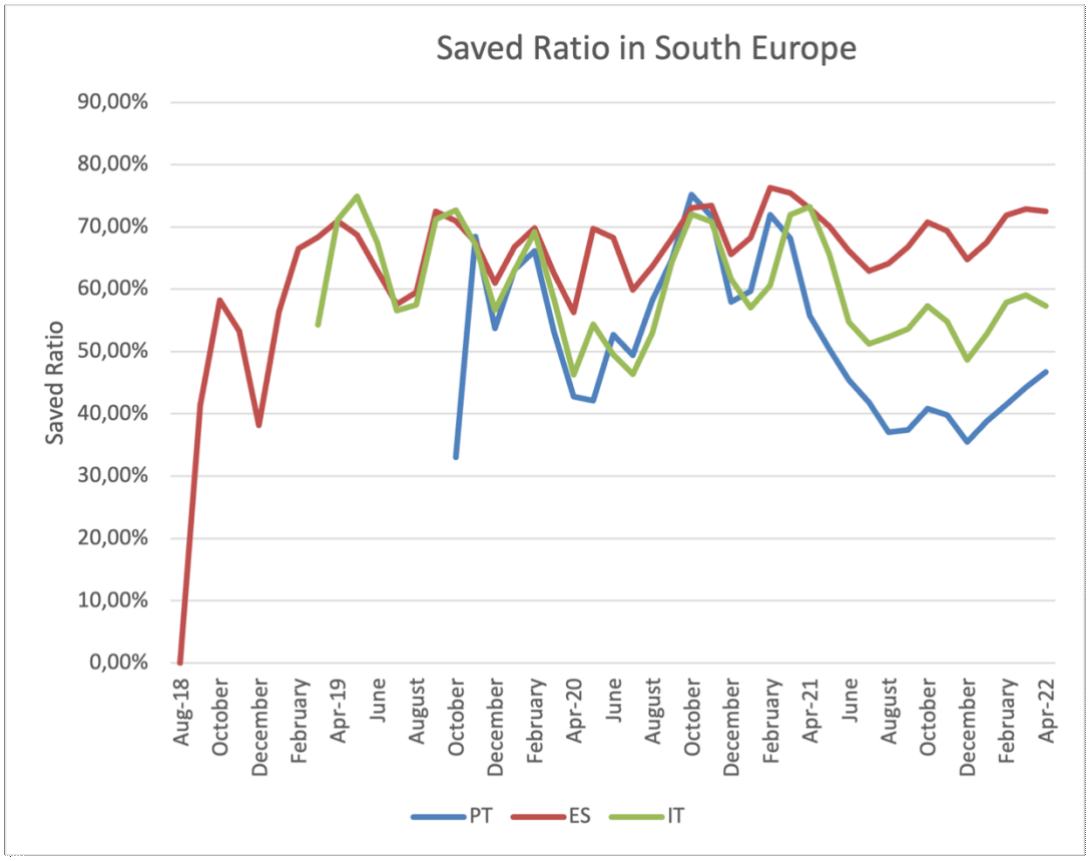
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Saved Ratio
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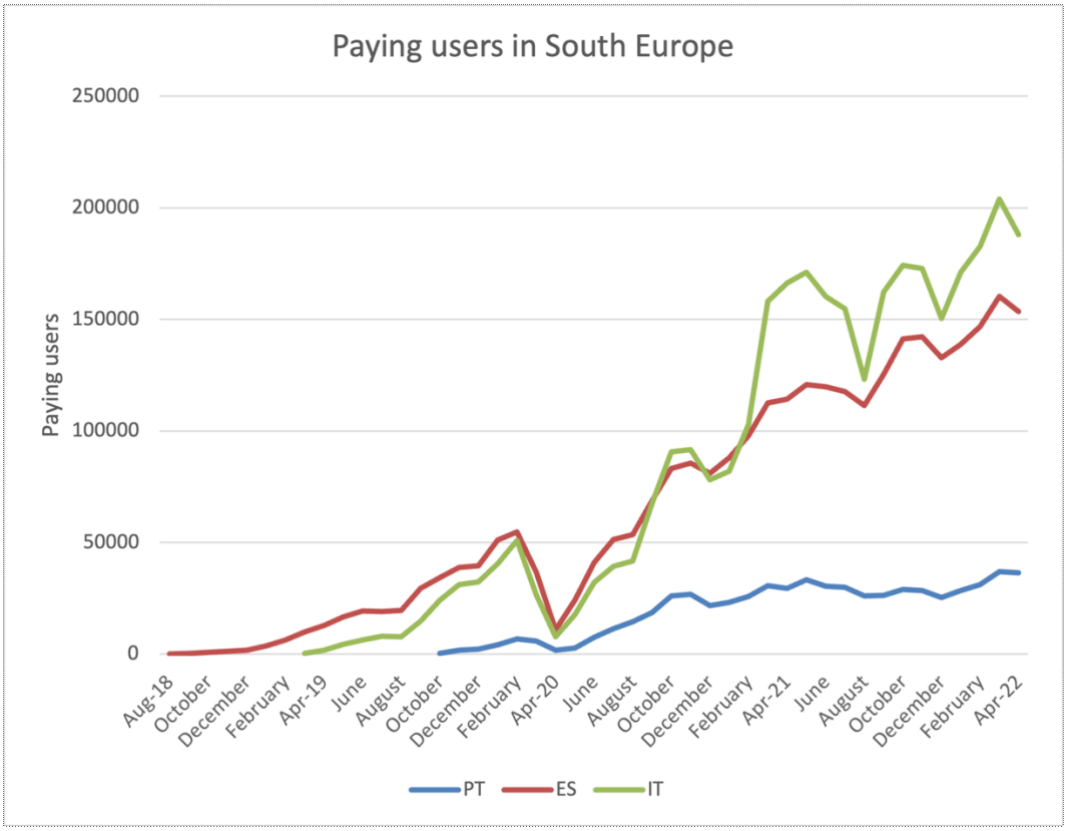
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Paying users
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200000
150000
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Aug-18
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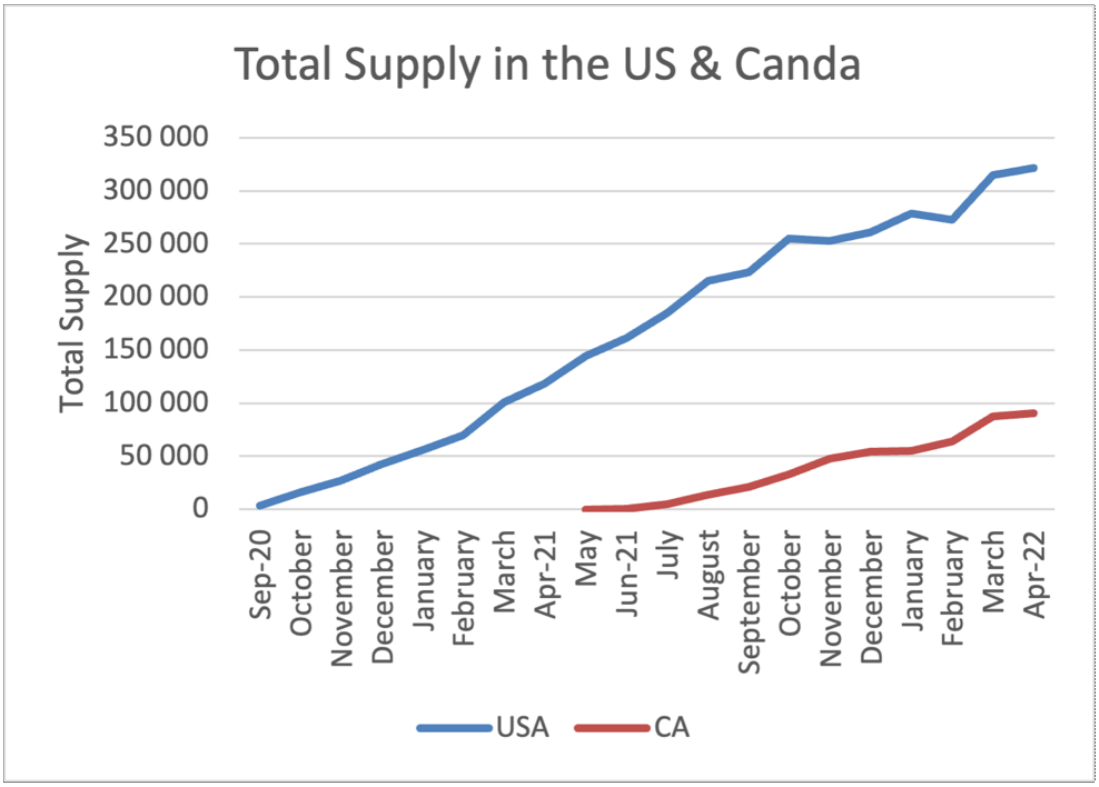
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Total Supply
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300 000
250 000
200 000
150 000
100 000
50 000
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Sep-20
October
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February
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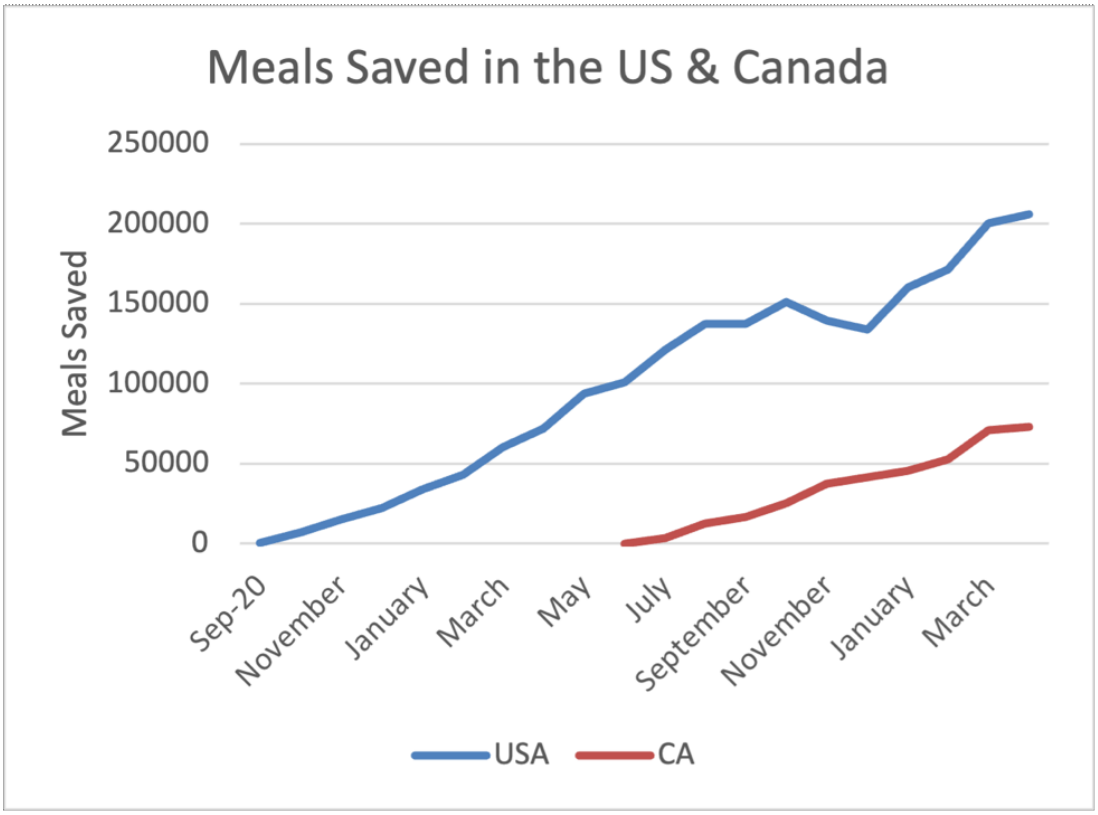
Apr-22
USA
CA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Meals Saved
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January
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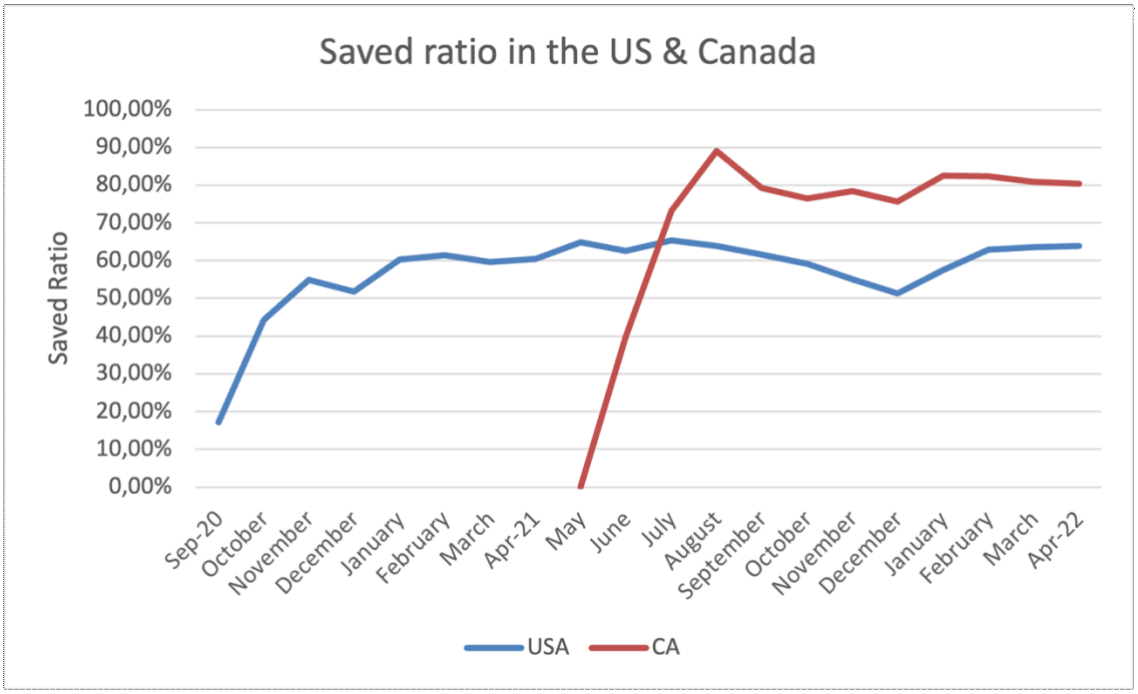
USA
CA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Saved Ratio
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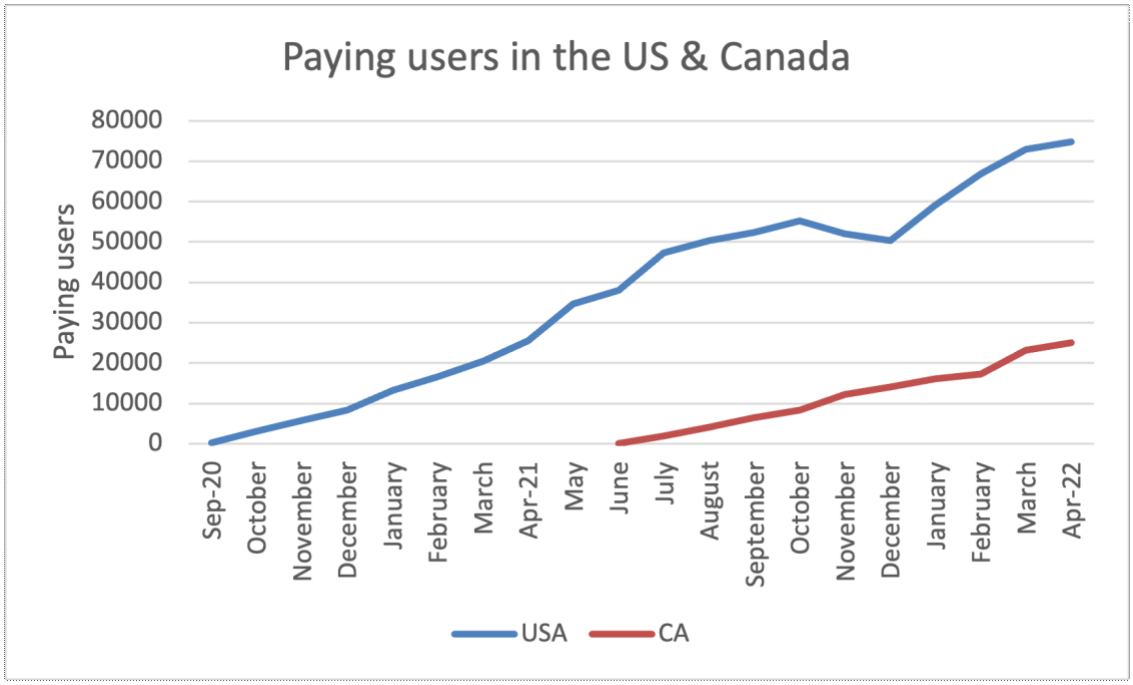
USA
CA


Paying users in the US & Canada
Paying users
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70000
60000
50000
40000
30000
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10000
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Sep-20
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January
February
March
Apr-22
USA
CA

Appendix 2 – Survey's English version.

Start of Block: Block 1

Dear participant,
I would like to sincerely thank you in advance for participating in this survey!
My name is Alice da Fonte Pacheco and I'm a Master Student at Católica Lisbon School of Business & Economics.
This study is part of my Master thesis on how National Culture influences Consumer's Pro-environmental Behavior.
There are no right or wrong answers. Your responses are confidential, and all data collected will be only used for this study.
This survey has total of 5 parts and it will take about 3 minutes to answer.
If you have any question/suggestion/curiosity about this study, please feel free to send me an email to: s-acapacheco@ucp.pt.
Thank you very much for your help!

End of Block: Block 1

Start of Block: Block 5

Q0 Part 1/5
Do you live/have you ever lived in one of following countries?

-Austria AT
-Belgium BE
-Canada CA
-Denmark DK
-France FR
-Germany DE
-Ireland IE
-Italy IT
-Norway NO
-Poland PL
-Portugal PT
-Spain ES
-Sweden SE
-Switzerland CH
-The Netherlands NL
-United Kingdom GB
-United States US

- ○ Yes, I live/I have lived in one of these countries (1)
- ○ No, I live/lived in a different country (2)

Q01 Too Good To Go is an app that aims to fight food waste. It connects customers to restaurants, bakeries, supermarkets, or any food establishment that has unsold food surplus. Consumers buy this surplus for a reduced price while they fight food waste. Do you use/have you ever used this app?

- ○ Yes (20)
- ○ No (21)
- ○ No, but I know what it is (22)

Q02 What's your Too Good To Go purchase frequency?

- ○ less than 4 times a month (1)
- ○ between 4 - 8 times a month (2)
- ○ between 8 - 12 times a month (3)
- ○ between 12 - 16 times a month (4)
- ○ more than 16 times a month (5)

End of Block: Block 5

Start of Block: Default Question Block

Q1-Q10
Please be as honest as possible while answering the questions.
Part 2/5. Please think of an ideal job, disregarding your present job, if you have one. If

choosing an ideal job, how important would it be to you to... (please, select one answer in each line across):

	Of utmost importance (1)	Very important (2)	Of moderate importance (3)	Of little importance (4)	Of very little or no importance (5)
Q1. Have sufficient time for your personal or home life (1)	○	○	○	○	○
Q2. Have a boss (direct superior) you can respect (2)	○	○	○	○	○
Q3. Get recognition for good performance (3)	○	○	○	○	○
Q4. Have security of employment (4)	○	○	○	○	○
Q5. Have pleasant people to work with (5)	○	○	○	○	○
Q6. Do work that is interesting (6)	○	○	○	○	○
Here, please select the option "of utmost importance" (11)	○	○	○	○	○
Q7. Be consulted by your boss in decisions involving your work (7)	○	○	○	○	○
Q8. Live in a desirable area (8)	○	○	○	○	○

Q9. Have a job respected by your family and friends (9)	○	○	○	○	○
Q10. Have chances for promotion (10)	○	○	○	○	○

End of Block: Default Question Block

Start of Block: Block 5

Q11-Q14 Part 3/5
In your private life, how important is each of the following to you (please, select one answer in each line across):

	Of utmost importance (1)	Very important (2)	Of moderate importance (3)	Of little importance (4)	Of very little or no importance (5)
Q11. Keeping time free for fun (1)	○	○	○	○	○
Q12. Moderation: having few desires (2)	○	○	○	○	○
Q13. Doing a service to a friend (3)	○	○	○	○	○
Q14. Thrift (not spending more than needed) (4)	○	○	○	○	○

Q15. How often do you feel nervous or tense?

- ○ Always (1)
- ○ Usually (2)
- ○ Sometimes (3)
- ○ Seldom (4)
- ○ Never (5)

Q16. Are you a happy person?

- ○ Always (1)
- ○ Usually (2)
- ○ Sometimes (3)
- ○ Seldom (4)
- ○ Never (5)

Q17. Do other people or circumstances ever prevent you from doing what you really want to?

- ○ Yes, always (1)
- ○ Yes, usually (2)
- ○ Sometimes (3)
- ○ No, seldom (4)
- ○ No, never (5)

Q18. All in all, how would you describe your state of health these days?

- ○ Very good (1)
- ○ Good (2)
- ○ Fair (3)
- ○ Poor (4)
- ○ Very poor (5)

Q19. How proud are you to be a citizen of your country?

- ○ Very proud (1)
- ○ Fairly proud (2)
- ○ Somewhat proud (3)
- ○ Not very proud (4)
- ○ Not proud at all (5)

Q20. How often, in your experience, are subordinates afraid to contradict their boss (or students their teacher?)

- ○ Never (1)
- ○ Seldom (2)
- ○ Sometimes (3)
- ○ Usually (4)
- ○ Always (5)

End of Block: Block 5

Start of Block: Block 2

Q21-Q24
Part 4/5. Almost there!To what extent do you agree or disagree with each of the following statements? (please, select one answer in each line across):

	Strongly agree (1)	Agree (2)	Undecided (3)	Disagree (4)	Strongly disagree (5)
Q21. One can be a good manager without having a precise answer to every question that a subordinate may raise about his or her work (1)	○	○	○	○	○
Q22. Persistent efforts are the surest way to results (2)	○	○	○	○	○
Q23. An organization structure in which certain subordinates have two bosses should be avoided at all cost (3)	○	○	○	○	○
Q24. A company's or organization's rules should not be broken - not even when the employee thinks breaking the rule would be in the organization's best interest (4)	○	○	○	○	○

End of Block: Block 2

Start of Block: Country

Q10 Part 5/5. Last effort!
Some information about yourself (for statistical purposes):

Q25. You are:

- ○ Female (1)
- ○ Male (2)
- ○ Non-binary (3)

Q26. How old are you?

- ○ Under 20 (1)
- ○ 20-24 (2)
- ○ 25-29 (3)
- ○ 30-34 (4)
- ○ 35-39 (5)
- ○ 40-49 (6)
- ○ 50-59 (7)
- ○ 60 or over (8)

Q27. How many years of formal school education (or their equivalent) did you complete (starting with primary school)?

- ○ 10 years or less (1)
- ○ 11 years (2)
- ○ 12 years (3)
- ○ 13 years (4)
- ○ 14 years (5)
- ○ 15 years (6)
- ○ 16 years (7)
- ○ 17 years (8)
- ○ 18 years or over (9)

Q28. What's your highest level of school completed?

- ○ Less than high school (1)
- ○ High school degree (or equivalent) (2)
- ○ Some college but no degree (3)
- ○ Bachelor's degree (4)
- ○ Master's degree (5)
- ○ PhD (6)
- ○ Other (7)

Q29. If you have or have had a paid job, what kind of job is it / was it?

- ○ No paid job (includes full-time students) (1)
- ○ Unskilled or semi-skilled manual worker (2)
- ○ Generally trained office worker or secretary (3)
- ○ Vocationally trained craftsperson, technician, IT-specialist, nurse, artist or equivalent (4)
- ○ Academically trained professional or equivalent (but not a manager of people) (5)
- ○ Manager of one or more subordinates (non-managers) (6)
- ○ Manager of one or more managers (7)

Q30. What is your nationality?

▼ Austria (10) ... Zimbabwe (1357)

Q31. What is your nationality at birth (if different)?

▼ Austria (10) ... Zimbabwe (1357)

End of Block: Country

Appendix 3 – List of countries collected in the survey.

List of Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Australia	1	.1	.1	.1
	Austria	23	2.0	3.4	3.5
	Bangladesh	1	.1	.1	3.7
	Belgium	28	2.5	4.1	7.8
	Bulgaria	1	.1	.1	7.9
	Cameroon	1	.1	.1	8.1
	Canada	23	2.0	3.4	11.4
	China	1	.1	.1	11.6
	Colombia	1	.1	.1	11.7
	Denmark	30	2.7	4.4	16.1
	Ecuador	1	.1	.1	16.3
	Egypt	1	.1	.1	16.4
	Estonia	1	.1	.1	16.5
	France	43	3.8	6.3	22.8
	Germany	30	2.7	4.4	27.2
	Guatemala	1	.1	.1	27.4
	Hungary	2	.2	.3	27.7
	India	5	.4	.7	28.4
	Ireland	20	1.8	2.9	31.3
	Italy	40	3.6	5.9	37.2
	Japan	1	.1	.1	37.3
	Latvia	1	.1	.1	37.5
	Lithuania	1	.1	.1	37.6
	Luxembourg	1	.1	.1	37.8
	Mexico	1	.1	.1	37.9
	Netherlands	27	2.4	4.0	41.9
	Norway	31	2.8	4.5	46.4
	Poland	45	4.0	6.6	53.0
	Portugal	150	13.3	22.0	75.0
	Slovakia	1	.1	.1	75.1
	Spain	49	4.4	7.2	82.3
	Sweden	21	1.9	3.1	85.4
	Switzerland	29	2.6	4.2	89.6
	Ukraine	2	.2	.3	89.9
	United Kingdom of Great Britain and Northern Ireland	24	2.1	3.5	93.4
	United States of America	42	3.7	6.1	99.6
	Uruguay	1	.1	.1	99.7
	Viet Nam	2	.2	.3	100.0
	Total	683	60.8	100.0	

Appendix 4 – List of valid countries for the study and number of answers that passed the attention check (valid answers).

List of Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Austria	20	3.3	3.3	3.3
	Belgium	26	4.2	4.2	7.5
	Canada	23	3.7	3.7	11.2
	Denmark	26	4.2	4.2	15.5
	France	38	6.2	6.2	21.7
	Germany	28	4.6	4.6	26.2
	Ireland	20	3.3	3.3	29.5
	Italy	39	6.4	6.4	35.8
	Netherlands	26	4.2	4.2	40.1
	Norway	30	4.9	4.9	45.0
	Poland	45	7.3	7.3	52.3
	Portugal	145	23.6	23.6	75.9
	Spain	43	7.0	7.0	82.9
	Sweden	20	3.3	3.3	86.2
	Switzerland	25	4.1	4.1	90.2
	United Kingdom of Great Britain and Northern Ireland	21	3.4	3.4	93.6
	United States of America	39	6.4	6.4	100.0
	Total	614	100.0	100.0	

Appendix 5 – Sample Characterization.

Demographics		**Percentage within the sample**
Gender	Female Male Non-binary	64.7% 34.7% 0.7%
Age	Under 20 20-24 25-29 30-34 35-39 40-49 50-59 60 or over	2.9% 29.3% 31.3% 14.8% 9.0% 9.4% 2.1% 1.1%
Number of years of formal school education completed	10 years or less 11 years 12 years	1.5% 1.1% 7.7%

	13 years 14 years 15 years 16 years 17 years 18 years or over	5.7% 7.0% 11.4% 14.3% 20.8% 30.5%
Highest level of completed education	Less than high school High school Some college but no degree Bachelor's degree Master's degree PhD Other	0.7% 12.4% 10.6% 39.1% 33.7% 1.5% 2.1%
Kind of paid job (current or in the past)	No paid job (includes full-time students) Unskilled or semi-skilled manual worker Generally trained office worker or secretary Vocationally trained craftsperson, technician, IT-specialist, nurse, artist or equivalent Academically trained professional or equivalent (but not a manager of people) Manager of one or more subordinates (non-managers) Manager of one or more managers	11.7% 9.3% 13.5% 7.8% 40.4% 11.9% 5.4%

Appendix 6 – Means for each country in each question.

Means	N	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
Austria	20	1,8	2,05	2	2,35	1,7	1,55	2,1	2,05	3,25	2,45	1,9
Belgium	26	1,54	1,85	1,69	2	1,58	1,38	2,04	2,54	2,88	2,15	1,69
Canada	23	1,57	1,43	1,78	1,91	1,7	1,83	2,13	1,96	2,87	1,96	1,74
Denmark	26	1,88	1,92	2,19	2,12	1,73	1,69	2,23	2,42	3,12	2,31	1,85
France	38	1,45	2,05	1,79	2,21	1,79	1,45	2,34	2	2,84	2,18	1,55
Germany	28	1,79	2,14	1,89	2,11	1,68	1,54	2,21	2,14	2,96	2,32	1,93
Ireland	20	1,4	1,75	1,85	1,7	1,65	2,15	2,25	2,2	3,3	2,1	1,6
Italy	39	1,46	2,67	1,67	1,54	1,62	1,87	1,87	2,36	2,87	2,05	1,54
Netherlands	26	1,88	1,81	1,85	2,46	1,69	1,69	2,5	2,12	3	2,27	1,81
Norway	30	1,73	2,03	2,17	1,73	1,97	1,93	2,17	2,4	3,07	2,47	1,87
Poland	45	1,67	2,02	2	1,87	1,91	1,64	2,31	2,29	3,07	1,96	1,98
Portugal	145	1,35	1,72	1,53	1,75	1,72	1,63	2,02	1,92	2,81	1,82	1,6
Spain	43	1,56	2,02	1,98	2	1,6	1,77	2,81	2,16	2,81	2,09	1,77
Sweden	20	1,7	1,55	1,75	2,1	1,8	1,55	2,05	2,5	2,9	1,9	1,95
Switzerland	25	1,76	2,2	2,24	2,08	2,16	1,56	2,4	1,68	3	2	1,96
United Kingdom	21	1,48	2,19	1,81	1,71	1,57	1,24	2	2,29	2,62	1,9	1,48
EUA	39	1,67	1,67	2,23	1,97	1,79	1,79	2,21	1,9	3,03	2,18	1,92

Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24
3,2	1,7	2,8	2,9	2	3,15	1,85	3	3,25	1,85	2,25	2,7	2,7
2,62	2,04	2,73	2,88	2,12	3,19	2,04	2,42	3,38	2	2,23	2,65	3,73
2,65	2,13	2,61	2,87	2	3,13	1,91	1,74	2,96	1,48	2	2,74	3,09
2,69	2,5	2,85	3,27	2,19	3,08	2,19	1,73	2,85	1,77	2,27	2,69	2,73
2,42	2,18	3	2,66	2,08	3,32	2,11	1,95	3,5	1,82	2,13	2,68	3,03
3,36	2,04	2,79	3,36	1,82	3,21	1,86	3,04	3,11	1,75	2,21	2,93	3
2,8	1,95	2,25	2,8	2,15	3	2,3	1,8	3,25	1,3	2,15	3,15	3,2
3,05	2,1	2,33	2,77	2,46	2,9	2,26	2,59	3,36	2,05	2,23	2,69	3,23
3,23	2,19	2,81	3,15	2,12	3,31	1,92	2,23	2,69	1,65	2,58	3,04	3,46
2,87	2,43	2,57	3,17	2,43	3,13	2,3	1,77	2,7	1,43	2,2	2,93	3,23
2,62	2,53	2,47	2,64	2,53	2,87	2,36	3,36	3,18	2,16	2	2,64	2,98
2,92	1,88	2,14	2,52	2,2	3,13	2,12	2,11	3,6	2,03	2,13	2,61	2,87
3,05	2	2,37	2,65	2,3	3	2,23	2,05	3,42	1,74	1,98	2,86	3
2,55	2,5	2,7	2,95	2,05	2,9	1,9	1,5	2,9	1,3	2,25	2,65	3,2
3,08	2,36	2,52	2,88	2,32	3,08	2,28	2,28	3,36	2,16	2,16	3,04	3,44
2,95	2,05	2,71	2,86	2,1	3,05	1,86	2,57	3,1	2,19	2,05	2,57	2,62
3,18	2,36	2,44	2,79	2,18	3,13	2,23	3,08	2,92	1,44	2,51	3,13	3,49

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