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LOGISTIC REGRESSION OF CZECH LUXURY FASHION PURCHASING HABITS DURING THE COVID-19 PANDEMIC – OLD FOR LOYALTY AND YOUNG FOR SUSTAINABILITY?

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Abstract

Research background: The sustainability reflected by the CSR of luxury fashion businesses, should meet stakeholders´ expectations and lead to an increase in customers´ buying decisions.
Purpose: To analyze Czech luxury fashion purchasing habits during the COVID-19 pandemic and to achieve a deeper understanding with new propositions in this area.
Research methodology: A logistic regression is performed and based on data gained from an investigative survey employing a questionnaire of a homogenous Czech group of purchasers. The comparison of the resulting logistic models and field observations with a holistic and empiric Meta-Analysis allows one to heuristically achieve an understanding of such an inclination.
Results: Seven unexpected propositions emerge and call for further research, such as those during the COVID-19 pandemic, older Czech luxury fashion customers stick even more with their brand loyalty while younger buyers focus on sustainability.

Novelty: The performed case study with a survey link sustainability perception and purchasing habits by relevant cohorts of luxury fashion stakeholders. The presented propositions about trends contributes to the development of the theory about purchase inclination determinants.

Keywords: Corporate Social Responsibility (CSR), Czech purchasers, logistic regression models, luxury industry, sustainability

JEL classification: D12, D84, L21, M14, M53, Q01

Introduction

The millennial concept of sustainability recently resting on three pillars – environmental (planet), social (people) and economic (profit) – has to reconcile the decrease of available resources and the increase in the world's population (Meadows, Meadows, Randers, Behrens, 1972) by employing a multi-stakeholder model and cross-partnership (Van Tulder, May, Crane, Brammer, 2016; Van Tulder, Keen, 2018). Businesses and their customers should engage in synergetic co-operation where the sustainability drive of businesses will become their commitment vis-à-vis the entire society – the Corporate Social Responsibility ("CSR") and customers should appreciate that (MacGregor, Sroka, MacGregor Pelikánová, 2020a, b). Businesses should spend time, money and effort for CSR and partners, customers and other stakeholders should appreciate it, cooperate with it and reward it by their purchasing choices (Van Tulder, 2017). This expectation is currently tested by the current crisis – the COVID-19 pandemic (Ashford, Hall, Arango-Quiroga, Metaxas, Showalte, 2020). The EU has been hit dramatically by the COVID-19 pandemic (Kufel, 2020) and, despite some strong rhetoric from the European Commission (MacGregor Pelikánová, Cvik, MacGregor, 2021a) and its drive to combine the COVID-19 virus and Green Deal strategies (EC, 2020), it is questionable whether COVID-19 is or can be an opportunity for the EU and European businesses to be stronger and more sustainable (Goniewicz et al., 2020).

There are extensive theoretical and empirical studies about the (lack of) CSR and CSR reporting prior to COVID-19 (Pakšiová, Lovciová, 2019) and even a few studies about CSR during the COVID-19 pandemic (MacGregor et al, 2020a, b). These studies indicate that certain industries are more suitable for the advancement of sustainability and CSR than others (MacGregor Pelikánová, Němečková, MacGregor, 2021c) and that their various stakeholders

strongly expect that (MacGregor Pelikánová, Hála, 2021). A leading example for that is the luxury fashion industry, which clearly puts its sustainability and CSR in the central focus and combines it with its values, as reflected by its intellectual property ("IP") (Cerchia, Piccolo, 2019). Luxury fashion brands represent scarcity, exclusivity and overflowing resources pointed to top goals and priorities, such as CSR. Thus, they should come across as standing up for CSR and as able to afford CSR, at least based on the conventional expectations of their customers during normal times (Olšanová, Gook, Zlatić, 2018). However, what is the attitude of their customers during the crisis, namely the COVID-19 pandemic? More sustainability and CSR? These Socratic questions are pivotal for the critically important ultimate aim and purpose of this contribution – to heuristically achieve a deeper understanding of Czech purchasing habits for luxury fashion in the COVID-19 era. After this introduction , the pathway to it logically starts with the presentation of a literature review (1) and the performance, via an appropriate methodology, of a logistic regression based on data gained from an interview survey employing an investigative questionnaire of a homogenous Czech group of purchasers (2). The critical comparison of the resulting logistic models and their coefficients with field observations heuristically helps to achieve a deeper understanding of Czech purchasing habits regarding luxury fashion in the COVID-19 era (3). Several unexpected propositions emerge and call for further study and confirmation, rejection, or correction. Do Czech customers really care so much for business strategy consistency and so little for sustainability, CSR, and the fight against COVID-19 (4)?

1. Literature Review

CSR entails a set of responsibilities: economic, legal, ethical, etc. (Sroka, Szántó, 2018). The term "*responsibility*" has Latin roots, see "*respondere*", and it means that someone has to answer for the effects caused by him/her to an authority and this authority evaluates the damage (Schüz, 2012). If such a responsibility is elevated from the sphere of ethics and moral duties into the sphere of law, then it becomes a legal responsibility, aka legal liability (MacGregor Pelikánová, MacGregor, Černek, 2021b). CSR responsibility means moral obligations of a business towards a society to go beyond profit maximization (Berman, Wicks, Kotha, Jones, 1999; Małecka, Łucka, Šebestová, Šperka, 2017). Unlike the rather global concept of sustainability with Biblical roots, the more national concept of CSR emerged towards the end of the 19th century in the US context of deplorable working conditions in industrial production and of the increasing philanthropic move. A milestone in the evolution of CSR was

the publication of the book, 'Social Responsibilities of the Businessman', by Howard R. Bowen in 1953, pointing out that the largest US businesses are centers of power and decision-making and touch the lives of all (Carroll, 2016). This has implied the question "what responsibilities to society may businessmen reasonably be expected to assume?" and induced the development of two opposing approaches.

The traditional approach identifies only the responsibility of businesses to maximize profits while acting honestly and in good faith (Theodore Levitt) and leaves social and environmental issues to the state or other institutions, but not businesses (Milton Friedman). It underlines possible agency conflicts and the fact that resource allocations due to CSR may add to the costs and consequently prevent profit maximization (Friedman, 2007). Studies have documented that dishonest or not convincingly presented CSR practices generate unnecessary costs, cripple financial results (Barnett, 2007), destroy stakeholder loyalty and undermine a competitive advantage (MacGregor Pelikánová et al., 2021c).

The stakeholder approach suggests that the CSR leads to a value creation, an improvement of the business 'reputation and branding as well as competition success (MacGregor Pelikánová et al., 2021c). This matches perfectly with the famous proposition that creating shared value (CSV) should supersede general, not properly tailored and only on reputation focusing CSR, which ultimately becomes hard to justify and maintain over the long run (Porter, Kramer, 2011). A "sustainable" CSR should follow the CSV determination to be integral to a business´s profitability and competitive position – to stimulate the creation of economic value by (or along with) creating social value. Consequently, the originally simplistic CSR becomes strategic CSR and the possible evolution phases are: CSR cultural reluctance, CSR cultural grasp and CSR cultural embedment (Olšanová et al., 2018). Further, Carroll´s four-part definition of CSR from 1979 was depicted as a pyramid consisting of four levels demonstrating four types of responsibilities (economic, legal, ethical, and philanthropic). This CSR structure has become iconic and has been endorsed and updated in over 100 variations of this pyramid (Carroll, 2016). Empirical studies have confirmed its correctness, especially the correct sequence of levels based on the importance assigned to them by executives: economic (3.50); legal (2.54); ethical (2.22); philanthropic (1.30) and the permeation of all these levels by ethics and ethic motivations (Carroll, 2012). Recently, the stakeholder approach prevailed, and businesses are morally expected, if not legally liable, to demonstrate a high level of institutionalization of sustainable and ethical principles and practices (Sroka, Szántó, 2018). In particular, the EU and EU member states have shown a varying drive to create a legal liability for themselves and for their businesses regarding sustainability (MacGregor Pelikánová, MacGregor, 2020b et 2021). Typically, there

is a process of progression from none to an over facultative to a mandatory regime (MacGregor Pelikánová, MacGregor, 2020a) with a multitude of CSR categories. Indeed, the following 6 CSR categories have been proposed and endorsed recently (MacGregor Pelikánová, 2019a) – five of them reflect the wording of Directive 2013/34, while one of them reflects the critical importance of innovation for both competitiveness and sustainability (MacGregor et al., 2020b): (i) environment protection; (ii) employee matters (Dvouletý, 2017; Tvrdoň, 2016); social matters and community concerns; (iii) respect for human rights (Osei-Tutu, 2019); (iv) anti-corruption and bribery matters (Sroka, Szántó, 2018) and (vi) R&D activities (MacGregor Pelikánová, 2019b et 2019c).

Since a large majority of European businesses do not have a legal liability to CSR, it is up to each business to make an individual choice (Li et al, 2019, Šebestová et al, 2018). This decision is determined based on whether such a European business perceives CSR either as a mere negative burden increasing costs and leading to a waste of resources (Friedman, 2007) or a vehicle for improvement in all three spheres of sustainability (economic, environmental and social), i.e., even an instrument to improve their own financial performance and profit maximization (Rodriguez-Fernandez, 2016) due to the recognition of shared value policies and principles leading to "a more sophisticated form of capitalism" (Porter, Kramer, 2011). Often, it is about the (lack of a) correlation between CSR and financial performance (McWilliams, Siegel, 2000; Petera, Wagner, Pakšiová, 2021). Based on stakeholder theory, the business engagement with CSR implies (at least indirectly) value creation, improvement of the business' reputation and branding (Osei-Tutu, 2019) and an increase in market share. Arguably, many businesses have recognized that and have engaged in the integration of economic, social, and environmental objectives (Polcyn, Stępień, Czyżewski, 2019), advertise their CSR endeavors and publish reports about their CSR and stakeholders, including customers, who take note about that and modify their attitude based on this corrected information asymmetry (Goss, Roberts, 2011).

Pursuant to first indices, the COVID-19 pandemic has only a weak and fragmentally inspirational effect and the prevailing tenor calls for a pragmatic survival "at any price", i.e., the sustainability ambition is falling behind at regional, local, and individual levels (Mansell, Philbin, Konstantinou, 2020).

Has this departure from sustainability and CSR impacted the values, IP, and business ethics flagship industries as well? The fashion luxury industry was traditionally linked to the allure of limited access, heritage, sophistication, high desirability, excellent quality, high price and the extraordinary (Dubois, Paternault, 1995; Olšanová et al, 2018) along with an ostensible

exhibitionism (Kapferer, 2012). This should be in compliance with all three pillars of sustainability (MacGregor Pelikánová et al., 2021c) – limited resources are used for lavish "eternal" products (Kale, Öztürk, 2016). Luxury branding should be a marketing tool (MacGregor et al., 2020b) taking advantage of all six CSR categories (MacGregor Pelikánová, 2019).

Luxury fashion brands sell products that are rare and designed for "eternity'' and to signal "status" (Han, Nunes, Dreze, 2010). The luxury purchases typically take place in a given street downtown, see the Champs-Élysées in Paris, Fifth Avenue in New York, or Pařížská in Prague (MacGregor et al, 2020a, b). Luxury products and their purchases should increase the need and call for sustainability (Kale, Öztürk, 2016) and the level of satisfaction of business partners, investors and even customers (Křečková Kroupová, 2015). The focus on the heritage, value, and eternity along with the high price makes luxury fashion products more particular during uncertain times, such as the COVID-19 pandemic (MacGregor Pelikánová et al., 2021c).

In the academic press, there have been reported discrepancies and fragmentations of attitudes within the same stakeholder group regarding luxury fashion during the COVID-19 pandemic (MacGregor et al., 2020a, 2020). However, no case studies or interviews in this respect were published regarding "real" customers, i.e., a luxury fashion clientele capable of completing luxury fashion purchases. Therefore, there is an asymmetry of information and only speculative propositions about the expectations and demands of beneficiaries of luxury fashion purchases.

Thus, it is legitimate to check the purchasing inclination of Czech customers in luxury fashion in the COVID-19 era. Do they include values, moral commitments and generally CSR in their purchasing considerations? Is this more, or is it less than during the pre-COVID-19 times? Answers to these questions are instrumental for the heuristic achievement of a deeper understanding of Czech purchasing habits for luxury fashion in the COVID-19 era.

2. Data and Methods

The data and methods were selected to analyze Czech purchasing habits regarding luxury fashion in the COVID-19 era to achieving a deeper understanding in this respect, and also by the lack of availability of hard financial data. Since not all of the financial statements for 2020 have been published and there is speculation about the (lack of) influence of the CSR with respect to the purchasing decisions by Czech customers with respect to luxury fashion products during the COVID-19 pandemic, it is instrumental to conduct an empirical study entailing Czech customers and their purchasing habits vis-à-vis products offered by luxury fashion businesses. Namely, do Czech customers truly care for the sustainability of these businesses and does the CSR of these

businesses increase their brand loyalty and ultimately their buying decisions? Since the times of crises should be the milestones magnifying pre-existing opportunities and threats, then the COVID-19 pandemic should accelerate and emphasize the significance (or lack of significance) of the concept of sustainability for the luxury fashion industry from the perspective of customers. A holistic approach to these questions and expectations leads to a heuristic direct investigation with the logistic processing of data (Alzen, Langdon, Otero, 2018) and critical Meta-Analysis (Forero, Lopez Leon, González Giraldo, Bagos, 2019), refreshed with a field observation and investigative comments and Socratic questioning (Goldin, Pedroncini, Sigman, 2017).

A sample of real Czech customers, i.e., similar customers able and possibly ready to purchase luxury fashion items, was selected and invited to complete a questionnaire and participate in open-ended interviews. The authors established in their prior published studies that such a sample built by a strong adherence to pre-requirements (an interest in luxury products, a financial capacity to make such a purchase, a history of such purchases, and to certain extent as well the age-gender-background) leading to the relevancy that is homogenous and appropriate for the below described exploration (Cvik, MacGregor Pelikánová, 2021). Hence, the research was not reduced to a mere gathering of replies from some respondents, instead a target approach was employed, i.e., all respondents were recruited from the sphere of acquittance of the authors while double checking their general financial strength, awareness about luxury products and record of past purchases. It needs to be emphasized that robustness analysis is typically a nonempirical form of confirmation and rather helps to identify robust theorems than confirm them (Weisberg, 2006). The performed questionnaire investigation, including the selection of respondents, was carefully designed to deal with all three parts of a potential (for a) robust theorem: a common structure, a robust property, and a set of *ceteris paribus* conditions (Orzack, Sober, 1993). The addressing of the last-mentioned *ceteris paribus* conditions is at the very heart of the research in this paper, and definitely contributes to its robustness with *sui generis* features.

The authors identified respondents, and doubled checked the satisfaction of the pre-set requirements and conducted informal open interviews with them. Consequently, they excluded from the case study younger respondents, respondents not able to afford luxury products, who were not aware about them or did not consider purchasing them. Such a double checking and a strict adherence of the pre-set requirements do neither constitute a purposive selection nor eliminate the randomness. Therefore, the selected methodology, including the logistic regression is acceptable. The employed empirical case study format allows for the investigation of the

attitude of real female Czech luxury fashion customers regarding the obvious target (Yin, 2008), namely top luxury fashion businesses located in Prague‘s “5th Avenue”– Pařížská street, during the COVID-19 pandemic (November 2020). It allows the authors as investigators to retain the holistic and meaningful characteristics of the customers perception of real-life events (Yin, 2008) tied to luxury fashion businesses using luxury brands (Dubois, Paternault, 1995) and offering handbags, which are considered indicators and/or the “engine that drives luxury brands today” (Han et al., 2010). All of the respondents were Czech women between 35–54 years old with sufficient resources and awareness about luxury fashion products (leather handbags) and who had already visited at least some of the shops of the luxury fashion businesses in Pařížská street. Since they all had already shopped there, they were further asked how many times they had completed a purchase at a price of at least CZK 10,000 (approximately EUR 400). The amount CZK 10,000 was selected due to the financial level for the pre-selected product (a leather handbag), namely prices can go up to astronomical amounts, but if all price reduction methods are used, including the VAT-custom free option, then the price can be exceptionally dropped below CZK 20,000. Hence, customers purchasing luxury sunglasses or other accessories for CZK 10,000 or more can afford a luxury leather bag.

The questionnaire included two sets of questions. Firstly, there were eight binary questions calling for yes-no answers (questions A1–A8). These questions fully match the particularity of luxury fashion purchasers and purchasing patterns, such as the TM affinity, ongoing purchases of identical and quasi-identical products and their sets, etc. (MacGregor et al., 2020a, b; Olšanová et al., 2018). Secondly, there were 12 differentiation questions calling for absolute yes-do not know-no answers (questions B0–B6). The hypothetical setting facilitating the experimental testing was as follows “You have received a non-transferable voucher in the amount of CZK 100, 000 for the purchase of a luxury fashion leather handbag in Pařížská street during the next 24 hours. Shops are open and you will either use this voucher or it will expire. Based on these facts, reply to the following 8 + 12 questions.” Since robustness analysis indicates whether a result depends on the essentials of the model or on the detail assumptions, i.e., it points out which model offers trustworthy predictions and which model offers explanations (Levins, 1966), the hypothetical setting invites both direct predictions and indirect explanations by a logistic regression of variables. Tables 1 and 2 below provide a simplified version of the investigative questionnaire, which was distributed in November 2020 both as an email attachment and via the link survio.com to 50 pre-selected respondents satisfying the given criteria (Czech women, 35–54 years, sufficient finances, awareness, and experience with buying luxury fashion).

Table 1. Simplified version of the investigative questionnaire – 8 Binary questions: Yes (1) or No (0)

Question (variable)		Yes/No
A1	I know the mentioned TMs and am sure which bag I will pick up. In this case, specify your (brand) choice	1–0
A2	I will visit at least 3 shops and will select the bag accordingly	1–0
A3	During the choice, I will consider the quality and design	1–0
A4	During the choice, I will reflect the values declared by the business	1–0
A5 (SUSTAINABILITY_CSR)	During the choice, I will reflect the CSR of the business	1–0
A6 (CUSTOMER_CARE)	During the choice, I will reflect the customer care and my own experience	1–0
A7 (INCONSISTENCY)	My choice will be influenced by the inconsistency and scandals of the business	1–0
A8 (DIFFERENCE BEFORE/ DURING COVID)	My choice is the same as it was in 2019, i.e., before the COVID-19 pandemic	1–0

Source: own processing by the authors.

These eight binary questions, especially the general sustainability/CSR question (A5. Leading to SUSTAINABILITY_CSR) were the pre-cursors for 12 differentiation questions focusing on the six well established CSR categories (B1a – B6 leading to ENGAGEMENT).

Table 2. Simplified version of the investigative questionnaire – 12 Differentiation questions about changes due to the fight against COVID-19 and about Engagement (Sustainability – 6 CSR categories): no (–1) – I do not know (0) – yes (1)

Question (variable)	How important is for your decision whether the business does	Yes/do not know/No
B0 (FIGHTS_COVID)	Fight against COVID-19.	–1 or 0 or 1
B1a (ENGAGEMENT)	Environment protection (animal protection and welfare)	–1 or 0 or 1
B1b (ENGAGEMENT)	Environment protection (rain forest protection)	–1 or 0 or 1
B1c (ENGAGEMENT)	Environment protection (recirculation)	–1 or 0 or 1
B1d (ENGAGEMENT)	Environment protection (energetic passivity)	–1 or 0 or 1
B2a (ENGAGEMENT)	Employees (positive and knowledgeable employees)	–1 or 0 or 1
B2b (ENGAGEMENT)	Employees (nice working environment)	–1 or 0 or 1
B3a (ENGAGEMENT)	Social (local and regional charity and other projects)	–1 or 0 or 1
B3b (ENGAGEMENT)	Social (charity and other projects from the EU)	–1 or 0 or 1
B4 (ENGAGEMENT)	Global protection of human rights	–1 or 0 or 1
B5 (ENGAGEMENT)	Fight against corruption, bribery and illegality	–1 or 0 or 1
B6 (ENGAGEMENT)	R&D	–1 or 0 or 1

Source: own processing by the authors.

The processing of the primary data gained from such an interview survey employing an investigative questionnaire of a homogenous Czech group of purchasers was done by logistic regression leading to relevant logistic models and the implied outcomes were subjected to a holistic Meta-Analysis (Glass, 1976; Silverman, 2013, pp. 13–20) taking advantage of prior studies – both directly related (Cvik, MacGregor Pelikánová, 2021) and indirectly related (MacGregor et al., 2020a, b). This process structure is founded upon the conviction that the Meta-Analysis is at the top of the pyramid of evidence and thus consolidates previous evidence with new findings (Forero et al., 2019).

Logistic regression is a specific type of analysis employing logistic models and addressing the probability of a certain class or event (Peng, Lee, Ingersoll, 2002). Conventionally, it relies on the binary dichotomy, i.e., assigning values 0–1 (Ranganthan, Preamesh, Aggarwal, 2017). Hence, logistic regression is a statistical procedure which uses a logistic function to model a binary dependent variable along with independent variables (predictors) which are categorical or continuous (Tolles, Meurer, 2016). In the case of our research the following predictors were used and based on them, via SPPS software models generated:

a) Variable OLDER (aka dummy variable) based on the age of the respondents: 35–42 years = 0, 43–54 years =1;
b) Variable PURCHASE_INTENSITY based on the purchase frequency: never = 0, once = 1, several times = 3, often = 6 (values 0–1–3–6 heuristically determined);
c) Variable DECLARED_DENOMINATION: based on question A4: no = 0, yes =1;
d) Variable SUSTAINABITILY/CSR in general based on question A5: no = 0, yes = 1;
e) Variable CUSTOMER_CARE based on question A6: no = 0, yes = 1;
f) Variable INCONSISTENCY based on question A7: no = 0, yes = 1;
g) Variable FIGHTS_COVID based on question B0: no = –1, I do not know = 0, yes = 1;
h) Variable ENGAGEMENT/6 CSR categories based on questions B1a – B6: no = –1, I do not know = 0, yes = 1 (total between –11 and 11).

Based on the logistic regression, models were established that were to predict the probability of the choice of a certain brand (business) based on the variables mentioned above. The general logistic regression formula is:

$$P(Y=1)=\frac{1}{1+e^{-b_0-b_1x_1-b_2x_2-\cdots-b_kx_k}}$$

where Y is a dichotomous dependent variable, which can assume only values 0 or 1, and x_1, x_2, …, x_k are independent variables (dummy or continuous). Finally, b_0, b_1, …, b_k are regression

coefficients, i.e., constants estimated based on data. Naturally, a particular coefficient (b_i) in the logistic model is relevant only if the significance test is met and the corresponding *p*-value is appropriate. The smaller the *p*-value, the more significant the variable is. In statistical research, the threshold for a *p*-value is usually 0.05, but in logistic models the threshold for a *p*-value can be less demanding and 0.1 is often accepted. Therefore, for the purposes of this study, the threshold for the p-value is set as 0.1 and even results slightly higher are mentioned. Consequently, from all of the generated models, the authors selected and presented only models meeting this threshold, i.e. the tables below present all models with the *p*-value under 0.1. The SPPS Software generated a set of tables and models based on the data collected via questionnaires, but only three of them contain some coefficients meeting this threshold: Prada, Gucci, and pre-COVID-19 v. COVID-19. The information offered by these logistic models brings a number of further questions and definitely calls for a Meta-Analysis, which is an analysis of analyses (Schmidt, Hunter, 2014, pp. 5–14), i.e., it is a quasi-statistical analysis of a large collection of results of various studies with the goal to integrate their findings (Glass, 1976). It is founded upon the conviction that there was discovered more than what was understood (Silverman, 2013, pp. 13–20). These logistic models allow for a critical comparison based on their coefficients along with field observations, mystery shopping observations (Osterweil, 2012) and prior studies exploring, via content analysis, various statements, and Codes of Ethics (Krippendorff, 2013; Kuckartz, 2014; Vourvachis, Woodward, 2015) while employing a simplified manual Delphi panel approach (Okoli, Pawlowski, 2004). The holistic approach and empiric Meta-Analysis heuristically reveal Czech purchasing habits towards luxury fashion in the COVID-19 era, which is expanded by glossing and Socratic questioning (Areeda, 1996). Several unexpected propositions emerge and call for further research.

3. Results

Customer purchasing habits during crises is extremely difficult to be predicted. Regarding the luxury fashion industry, it appears that a trend could be observed about a growing awareness and perhaps even expectation of various stakeholders regarding the sustainability, CSR, and values of these businesses (Balcerzak, MacGregor Pelikánová, 2020). During the COVID-19 pandemic, upper management has been responsive to this trend to a greater degree than the lower management of these businesses (MacGregor et al., 2020a, b). However, little is known about customers and their purchasing habits during COVID-19. The described investigative survey employing questionnaires was performed and, through SPPS Software, three statistically

significant logistic regression models were generated (3.1) and their results call for further field search observations and explanations (3.2).

3.1. Regression Models – Prada, Gucci, and differences in the decision making before and during the COVID-19 pandemic

From all of the logistic regression tables and models generated by the Software SPPS, only three met the significance threshold for certain independent variables. The attempt to develop a model for the choice of Louis Vuitton failed because all potential predictors were insignificant. Therefore, only three models are discussed further. When deriving the models, we applied forward logistic regression. We used as threshold value for entry and removal in stepwise regression with the probability of 0.2. Our intention was to use in the models not only *stricto sensu* significant predictors having *p*-values less than 0.05 but also almost significant predictors having *p*-values between 0.05 and 0.2. This approach provides valuable additional information to us.

All three models (the Prada Logistic Model, the Gucci Logistic Model and the COVID Difference Logistic Model) are presented below. The first of these three to be presented is the Logistic Regression Model for the choice of a Prada handbag aka Prada Logistic Model, see Table 3.

Table 3. Logistic Model for the Choice of Prada (Prada Logistic Model)

	Coefficient	Standard Error	Wald´s Test Statistic	*p*-value	Exponentiated coefficient
Predictors	*b*	S.E.	Wald	Sig.	Exp(*b*)
OLDER	–2.303	1.112	4.284	0.038	0.100
CUSTOMER_CARE	–2.303	1.597	2.079	0.149	0.100
Constant	1.609	1.655	0.946	0.331	5.000

Source: prepared by the authors based on the investigation and with the Software SPPS.

Pursuant to the final Prada Logistic Model, $P(Y = 1)$ means the probability that the respondent will purchase a Prada handbag based on the knowledge of her age and opinion about customer care. Independent variables are x_1 = OLDER and x_2 = CUSTOMER_CARE. The estimated regression coefficients are: b_0 = Constant = 1,609, b_1 = –2.303, b_2 = –2.303.

A statistically sufficient significance was reached *stricto sensu* only by one independent variable. Indeed, the significance of the variable OLDER is 0.038. The corresponding coefficient reached a negative value (b_1 = –2.303) and this means that unit increase in the value of variable

x_1 decreases the probability of purchasing the Prada handbag. Since x_1 is the variable OLDER, then an increase by 1 means the move from the younger respondent category to the older respondent category. Consequently, comparing respondents who differ only in age category and otherwise share the same opinions about customer care, for the older respondent the probability of purchasing a Prada handbag is smaller. Based on exponentiated coefficient Exp (b_1) the odds ratio is 0.1. It means that the odds that the older purchaser will buy a Prada handbag, as compared to a similar younger respondent, are ten times smaller. Another possible interpretation of this coefficient gives the corresponding marginal effect. The model estimates the probability of 0.055 that the older purchaser with the mean opinion on customer care will buy a Prada handbag while this probability for a similar younger respondent is 0.366.

The coefficient by the variable CUSTOMER_CARE reached the negative value ($b_2 = –2.303$) and Exp (b_2) was 0.1, too. The interpretation is that the odds that a purchaser who reflects customer care will buy a Prada handbag, as compared to a similar respondent who does not take this care, are ten times smaller. However, this proposition is not sufficiently academically robust because of the lack of meeting the threshold for statistical significance (Sig. 0.149). Table 4 shows the sensitivity and specificity of the Prada logistic model. Sensitivity, i.e., the probability that a respondent predicted by the model to buy a Prada handbag really made this purchase, equals 0.9, which is fine. Specificity, i.e., the probability that a respondent predicted by the model not to buy a Prada handbag really did not make this purchase, equals 0.526, which is not so good.

Table 4. Prada Logistic Model – Classification table

Observed		Predicted		
		PRADA		percentage correct
		0	1	
PRADA	0	20	18	52.6
	1	1	9	90.0
Overall percentage				60.4

Source: prepared by the authors based on the investigation and with the Software SPPS.

We do not report an ROC curve for this model as the only one significant variable is dichotomous.

Table 5. Logistic Model for the choice of Gucci (Gucci Logistic Model)

	Coefficient	Standard error	Wald´s test statistic	*p*-value	Exponentiated coefficient
Predictors	*b*	S.E.	Wald	Sig.	Exp(*b*)
PURCHASE_INTENSITY	–0.385	0.278	1.922	0.166	0.680
INCONSISTENCY	–1.832	1.207	2.305	0.129	0.160
ENGAGEMENT	0.250	0.115	4.759	0.029	1.284
Constant	–1.555	0.761	4.177	0.041	0.211

Source: prepared by the authors based on the investigation and with the Software SPPS.

Pursuant to the final Gucci Logistic Model, $P(Y = 1)$ means the probability that the respondent will purchase a Gucci handbag based on the knowledge of her frequency of purchases, opinions about inconsistency, and engagement. A statistically sufficient significance was reached *stricto sensu* only by one variable, ENGAGEMENT with an impressive *p*-value 0.029. This variable has a positive coefficient ($b_3 = 0.25$), and this means that the increase of the value of the variable ENGAGEMENT increases the probability of purchasing the Gucci handbag. Based on exponentiated coefficient Exp (b_3) the odds ratio is 1.284. It means that each one unit increase in the variable ENGAGEMENT holding all other predictors unchanged increases the odds of buying a Gucci product by 28.4%. Respondents selecting a Gucci handbag care for the CSR as projected in six CSR categories more, i.e., the particular social and environmental engagement of Gucci is more important for their customers compared to customers vis-à-vis other brands.

This is magnified by the ‘’sister’’ independent variable INCONSISTENCY. Its coefficient reached a negative value ($b_2 = –1.832$), meaning that respondents reflecting the inconsistency and scandals of the business do not buy Gucci so often as others – the odds ratio is 0.16. The variable PURCHASE_INTENSITY has a negative coefficient ($b_1 = –0.385$) while Exp (b_1) reached the value of 0.68. This can be interpreted as follows: Each purchase of a luxury bag decreases the odds that the next one will be a Gucci by 32%. Nevertheless, the last two variables discussed do not meet the threshold for a statistical significance (*p*-values were 0.129 and 0.166). Table 6 shows the sensitivity and specificity of the Gucci logistic model. Sensitivity equals 0.847 and specificity 0.854 – both values are fine.

Table 6. Gucci Logistic Model – Classification table

Observed		Predicted		
		GUCCI		percentage correct
		0	1	
GUCCI	0	35	6	85.4
	1	1	6	85.7
Overall percentage				85.4

Source: prepared by the authors based on the investigation and with the Software SPPS.

ROC curve for the variable ENGAGEMENT is shown in Figure 1. The area under the curve is significantly above 0.5 (see Table 7) which shows the good predictive value of this variable.

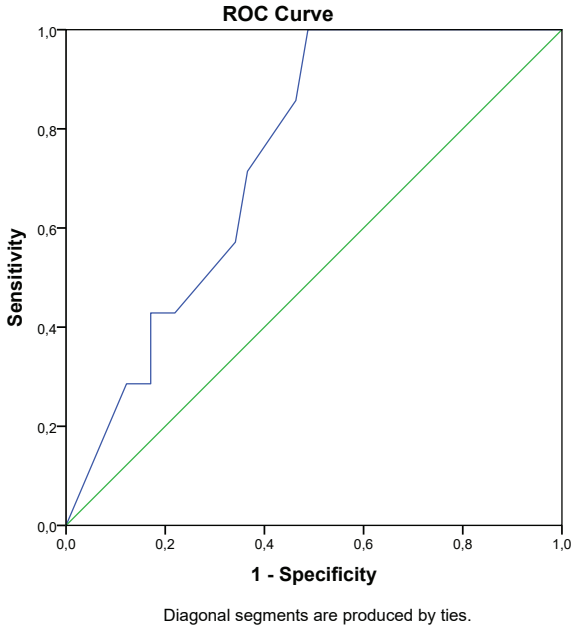

Figure 1. ROC curve for the ENGAGEMENT

Source: prepared by the authors based on the investigation and with the Software SPPS.

Table 7. Gucci Logistic Model – Area under ROC curve for the predictor ENGAGEMENT

Area	Std. error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
			lower bound	upper bound
0.740	0.079	0.044	0.586	0.895

[a] Under the nonparametric assumption.
[b] Null hypothesis: true area = 0.5.

Source: prepared by the authors based on the investigation and with the Software SPPS.

Table 8. Logistic Model for the Difference in the Decision Making Before/During COVID-19 (Covid Difference Logistic Model)

	Coefficient	Standard Error	Wald´s Test Statistic	*p*-value	Exponentiated coefficient
Predictors	*b*	S.E.	Wald	Sig.	Exp(*b*)
OLDER	–1.836	0.739	6.168	0.013	0.159
PURCHASE_ INTENSITY	0.304	0.185	2.687	0.101	1.355
SUSTAINABILITY	–1.018	0.698	2.129	0.145	0.361
Constant	0.121	0.557	0.047	0.828	1.129

Source: prepared by the authors based on the investigation and with the Software SPPS.

Pursuant to the final COVID Difference Logistic Model, $P = (Y = 1)$ means the probability that the respondent's choice would be different now from before the COVID-19 pandemic, based on the knowledge of the characteristics of such a respondent (her age, frequency of purchases, and opinions about sustainability). A statistically sufficient significance was reached *stricto sensu* only by one variable (OLDER) and almost reached by two more variables (PURCHASE_ INTENSITY and SUSTAINABILITY). By the OLDER (impressive *p*-value of 0.013), the coefficient reached a negative value ($b_1 = –1.936$). Consequently, comparing respondents who differ only in age and otherwise share the same characteristics (frequency of purchases, opinions about sustainability), for the older respondents the odds to change their purchase decision regarding a luxury fashion bag is smaller, i.e., they are less likely to change their purchase habits and patterns due to the arrival of COVID-19. Another possible interpretation of this coefficient gives the corresponding marginal effect. The model estimates the probability of 0.173 that the older purchaser with the mean purchase intensity and mean reflection of sustainability will change her purchasing decision regarding a luxury fashion bag while this probability for a similar younger respondent is 0.567. This leads to a proposition that older respondents are more conservative and/or more loyal than younger ones. The variable PURCHASE_INTENSITY with a reasonable statistically significant (sig. 0.101) has a positive coefficient ($b_2 = 0.304$). Hence,

the frequency of purchases before COVID-19 positively influences the inclination to change the purchase decisions during the COVID-19 pandemic. The variable SUSTAINABILITY has a near to threshold significance (sig. 0.145) and negative coefficient ($b_3 = -1.018$). So, reflecting sustainability and CSR in business decreases the probability to change the purchase decision during the COVID-19 pandemic. Table 9 below shows the sensitivity and specificity of the Difference logistic model. Sensitivity equals 0.611 (not so good) and specificity 0.833.

Table 9. Difference Logistic Model – Classification table

Observed		Predicted		
		COVID_CHANGED_MY_DECISION		percentage correct
		0	1	
COVID_CHANGED_MY_DECISION	0	25	5	83.3
	1	7	11	61.1
Overall percentage				75.0

Source: prepared by the authors based on the investigation and with the Software SPPS.

The ROC curve is not reported for this model as the only one significant variable is dichotomous.

3.2. Meta-Analysis confrontation of outputs from logistic regression models with complementary field search and observations

The investigative questionnaire survey led to logistic regression models which brought surprising propositions deserving further elaboration, field search glossing and Meta-Analysis.

Firstly, Prada, which does not create any group, had led the Prada Logistic Model which proposes, based on the variable OLDER with a negative coefficient, that comparing respondents who differ only in age and otherwise share the same characteristics (frequency of purchases, opinions about sustainability, etc.), then for the older respondent the probability of purchasing a Prada handbag is smaller. This is magnified by the variable PURCHASE_INTENSITY, where the coefficient reached a positive value, and the significance threshold was almost reached and thus leading to the proposition that purchase frequency increases the likelihood of a further purchase. In contrast, the almost statistically significant CUSTOMER_CARE brings a negative value, and this loosely can lend support to the proposition that customer care is not so important for customers when considering the purchase of a Prada handbag. Therefore, it might be expected that Prada is prima facia a choice for younger and frequently shopping customers who do not care that much for the level of customer care. Neither their CSR reports nor their business

codes nor the repeated field search can confirm or reject that. They focus on the sustainability and CSR and do not come across as primarily targeting a younger clientele. The shop visits demonstrated a higher customer care and low-management awareness and commitment than e.g., by Louis Vuitton. There is not a strong foundation for proposing a motto and only with a touch of exaggeration can one offer up "let´s work with a newly CSR sensitive clientele."

Secondly, Gucci, which is part of the Kering Group together with e.g., Bottega Veneta, had led the Gucci Logistic Model with a strongly statistically significant ENGAGEMENT with a positive coefficient. This means that respondents selecting a Gucci handbag care for the CSR as projected in six CSR categories more, i.e., the particular social and environmental engagement of Gucci is more important for their customers compared to customers vis-à-vis other brands, see Louis Vuitton. Further, the almost statistically significant PURCHASE_INTENSITY has a negative coefficient, and this means that the increase in the value of the variable PURCHASE_ INTENSITY decreases the probability of purchasing a Gucci product. Hence, respondents selecting a Gucci handbag do care a lot and strongly consider the sustainability and CSR, but the fact that they have already (several times) purchased a Gucci handbag does not increase the likelihood that they will purchase it again. These propositions are partially confirmed by Gucci CSR reports, Codes of Ethics, and field observations. At the same time, it must be pointed out that shop visits showed extreme interest and commitment regarding especially the environment pillar of the sustainability and CSR sub-category animal welfare and energy passivity, but this was matched only by ENGAGMENT, but not by the sister variable SUSTAINABILITY. This finding is further made more puzzling by the decreasing purchasing intensity, since customer care seems very good and generally Gucci shows an interest in the establishment of a loyal clientele. Perhaps the motto could be "let´s be sustainable and CSR ambassadors for our customers."

Thirdly, the COVID Difference Logistic Model, regarding the difference in the decision making before and during the COVID-19 pandemic, implied a statistically sufficient and significant proposition regarding the independent variable OLDER and an almost statistically sufficient significant variable PURCHASE_INTENSITY and SUSTAINABILITY. The negative coefficient by OLDER suggests that older respondents are less likely than younger respondents to change their purchase decision regarding a luxury fashion bag due to the arrival of COVID-19. This proposition that they are more conservative and/or more loyal than younger respondents is further magnified by PURCHASE_INTENSITY which suggests that the frequency of purchasing before COVID-19 positively influences the purchase decision during the COVID-19 pandemic. Finally, SUSTAINABILITY has a near to threshold significance and negative coefficient. This indicates that the increase of commitment to the sustainability, and perhaps even to 6 CSR

categories does not increase the probability of changing the purchase decision during the COVID-19 pandemic. Here the motto might be "During COVID-19, CSR maybe for younger, but loyalty for sure for older."

Consequently, seven semi-conclusions emerge. Firstly, age is not just a number, indeed it matters in a rather dramatic manner and the variable OLDER as well as the wording of CSR reports and Codes of Ethics, along with personal field observations, suggest that often the attitude and appreciation for a special luxury fashion business feature depends upon the age of the purchasers. Secondly, the frequency of prior purchases can positively or negatively or not at all influence the purchasing inclination, i.e., it seems that this variable is a multi-factor and, contrary to conventional expectations, does not bring a unified answer. Thirdly, customers do not seem to be over-sensitive regarding "small" scandals, libels, and slanders", but a direct falsehood goes above and beyond the line of tolerance (or ignorance) by customers and generates a clear rejection, i.e., leads to the decrease of the purchase inclination. Fourth, the importance of sustainability in general and of the six CSR categories in particular, is just moderately and fragmentally important for purchasers. Especially here a difference between businesses and brands emerges. The clientele of Louis Vuitton cares much less than the clientele of Prada for sustainability and CSR. However, this is in contrast with the CSR HUB Sustainability Management Tools CSR/ESG ranking, where the leaders are Gucci (96%) and Louis Vuitton (92%) (CSRHub, 2019). Fifth, customers enjoy customer care, but there are large differences in the significance which they assign to it. This is deplorable, in particular for businesses working really hard in this respect, such as Prada, because their clientele basically does not consider it while thinking about purchasing. Sixth, if we want to share the optimism for the Green deal and stronger EU as advanced by the President of the European Commission, i.e., her conviction that COVID-19 is an opportunity to make such positive changes, then we must turn to younger purchasers who are ready to change their purchase decisions based on the sustainability and CSR much more so than older respondents. Seventh, a number of logistic models were prepared and based on the performed investigation of the questionnaire, but only three with just a few significant variables were identified. This emphasizes the differences in customer's attitudes and habits and the differences between luxury fashion businesses. The luxury fashion business is more extravagantly colorful with its strategy than expected and desired by the UN and EU, but customers perhaps do mind that and share the fragmented attitude with "their" favorite(s) luxury fashion business(es). *Caesar caesaris, deus dei* … and even the motto of the EU is *United in diversity*, so we can merely ask *Quo vadis*.

Conclusions

The UN and EU want to engage businesses with the sustainability issue and attempt to boost their CSR directly by harmonizing the reporting and indirectly pushing businesses to be transparent about their CSR. Academia follows that by litigating for the growing importance of sustainability, business ethics and CSR and the ultimate win-win setting. However, at least regarding the flagship sector – the luxury fashion industry, the picture is not so bright, especially from the below perspective. Indeed, the strong enthusiasm for sustainability and CSR as declared above and relatively accepted by the declaration of top management and owners, perhaps investors, does not seem to receive a unified warm welcome lower down, by lower management and customers in Prague. This is the strongest message generated by an investigative questionnaire case study using logistic regression models and complemented by field observations. The investigative survey employing a questionnaire with binary and differentiated questions of a homogenous Czech group of luxury fashion purchasers leads to a critical comparison of resulting logistic models, which are more explanatory than predicative, and propositions which can be partially explained by information implied from the field observations and other sources. This leads to seven propositions regarding Czech purchasing habits regarding luxury fashion during our current COVID-19 era.

First off, regardless of the brand, the age of purchasers matters, and a vision of a universal luxury fashion purchaser is total fiction. Second, the frequency of prior purchases is not conclusive, i.e., the number of prior purchases tells us very little about the likelihood of the expected quantity of future purchasers. Third, customers are not over-sensitive and tolerate (perhaps ignore) small scandals and truth manipulation but hate large scandals and direct lies and in such a case their purchase choices change. Fourth, the importance of sustainability in general and of six CSR categories in particular, is just moderately and fragmentally important for purchasers, i.e., large differences between brands appear and the customer's "winners" are not necessarily the best according to the CSR/ESG rankings. Fifth, customer care is not a key determinant for purchasing decisions. Sixth, the conviction of the President of the European Commission that COVID-19 is an opportunity, among other things, for changes and more sustainability is shared more likely by younger purchasers than older purchasers who are definitely more conservative and loyal to prior patterns. Seventh, there are many differences in customers' attitudes and habits as well as differences between luxury fashion businesses, their strategies and values. The luxury fashion business is more extravagantly colorful than expected by the UN, EU, and state representatives, perhaps even the majority of academia, and, so far, at least from the customers´ perspective, the diversity beats the sustainability.

These seven propositions, backed by a survey, field observation and certain prior academic findings, demonstrate an improvement regarding the understanding of the luxury fashion purchasing choices by a homogenous Czech group of purchasers and arguably even beyond. Although prima facia these propositions look pioneering, the provided deeper review of prior literature and an appreciation of current particularities are consistent with them. Certainly, the sample was small and only from one jurisdiction, but the generated data is in compliance with recently proven propositions about the fragmented and heterogeneous nature of the perception and decisions made concerning luxury purchases and about the lack of synergetic effects between various CSR categories and pro-luxury attitudes. Tying a well-known trademark to sustainability pillars and CSR categories does not imply a boost in luxury purchasing choices.

Longitudinal studies (before, during, and after COVID-19) with more real purchasers from various jurisdictions should be performed. Complementary information provided by the luxury fashion businesses themselves, such as the CSR reports and Codes of Ethics, should be explored to further analyze the determinants for luxury purchase decisions in relation to sustainability in more jurisdictions in the EU and this while paying attention to industries which are conventionally perceived as CSR flagships, such as banking, pharmaceutical, energy, etc.

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