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MARIA GABRIELA MONTANARI

The influence of changes in brand origin and country of manufacture on willingness to pay for
a brand: an experimental study with Brazilian consumers

Advisor: Prof. PhD Janaína de Moura Engracia Giraldi

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Vahan Agopyan
President of the University of São Paulo

André Lucirton Costa
Dean of the School of Economics, Business Administration and Accounting at Ribeirão Preto

Prof. Dr. Jorge Henrique Caldeira de Oliveira
Head of the Department of Business Administration

MARIA GABRIELA MONTANARI

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Prof. PhD _____

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Prof. PhD _____

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*“First, think. Second, dream.
Third, believe. And finally, dare.”*

Walt Disney

ABSTRACT

Montanari, M. G. (2019). *The influence of changes in brand origin and country of manufacture on willingness to pay for a brand: an experimental study with Brazilian consumers* (PhD Thesis). School of Economics, Administration and Accounting of Ribeirão Preto, University of São Paulo, Ribeirão Preto.

Despite current criticism on country of origin (COO) as a determinant of consumers' behavior (COO effect), this cue has regained importance in consumers and marketers' decisions due to the globalization of business activities. As products are now branded and produced in different countries, COO can be divided into brand origin (BO) – country where a brand is based – and country of manufacture (COM) – country where the brand is produced. Furthermore, both BO and COM are continually changing, as a result of cross-borders acquisitions and production shifts. In these situations, consumers not only have access and evaluate distinct COO information (BO and COM) but also have to deal with a new origin, based on their perceptions about different countries, e.g., country image. Thus, this research examined the relationship between changes in COO (BO and COM) and consumers' willingness to pay (WTP) for a brand. While is clear by previous literature that there is an interplay between BO and COM, findings are still inconclusive about the most relevant cue to consumers (BO or COM), especially considering acquisitions and production shifts, which can modify consumers' perceptions of these cues. On the other hand, little is known about how BO and COM can simultaneously influence price outcomes, such as willingness to pay. To achieve the study purpose, an experiment with 413 Brazilian consumers was conducted, involving a specific product category (sunglasses), two countries (USA and China) and three business scenarios: a brand takeover (an alteration in brand origin); an outsourcing (country of manufacture change); and a brand takeover along with an outsourcing (a variation in both brand origin and country of manufacture). First, findings indicated that changes in COO (BO and COM) positively affected consumers' willingness to pay in the product category of sunglasses. Second, they suggested that both BO and COM exerted an equal effect on consumers' willingness to pay (WTP), which may be associated with a low brand familiarity or, more likely, with the reduced importance of COO (BO and COM) in the presence of other extrinsic cues, such as the brand, significant in the product category addressed. Finally, asymmetric effects on willingness to pay were revealed, in which consumers paid more for gains than for equivalent losses in BO or/and COM. Therefore, this research contributed to COO studies, drawing insights from signaling theory and prospect theory. It also offered managerial support for pricing decisions and communication strategies: for instance, marketing managers can increase prices when the brand changes to country with a more favorable image, particularly if this new origin reinforces brand associations. In addition, they can communicate BO or COM when these cues carry positive connotations.

Keywords: Country of origin effect. Brand origin. Country of manufacture. Willingness to pay.

RESUMO

Montanari, M.G. (2019). *A influência de mudanças na origem da marca e no país de fabricação na disposição a pagar: um estudo experimental com consumidores brasileiros* (Tese de Doutorado). Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto.

Apesar das críticas atuais ao país de origem (*country of origin* – COO) como determinante do comportamento dos consumidores (efeito país de origem ou *COO effect*), esse atributo recuperou sua relevância nas decisões de consumidores e profissionais de marketing devido à globalização das atividades de negócios. Como os produtos são gerenciados e produzidos em diferentes países, o COO pode ser dividido em origem da marca (*brand origin* - BO) – país em que a marca está sediada – e país de fabricação (*country of manufacture* - COM) – país em que a marca é produzida. Além disso, BO e COM estão sempre mudando, como resultado de aquisições e alterações no local de produção. Nessas situações, os consumidores não apenas têm acesso e avaliam informações de país de origem distintas (BO e COM), mas também têm que lidar com uma nova origem, baseados em suas percepções sobre países diferentes, ou seja, as imagens desses países. Deste modo, esta pesquisa verificou a relação entre mudanças no país de origem (BO e COM) e a disposição dos consumidores a pagar (*willingness to pay* – WTP) por uma determinada marca. Embora esteja claro a partir da literatura que existe uma interação entre BO e COM, não há um consenso sobre qual é mais relevante para os consumidores (BO ou COM), principalmente considerando aquisições e variações no local de produção, que podem modificar as percepções dos consumidores sobre esses atributos. Por outro lado, pouco se sabe sobre como BO e COM podem afetar simultaneamente resultados de preço, como a WTP. A fim de atingir o objetivo do estudo, foi realizado um experimento com 413 consumidores brasileiros, envolvendo uma categoria de produto específica (óculos de sol), dois países (EUA e China) e três cenários de negócios: aquisição da marca (alteração de BO); terceirização (mudança de COM) e aquisição e terceirização (variação em BO e COM). Primeiramente, os resultados indicaram que mudanças no país de origem (BO e COM) afetaram positivamente a disposição a pagar por óculos de sol. Em segundo lugar, eles sugeriram que tanto BO quanto COM exerceram um efeito igual sobre a disposição a pagar (WTP), o que pode estar associado com uma baixa familiaridade com a marca ou, mais provavelmente, com a menor importância do COO (BO e COM) na presença de outros atributos extrínsecos, como a marca, significativa nessa categoria de produto. Finalmente, efeitos assimétricos sobre a disposição a pagar foram revelados, nos quais os consumidores pagaram mais pelos ganhos do que pelas perdas equivalentes em BO ou COM. Portanto, essa pesquisa contribuiu com os estudos de país de origem, extraindo insights da teoria da sinalização e da teoria da perspectiva. Também ofereceu apoio gerencial para decisões de preço e estratégias de comunicação: por exemplo, os gerentes de marketing podem elevar os preços quando a marca muda para um país de imagem mais favorável, particularmente se essa nova origem reforça associações de marca. Ainda, eles também podem comunicar BO ou COM quando essas informações carregarem conotações positivas.

Palavras-chave: Efeito país de origem. Origem da marca. País de fabricação. Disposição a pagar.

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1 Introduction

In the last decades, the importance of a product's country of origin (COO) has been extensively debated in international marketing (Lu, Heslop, Thomas, & Kwan, 2016; Zeugner-Roth, 2017). The discussion has been focusing on the COO effects, e.g., the extent that COO can influence consumers' responses (Maheswaran, Chen, & He, 2013).

Despite all the criticism on COO as a determinant of consumers' behavior (see Bhaskaran & Sukumaran, 2007; Lu et al., 2016; Pharr, 2005; Usunier, 2006; Usunier, 2011), this construct has regained importance in consumers and marketers' decisions due to the globalization of business activities (Maheswaran et al., 2013).

This phenomenon culminated in an intense proliferation of products with multiple origins (Durand, 2016), as they are the outcome of multinational collaborations, trades (Ha-Brookshire & Yoon, 2012; Zeugner-Roth, 2017) and integrated value chains (Karimov & El-Murad, 2019).

These products are often branded and manufactured in different countries (Aruan, Crouch, & Quester, 2018; Coskun & Burnaz, 2016; Usunier & Cestre, 2007; Zeugner-Roth, 2017). Consequently, the country of origin (COO) can be mainly decomposed into brand origin (BO) – country where the brand is based – and country of manufacture (COM) – country where the brand is produced (Johnson, Tian, & Lee, 2016).

In addition, in the current dynamic and globalized marketplace, these diverse origins (BO and COM) are constantly changing. Companies are looking for cost advantages, secure market opportunities (Aruan et al., 2018) and higher flexibility (Funk, Arthurs, Treviño & Joireman, 2010) in order to achieve competitive advantage in the international market. Hence, major cross-borders brand acquisitions and production shifts across national boundaries became increasingly common in consumer-oriented industries (Johansson, Koch, Varga, & Zhao, 2018; Herz & Diamantopoulos, 2017).

A cross-border acquisition includes at least two companies from different countries (Fang & Wang, 2018) and often results in a change in the corporate headquarters of the acquired company (Herz & Diamantopoulos, 2017) and in the place where the brand is originally from (brand origin – BO). Examples comprise the American fashion group Michael Kors Holdings Ltd purchasing the Italian fashion brand Versace, the Chinese corporation Geely taking over Volvo cars from Sweden, the Mexican group Lala buying the Brazilian dairy brand Vigor.

Similarly, a production shift refers to an alteration in the production activities and/or facilities of the company to other country (country of manufacture - COM change), such as Nivea (German) manufacturing in Austria, Nike (US sport shoes brand) producing in China or Brazilian sunglasses Chilli Beans being made in Argentina. This multi country sourcing process take place through international outsourcing or offshoring practices.

Initially, in both cases, consumers have access to different COO information (BO and COM) to evaluate product attributes and the brand. They are interested in the country of manufacture (COM) to ensure products are made in a safe manner and they are also concerned with the added value communicated by the brand considering the country and its excellence in certain product category (Ha-Brookshire & Yoon, 2012), e. g., its brand origin (BO).

Thus, they develop products' perceptions from a country, based on their prior beliefs about country's production and marketing strengths and weaknesses, e. g., they create a country image (Roth & Romeo, 1992). This image about products, grounded on BO and COM, is an important driver to their intentions and purchase behavior (Coffey & Kabadayi, 2019), because a more (less) favorable image is usually associated with positive (negative) consumer responses (Balabanis & Diamantopoulos 2011; Chowdhury & Ahmed, 2009; Koschate-Fischer, Diamantopoulos, & Oldenkotte, 2012).

Then, after the acquisition or the production shift, consumers have to deal with a new origin, that carries different associations. Accordingly, consumers not only engender an image concerning the new country, but also compare this image with the previous country of origin information.

For example, when a company decides to change the country of manufacture of a certain product towards a place with less favorable associations (less favorable image), consumers can develop lower brand perceptions, which can compromise the brand (Fetscherin & Toncar, 2010) and the brand equity (Han & Terpstra, 1988).

In contrast, when a brand is bought by a company from a country with a more favorable image, the acquisition uncertainty can be reduced and the likelihood of the trusting the foreign firm and purchasing its products can be enhanced (Matarazzo, Lanzilli, & Resciniti, 2018).

In this sense, COO research has shown that brand origin (BO) and country of manufacture (COM) can influence consumers' responses and also has revealed that changes in these cues due to cross-border acquisitions and production shifts across national boundaries can positively (negatively) affect their behavior if the new origin represents a more (less) favorable image.

However, the interplay between BO and COM produced a confounding outcome in past literature comparing brand effects and country of manufacture effects (Hui & Zhou, 2003), e. g., findings are still inconclusive about the most relevant cue: BO or COM (Bartikowski, Fastoso, & Gierl, 2019; Phau & Prendergast, 2000; Coskun & Burnaz, 2016). This is critical because consumers still value both brand origin (BO) and country of manufacture (COM) (Ha-Brookshire & Yoon, 2012) and these cues are important to create brand equity (Loureiro & Kaufmann, 2017) and to underpin international marketers positioning strategies (Bartikowski et al., 2019; Karimov & El-Murad, 2019).

Furthermore, there is an absence of studies on consumers reactions towards an acquisition, and consequently, a change in brand origin (BO) (Fang & Wang, 2018; Lee & Lee, 2011; Matarazzo et al., 2018), as well as a limited attention to production shifts, e. g., a change in the country of manufacture (Felix & Firat, 2019), which can modify the importance that consumers place in origin cues (Papadopoulos, Cleveland, Bartikowski, & Yaprak, 2018) and also can offer a dynamic perspective (Felix & Firat, 2019).

Precisely, there is a call for investigations to contemplate the decisive role that country image can exert instead of focusing only on brands and companies' features (Liu, Öberg, Tarba, & Xing, 2018). There is also a necessity to concentrate on both acquisitions and production shifts, rather than only one business scenario as previous explored (see Fang & Wang, 2018; Felix & Firat, 2019; Han & Terpstra, 1988; Johansson & Nebenzahl, 1986; Lee, Chen & Guy, 2014; Lee & Lee, 2018; Liu et. al, 2018; Matarazzo et al., 2018), given this is a possible real situation in the global marketplace. Additionally, a direct comparison between changes to countries with a more favorable image and analogous changes to countries with a less favorable image, both conceivable in the international environment, are still missing.

Ultimately, little is known about price related consequences of COO (Koschate-Fischer et al., 2012), particularly considering multiple origins (BO and COM). Extant COO research has mainly covered other behavior outcomes, such as quality evaluations, attitudes and purchase intentions (Chowdhury & Ahmed, 2009; Koschate-Fischer, et al., 2012), overlooking price responses, which are closer to real behavior (Magnusson, Westjohn, & Zdravkovic, 2011; Papadopoulos et al., 2018).

Overall, COO literature highlighting price results is still scarce and it has focused either on country of manufacture (Drozdenco & Jensen 2009; Hu & Baldin, 2018; Hulland, Todino, & Lecraw, 1996; Johansson & Nebenzahl, 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci, Casprini, Guercini, & Zanni, 2017) or on brand origin (Aichner, Forza, & Trentin, 2016; Agrawal & Kamakura, 1999; Saridakis & Baltas, 2016; Siew, Minor, & Felix, 2018; Thanasuta,

Patoomsuwan, Chaimahawong & Chiaravutthi, 2009), showing in general a positive effect of these cues on prices. Nonetheless, the effect of both brand origin (BO) and country of manufacture (COM) on price and how changes in these cues can provoke distinct price dispositions has been not observed before, even considering that these cues interact and are mutually relevant to consumers (Ha-Brookshire & Yoon, 2012; Ho, Brodowsky, & Lee, 2018).

To address these issues, this research examined the relationship between changes in COO (brand origin and country of manufacture) and consumers' willingness to pay (WTP) for a brand.

Willingness of pay (WTP) is a measure of price and represents the maximum amount of money a consumer is willing to spend for a product or a service (Cameron & James, 1987; Homburg, Koschate & Hoyer, 2005). Different from another price measures, such as sales prices, only available at the aggregate level and after purchases (Breidert, Hahsler, & Reutterer, 2006), willingness to pay (WTP) can be measured at the individual level (Desmet, 2016) any time and it can manifest consumers' judgment of the product's perceived value (Le Gall-Ely, 2009).

Therefore, the study's contribution is threefold. First, on the theoretical level, signaling theory was employed in order to verify whether there is an effect of country of manufacture (COM) and brand origin (BO) on consumers' willingness to pay (WTP) and the extent of this effect on consumers. It also allowed to check which of these two COO components was more important to consumers in different business situations, such as acquisitions and production shifts.

This theory has a core advantage of focusing on the asymmetric and imperfect nature of markets and on signals that portray specific attributes (Erdem & Swait, 1998). This is extremely relevant in the globalized environment, in which consumers look for shortcuts to overcome excess of information and to make product choices more satisfying (Papadopoulos et al., 2018), while companies manipulate the information sent to them to achieve competitive advantage (Erdem, Swait, & Valenzuela, 2006). In this sense, consumers can use origin cues (BO or/and COM) to decide about product offerings and companies can select the most appropriate cue to communicate to the market in order to affect their willingness to pay.

Furthermore, prospect theory was proposed as a theoretical background to investigate differences in consumers' willingness to pay, regarding possible COO (BO and COM) asymmetric effects, e. g., a potential alteration on consumers' willingness to pay (WTP) concerning the same change in COO (BO and/or COM), differing only how this change occurs: from a country with a less favorable image to a country with more favorable image (gain

situation) or otherwise: from a country with a more favorable image to a country with less favorable image (loss situation).

Indeed, this economic theory has the benefit of emphasizing the role of changes (gains and losses) in people's different choices, instead of addressing final states (Kahneman & Tversky, 1979). It suggests that people are more sensitive to losses than to gains of the same extent (Barberis, 2013), leading to an interesting path to debate comparable losses and gains in origin cues (BO and/or COM) and their related effects on consumers' willingness to pay (WTP).

Second, on the methodological front, this study used Van Westendorp (1976) Price Sensitivity Meter (PSM) to estimate consumers' willingness to pay (WTP). This procedure has been applied both in managerial practice (Breidert et al., 2006) and marketing research (see Ceylana, Koseb, & Aydin, 2014; Khandker & Joshi, 2018; Salamandi, Alijosiene, & Gudonavičienė, 2014), but not in country of origin (COO) field.

Although there have been some attempts to measure willingness to pay (WTP) in COO studies (Aichner et al., 2016; Drozdenko & Jensen, 2009; Hu & Wang, 2010; Johansson & Nebenzahl 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci et al., 2017; Siew et al., 2018), they were based on only one direct question to the consumers or auction methods (price bids). Compared to these approaches, the PSM technique, based on four open-ended queries, is promising because it offers more realistic results than single questions methods, it allows the estimation of individual WTP (Desmet, 2016) and it is closer to a real purchase situation, particularly when compared to auction methods such as Becker, DeGroot and Marschak's (1964) procedure (BDM).

Overall, PSM is simple (Harmon, Unni, & Anderson, 2007; Lipovetsky, Magnan, & Polzi, 2011) and provides price ranges, which are more accurate than other procedures to estimate consumers' willingness to pay (Khandker & Joshi, 2018). This can reproduce not only consumers' willingness to pay, but their price sensitivity as well.

Third, on the managerial aspect, this research provided empirical evidence into the extent to which consumers will expect to pay higher or lower prices when a brand is taken over by a company from a country from a more or less favorable country image. Furthermore, it verified how much more or less consumers are willing to pay if a company starts to produce elsewhere depending on the country image of the new manufacturing location.

Notably, this research has also checked which cue (brand origin or country of manufacture) is more important to consumers' willingness to pay and whether this is consistent across a gain (e.g. when the takeover or the change in the manufacturing is towards a country

with a more favorable image) and a loss situation (e.g. when the takeover or the change in the manufacturing is towards a country with a less favorable image).

Such insights can help marketing managers to implement pricing instruments, such as price differentiation, value-based pricing, or price bundling (Ha-Brookshire & Yoon, 2012) and design optimal pricing schedules based on consumers WTP (Wertenbroch & Skiera, 2002), particularly considering distinct BO and COM, with different images.

Thus, this study offered managerial support for pricing decisions, such as whether, and to what extent a brand with a less favorable country image can charge higher prices after a change to a country with a more favorable image, due to an acquisition or a shift in production facilities. Other example consists in how much a brand with a more favorable image is capable to maintain its premium pricing strategy or it has to reduce its prices if acquired by a company from a country with a less favorable image or starts to produce in a country with a less favorable image. In both cases, companies can balance possible costs savings or expenses of producing in a new location or acquiring another brand with the potential benefits or damages of a new country image to consumers' willingness to pay (WTP).

In addition, results can collaborate to communications strategies, because marketers can typically control the countries with which a product will be associated (Hamzaoui-Essoussi & Merunka, 2006). Advertising and communicating the desired brand positioning are essential to avoid consumer confusions over the brand and its origin shift (Johansson et al., 2018).

Therefore, communication strategies can be designed to counteract negative images derived from different BO and COM (Coffey & Kabadayi, 2019), such as a transmission of "all remains the same" (Johansson et al., 2018) to consumers after an acquisition or a shift in the manufacturing location to a country with a less favorable image.

Another alternative in this situation is to focus on just one COO information (BO or COM). Companies can create a message founded on country's economic and technical capacities and expertise of manufacturing products, underscoring COM, or can emphasize BO through brand name, advertising and packaging.

Based on this information, the research question and its specific goals were presented next.

1.1 Research question

Considering the lack of research on consumers reactions towards an acquisition (change in brand origin) and production shifts (change in country of manufacture), along with the scarce literature focused on price-related consequences of country of origin (COO), this study introduced the following research question:

How do changes in COO (brand origin and country of manufacture) influence consumers' willingness to pay for a brand?

Therefore, this research main purpose was to verify the influence of changes in COO (brand origin and country of manufacture) on consumers' willingness to pay for a brand, by conducting a study with the product category of sunglasses.

In order to achieve this goal, the following specific objectives were delimited:

- To verify which COO component (BO or COM) has the stronger effect on consumers' willingness to pay for a brand.
- To identify possible differences in consumers' willingness to pay, due to potential COO (BO and COM) asymmetric effects.

From these objectives, it was possible to elaborate the structure of this study, presented next.

1.2 Study structure

This study was organized in five chapters. The first one, which it has already been developed and it ends in this section, introduced the research context, outlining the thesis main goals as well as its theoretical and managerial gaps.

The second chapter encompassed a literature review and it was divided in two parts: (i) prior research on country of origin (COO) and country of origin effect (COO effect) and (ii) hypotheses development.

The third chapter described the research method, e. g., how the hypotheses were empirically tested. It comprised the following sections: methodological approach, variables and measures, participants, research design and procedures, stimuli and data analysis.

From chapter number four it was possible to infer the main research results, e g., to discuss the analyzed data and to check the research hypotheses.

Lastly, the fifth chapter reported the final remarks of the research: its main conclusions, managerial and theoretical implications, limitations and suggestions for future studies.

2 Literature Review

The literature review aimed to build a consistent theoretical background in order to support the empirical part of the research.

This chapter was structured in two parts. The first one focused on prior research in country of origin (COO) and country of origin effect (COO effect), conceptualizing these two notions, discussing their theoretical and practical relevance, displaying their moderators and presenting their operationalization (e. g. procedures, single-cues vs multi-cue designs, COO subcomponents, drivers and outcomes of COO effect).

The second topic, named hypotheses development, employed signaling theory and prospect theory along with COO studies to underpin the research hypotheses, and also introduced the conceptual model of the study.

The main themes and authors further discussed in the literature review were summarized in Table 1.

Table 1

Literature review – main themes and authors

Topics of the literature review	Main themes	Main authors
Conceptualization	<ul style="list-style-type: none"> - Evolution of country of origin (COO) concept from the “made in” country to the “brand origin” country. - COO effect definition. 	Dinnie (2008), Durand (2016), Jaffe and Nebenzahl (2006), Johansson et al. (2018), Samiee (2010), Usunier (2006), Usunier (2011), Zeugner-Roth (2017).
Theoretical and practical relevance	<ul style="list-style-type: none"> - Theoretical, methodological and practical criticism on COO and COO effects. - Avenues for future research focused on employing solid theories to COO studies and developing an integrative approach to underscore the COO effect, considering both brand origin (BO) and country of manufacture (COM). 	Andéhn and L’espoir Decosta (2018), Bartikowski et al. (2019), Bhaskaran and Sukumaran, (2007), Fang and Wang (2018), Felix and Firat (2019), Herz and Diamantopoulos (2013), Herz and Diamantopoulos (2017), Johnson et al. (2016b), Lee and Lee (2011), Liu et al. (2018), Loureiro and Kaufmann (2017), Lu et al. (2016), Maheswaran et al. (2013), Pharr (2005), Samiee (2011), Usunier (2006), Usunier (2011).
Moderation	<ul style="list-style-type: none"> - Moderators of COO effect related to countries and products: country familiarity, product type and characteristics (utilitarian versus hedonic products, public versus private goods), number of product cues, product involvement, product/brand familiarity and product ethnicity. 	Ahmed et al. (2004), Brijs, Bloemer and Kasper (2011), D’Astous and Ahmed (1999), Hamzaoui-Essoussi and Merunka (2006), Hamzaoui-Essoussi and Merunka (2007), Han (1989), Josiassen, Lukas and Whitwell (2008), Josiassen (2010), Laroche, Papadopoulos, Heslop and Mourali (2005), Lee and Ganesh (1999), Piron (2000), Usunier and Cestre (2007).

Continue

Conclusion

Topics of the literature review	Main themes	Main authors
Operationalization (COO effects)	<ul style="list-style-type: none"> - Direct and indirect approaches to capture COO effects, with an emphasis on conjoint analysis, surveys and experimental designs. - Single-cue versus multi-cue studies and the decomposition of the COO construct mainly in country of manufacture (COM) and brand origin (BO). - Country image definitions, dimensions and its role as driver of COO effects, due to its favorability. - Price as an outcome of COO effect and its operationalization, especially employing willingness to pay (WTP) measures. 	<p>Aruan et al. (2018), Coskun and Burnaz (2016), Chowdhury and Ahmed, (2009), D'Astous and Ahmed (1999), Desmet (2016), Durand (2016), Ha-Brookshire and Yoon (2012), Hamzaoui-Essoussi and Merunka (2006), Han and Terpstra (1988), Insch and McBride (2004), Jaffe and Nebenzahl (2006), Johansson, Douglas and Nonaka (1985), Johansson and Nebenzahl (1986), Koschate-Fischer et al. (2012), Li, Fu and Murray (1997), Lu et al. (2016), Magnusson et al. (2011), Maheswaran et. al (2013), Martin and Eroglu (1993), Nagashima (1970), Pappu and Quester (2010), Pucci et al. (2017), Roth and Diamantopoulos (2009), Roth and Romeo (1992), Schooler (1965), Usunier (2006), Usunier (2011), Van Westendorp (1976), Verlegh and Steenkamp (1999), Voelckner (2006).</p>
Signaling theory and COO components	<ul style="list-style-type: none"> - COO components (BO and COM) as signals to consumers. - Clarity, consistency and credibility of BO and COM as signals. - BO as a stable signal, associated to the brand and communicated through brand name, advertising and packaging. - COM as a secondary information, e. g., a signal not directly associated with the brand. 	<p>Bilkey and Nes (1982), Bartikowski et al. (2019), Coskun and Burnaz (2016), Erdem and Swait (1998), Erdem et al. (2006), Fang and Wang (2018), Ha-Brookshire and Yoon (2012), Hamzaoui-Essoussi and Merunka (2006), Hamzaoui-Essoussi, Merunka and Bartikowski (2011), Johansson and Nebenzahl (1986), Johnson et al. (2016b), Koschate-Fischer et al. (2012), Lee and Lee (2011), Lee et al. (2014), Magnusson et al. (2011), Matarazzo et al. (2018), Samiee (2011), Thakor and Kohli (1996), Usunier (2011), Verlegh and Steenkamp (1999).</p>
Prospect theory and COO components	<ul style="list-style-type: none"> - Gain and losses in origin (BO and/or COM) as result of cross-borders acquisitions and production shifts. - Consumers can value more losses in the origin than the equivalent gains, which can result in asymmetric effects. 	<p>Barberis (2013), Bell and Lattin (2000), Drozdenko and Jensen (2009), Halme and Somervuori (2013), Han and Terpstra (1988), Fang and Wang (2018), Herz and Diamantopoulos (2017), Johansson and Nebenzahl (1986), Kahneman and Tversky (1979), Klapper, Ebling and Temme (2005), Lee and Lee (2011), Lee et al. (2014), Levy (1992), Liu et al. (2018), Mandler, Won and Kim (2017), Matarazzo et al. (2018), Mazumdar and Papatla (1995), Neumann and Böckenholt (2014).</p>

Subsequently, this theoretical background was exhibited.

2.1 Prior research on country of origin (COO) and COO effect

This section presented an overview of research on country of origin (COO) and country of origin effect (COO effect).

2.1.1 Conceptualization

Whether the origin of a product matter or not to consumers' preferences has been one of the most important concerns of international marketing (Koschate-Fischer et al., 2012). For this reason, country of origin (COO) has been widely discussed in this field, with almost 600 published articles over the past 35 years (Lu et al., 2016).

Initially, COO was associated with the made-in country (Usunier, 2006; Usunier & Cestre, 2007; Zeugner-Roth, 2017; Zeugner-Roth & Bartsch, 2019): the country where the product was made and by consequence, to the role and capabilities of this country as a manufacturer of a product. The assumption underlying this definition is that the country where a product is manufactured is the same as the country associated with the brand (Prendergast, Tsang, & Chan, 2010).

Over time, the conceptualization has grown beyond the "made-in" label (Johansson et al., 2018) evolving to a focus on "the country which a consumer associates a certain product or brand as being its source, regardless of where the product is actually produced" (Jaffe & Nebenzahl, 2006 p. 29) or "the country where the corporate headquarters of the company marketing the product or brand is located" (Johansson et al., 1985 p. 389), e. g, its brand origin (Samiee, 2010).

In line with these definitions, COO seems related to where the brand comes from, and the country of production is considered a secondary information. Consumers still distinguish product cues connected to origin, but now they associate the product origin with the place of the brand rather than the manufacturing location (Usunier, 2011). For instance, Nike produces in China but is recognized as an American brand by consumers, once its headquarters are in USA. This occurs because nowadays, even if products are manufactured all around the globe, the brand is usually attached to only one country.

Regardless of the definition assumed, country of origin is an extrinsic cue, e.g., a product related attribute which is not a part of the physical product (Olson & Jacoby, 1972) that influences consumers' attitudes, evaluations, preferences and behavior (Pharr, 2005).

This influence of the product's origin on consumer attitudes and behavior towards that product is called country of origin effect or COO effect (Dinnie, 2008; Zeugner-Roth & Bartsch, 2019). This effect describes "the differential consumer response to a product, due to the country that is perceived as its source" (Adina, Gabriela, & Roxana-Denisa, 2015, p. 424). It reproduces a specific marketing phenomenon, in which consumers consciously or subconsciously incorporate a country of origin stimulus as an evaluative criterion in their attitude formation towards a product (Bloemer, Brijs & Kasper, 2009).

Furthermore, COO effect refers to the several offerings of a country, which can comprise brands, products, technologies, services and even organizations, and how consumers evaluate these offerings (Durand, 2016). Thus, this effect varies according to the sector (product category), the consumer and the level of perceived risk (Dinnie, 2008).

Overall, COO research has examined this effect, that is, it has investigated if, how, and to which extent country of origin can influence consumers' behavior. This field has explored strategies that consumers use when evaluating products and services based on their country perceptions associated with the product (Maheswaran et. al, 2013).

This is a relevant and strategic issue to marketers, irrespective of whether they import or export products, or only produce to the internal market (Samiee, 2011). These marketers can benefit from the COO effect by using its country positive biases or neutralizing negative ones during consumers buying decision (Giraldi & Lopes, 2012; Guina & Giraldi, 2014).

They can highlight the country of origin information in order to gain competitive advantage in the global marketplace (Maheswaran et. al, 2013) and develop positioning strategies (Karimov & El-Murad, 2019).

On the other hand, consumers can also take advantage by identifying products by their country of origin and selectively using products from countries that have a good reputation (Maheswaran et al., 2013).

Therefore, the COO effect has important consequences, since the success (or lack) resulting from a positive (or negative) COO effect generates changes in a country's economic, socio-cultural, and technological conditions, which in turn may affect political, institutional, legal spheres (Durand, 2016).

The next section discussed the state of the art in country of origin research, considering its main criticisms.

2.1.2 Theoretical and practical relevance

Despite of an impressive body of research on country of origin, the theoretical utility and practical relevance of this construct has been heavily criticized (Herz & Diamantopoulos, 2013) and researchers are concerned that the field may have been stigmatized by a perception of lack of relevance (Lu et al., 2016; Zeugner-Roth & Bartsch, 2019).

From a theoretical perspective, COO studies have revealed an absence of a unified theory or a solid conceptual framework (Samiee, 2011), due to incomplete conceptualization of its constituent components (Andéhn & L'espoir Decosta, 2018), alternative definitions and measurement inconsistency (Maheswaran et al., 2013).

In order to overcome these issues, many researchers have been using other disciplines such as advertising, psychology, economy and geography to investigate the COO effect phenomenon. They are employing consolidated theories from these fields to find more suitable definitions and to comprehend the complexity of the effect, such as affect transfer theory (see Bartikowski et al., 2019; Laroche et al., 2005), attitude theory (see Giraldi, 2016; Roth & Diamantopoulos, 2009), dual-coding theory (see Herz & Diamantopoulos, 2013), dual processing theory (see Siew, Minor & Felix, 2018), equity theory (see Koschate-Fischer et al., 2012), information-processing theory (see Bartikowski et al., 2019; Coskun & Burnaz, 2016; Ha-Brookshire & Yoon, 2012; Zeugner-Roth & Bartsch, 2019), categorization theory (see Aruan et al., 2018; Balabanis & Diamantopoulos, 2011; Chowdhury & Ahmed, 2009; Hamzaoui-Essoussi & Merunka, 2006; Tseng & Balabanis, 2011; Zeugner-Roth & Bartsch, 2019), self-affirmation theory (see Herz & Diamantopoulos, 2017), semiotics and discourse theory (see Brijs et al., 2011).

On the methodological front, field experiments might be considered an alternative along with qualitative methods to understand place associations (Andéhn & L'espoir Decosta, 2018). Longitudinal studies could be also a path to future research (Lu et al., 2016).

From a practical point of view, managerial contributions of COO articles have been incremental (Samiee, 2011). This could be associated with the conflicting views on the new role of country of origin in the modern business world (Maheswaran et al., 2013).

Indeed, country of origin and COO effect may be no longer a main issue for international marketing operations, characterized by global branding and multinational production (Bhaskaran & Sukumaran, 2007; Usunier, 2006).

In a global branding context, researchers have started to debate that consumers place little emphasis to the country where the product is made (Kabadayi & Lerman, 2011). Furthermore, they are frequently unaware of the origin of the products they buy (Usunier, 2006) or associate the product with the wrong country (Balabanis & Diamantopoulos, 2011).

On the first argument (consumers do not care about COO information), two possible explanations were presented in recent literature: (i) consumers often use country of origin information to evaluate brands, but they deny it (Herz & Diamantopoulos, 2017) and (ii) the influence of the COO in decision making is not revealed by verbal approaches (Herz & Diamantopoulos, 2013). Therefore, the use of nonverbal approaches, such as neuromarketing tools, and the focus on consumers denial could be important to underpin the COO effect in future studies.

On the second criticism, that assumes that consumers do not know the origin of the products they purchase, it is recognized that “the knowledge and salience of country of origin information can be quite high for some consumers, countries, and specific product categories” (Maheswaran et al., 2013, p. 171).

For instance, consumers identify the country of origin of many global brands, such as McDonalds (USA), Chanel (France), Samsung (South Korea), Volkswagen (Germany), Ferrari (Italy), Zara (Spain), Nissan (Japan). Likewise, situational factors can also play a role and make the origin more relevant to consumers, such as when they started to verify the origin of the salmon sashimi offered in Japanese restaurants after the nuclear crisis in the country (Maheswaran et al., 2013).

Hence, research attention needs to be directed towards the segments of consumers that are sensitive to country of origin, e.g., future COO research should investigate products and countries that the origin is relevant to consumers, such as wine, perfumes, fashion.

This is important because managers can use country of origin in their marketing programs, communicating this information to make it more visible to consumers and consequently, to increase their knowledge of the origin. However, this strategic decision depends whether the target market is sensitive or not to the country of origin cue (Samiee, 2011).

On the last aspect, that consumers usually do not make an correct COO association, it is clear the COO effect phenomenon occurs through recognition of the country of origin, whether it is accurate or not (Andéhn & L’espoir Decosta, 2018; Durand, 2016; Johansson et al., 2018) and the COO cue can be used along with other information cues, such as price, brand (Usunier, 2006), even to a lesser extent (Usunier, 2011).

Thus, research could focus in both origin accuracy and non-accuracy as determinants of COO effect. The usage of other information cues could also be a proper alternative to not overestimate the COO effect.

Regarding multinational production, the argument for the loss of relevance of the country of origin is that this cue has become more complicated to be identified by the consumers, as a result of the commercial practice of hybrid products, e. g., the ones that have different stages of the production process, such as products design and final assembly, carried out in distinct countries (Maheswaran et al., 2013).

“A product may be branded in country X but manufactured in country Y or Z” (Prendergast et al., 2010), e. g., the country of manufacture (made-in) can be different from the country of the brand. Then, the country of origin of products, services and brands becomes partitioned, with multiple origins (Durand, 2016), which may confuse consumers.

To address this issue, some researchers (Samiee, 2010; Thakor & Kohli, 1996; Usunier, 2006; Usunier, 2011) suggested a focus on brand origin (BO) – the country where the brand is based - rather than on country of manufacture (COM) – the country where the brand is produced, because the origin of the brand today is more important to consumers than the “made in” label (Magnusson et al., 2011; Usunier & Cestre, 2007).

Other approach identified in previous literature was to incorporate the complexity of the COO construct, considering the interplay between country of manufacture (COM) and brand origin (BO) and the relevance of both to consumers and to culture positioning strategies, as suggested by Bartikowski et al. (2019).

This tactic is interesting given that consumers still value both country of manufacture and brand origin (Ha-Brookshire & Yoon, 2012) and together, these cues are sources of brand equity (Loureiro & Kaufmann, 2017).

These main criticisms, along with the avenues for future research were summarized in Table 2:

Table 2
COO research

Criticism in COO research	Avenues for future research
Theoretical aspect - Fragmented theory - Incomplete conceptualization - Alternative definitions	- Use of other disciplines, such as marketing, advertising, psychology, economy and geography as theoretical background
Methodological aspect - Measurement inconsistency	- Field experiments along with qualitative methods - Longitudinal studies
Managerial aspect - Global branding - Consumers do not care where the product is made - Consumers are unaware of the products' origin - Consumers associate the product with the wrong country - Multinational production - Hybrid products	- Focus on consumers' denial of using COO - Use of nonverbal approaches, such as neuromarketing tools - Investigation of segments sensitive to COO - Focus on COO accuracy and non-accuracy issues - Use of other information cues (price, brand) along with COO - Change the focus to brand origin (BO) rather than country of manufacture (COM) - Incorporation of the complexity of COO construct, encompassing both brand origin (BO) and country of manufacture (COM)

Following Table 2 guidelines, in the theoretical aspect, this study employed two economic theories to explain the COO effect: signaling theory and prospect theory (for details in how these theories are related to COO research, see section 2.2).

According to Lu et al. (2016) literature systematization, most of COO articles are atheoretical, while a small proportion are theory driven. Among these COO studies grounded on recognized theories, only two used signaling theory so far and none has applied prospect theory (see Lu et al., 2016).

Signaling theory postulates that signals carry specific information in asymmetric and imperfect markets (Erdem & Swait, 1998; Erdem et al., 2006; Erdem & Swait, 2016). COO (BO and COM) can act as signals, making this theory appropriate to understand how consumers receive and interpret these signals (BO and COM) and how companies can enhance their influence on consumers' willingness to pay by applying communication and pricing strategies based on BO and COM.

On the other hand, prospect theory, which relies on the assumption that people not only derive utility from "gains" and "losses", but also value more losses than equivalent gains (Kahneman & Tversky, 1979), promotes an interesting opportunity to discuss comparable losses and gains in origin cues (BO and/or COM) due to acquisitions and production shifts and, consequently, possible asymmetric effects, e. g., potential dissimilar outcomes of equivalent

gains and losses on consumers' willingness to pay, which may affect companies' strategies in these business situations.

In addition, with regards to the methodological and managerial aspects highlighted in Table 2, an experimental design (for details, see section 3) with an emphasis on both brand origin (BO) and country of manufacture (COM) was conducted.

This integrative approach, taking both BO and COM into account, is significant because it is still unclear by examining prior empirical research whether is brand origin (BO) or country of manufacture (COM) the most important information to consumers' decisions.

First, some authors (Coskun & Burnaz, 2016; Fetscherin & Toncar, 2010; Han & Tersptra, 1988; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011; Ho et al., 2018; Srinivasan, Jain, & Sikand, 2004; Tse & Gorn, 1993; Bartikowski et al., 2019) demonstrated that country of manufacture (COM) is more substantial than brand origin (BO) to consumers' evaluations, preferences and decisions. In contrast, others (Ashill & Sinha, 2004; Coffey & Kabadayi, 2019; Eng, Ozdemir, & Michelson, 2016; Loureiro & Kaufmann, 2017; Moradi & Zarei, 2012; Mostafa, 2015) reported exactly the opposite conclusion.

Second, the consistency between brand origin (BO) and country of manufacture (COM), called country of origin fit (Johnson et al., 2016a; Johnson et al., 2016b) is also a noteworthy aspect to consumers. A lack of fit, e. g., when BO and COM are not the same, can reduce consumers' new product evaluations, even when both of them are equally capable (Johnson et al., 2016b). Nevertheless, under a specific circumstance, a lack of fit can enhance consumers evaluations: when a brand based on a country with a poor reputation within its product category manufactures a product in a country with a more favorable reputation (Johnson et al., 2016a). When the lack of fit is translated in a more favorable BO but in a less favorable COM, the effect on consumers attitudes is negative, particularly for low equity brands (Hui & Zhou, 2003).

In addition, there is another reason to consider both BO and COM. Despite COO research has revealed that changes in these cues can influence and provoke diverse variations in consumers' responses, the literature on the topic is still limited, particularly considering consumers reactions post-acquisition (Fang & Wang, 2018; Lee & Lee, 2011), e. g., an alteration in brand origin (BO), and after production shifts (Felix & Firat, 2019), e. g., a variation in country of manufacture (COM).

On the manufacturing facet, for instance, Johansson and Nebenzahl (1986) and Han and Terpstra (1988) attributed these variations to differences in country images (for a definition of

country image see section 2.1.4.2) and countries' roles as producers, while Drozdenko and Jensen (2009) ascribed them to distinct levels of countries' development.

More specifically, Johansson and Nebenzahl (1986) introduced a change in production facilities to American consumers in order to verify how much more or less they would pay for different car brands if they were made in different countries. Their results suggested that when the location shifts to a more favorable country, consumers' price dispositions increase. Similarly, in another study with American consumers about cars, Han and Terpstra (1988) demonstrated the negative effect of a production shift to a country with a less favorable image (Japan to South Korea) on brand equity.

Furthermore, Drozdenko and Jensen (2009) presented product categories with the "made in China" cue and then, asked consumers how much more they would be willing to pay for each category if the product was made in Germany, USA, or India. Their findings displayed an increased willingness to pay after the change in the manufacturing location from a less to a more developed country.

On the branding aspect, a cross-border acquisition effect on consumers' responses can be also driven by country image associations. However, the number of mergers and acquisitions (M&A) studies focused on country image is still insignificant compared to those concentrated on brands and companies' features (Liu et al., 2018).

For example, Lee and Lee (2011) examined the COO effect on purchase behavior when the acquirer brand was afflicted by a less favorable country image and the acquired brand had a more favorable country image. Their findings indicated an enhancement on consumers' purchase intentions post-acquisition, highlighting country image role to minimize the impacts of the acquirer less favorable COO, and at the same time to maintain the more favorable image of the acquired brand. Based on the same business situation, Lee et al. (2014) proposed that a more favorable image of the acquired brand could engender a higher brand equity to consumers after the acquisition.

In line with these studies, Herz and Diamantopoulos (2017) experimentally investigated consumers' overall attitude before and after a brand takeover in order to understand consumers' usage denial of the COO cue. The takeover could be positive (change to a country with a more favorable image), negative (change to a country with a less favorable image) or neutral (a no-change scenario involving a brand takeover within the same country).

Their outcomes showed a significant disparity on consumers' attitudes, confirming COO relevance to their decisions even when they proclaimed that the origin was irrelevant. But, given the purpose of the paper, the authors only exposed that the takeover effect itself (e.g.,

without a COO change) led to significantly lower brand evaluations and behavioral intentions. They did not explore the signal of the effect considering a positive and a negative takeover, or the specific part of country image in this process.

Likewise, Matarazzo et al. (2018) explored the effects of the acquirer's country image and corporate reputation on consumers repurchase intentions towards the products. In an experimental design, they considered a high reputation company as the acquisition target and combined different levels of corporate reputation (good/poor) and country image (more favorable/less favorable) to simulate four distinct acquiring firms.

Overall, the research displayed an increase in consumers repurchase intentions when the acquirer had a good reputation and a more favorable country image. The exception was when a more favorable country image of the acquirer company could not compensate for a poor corporate reputation of this company, presenting no effect on consumers repurchase intentions. Thus, a more favorable image could reduce the uncertainty from a cross-border acquisition, and increase consumers' trust and purchase intentions, but only when the company had a strong corporate reputation.

Further, Liu et. al (2018) conducted a study on acquisitions undertaken by emergent market companies in advanced economies, underscoring brand management strategies post-acquisition integration. They found a positive association for the acquiring company, due to the more favorable country image of the advanced economy, suggesting that country image may not only be leveraged but also transferred to the corporate level. This revealed three different brand management strategies: transferring, dynamically redeploying and categorizing.

In contrast, Johansson et al. (2018) considered companies from industrialized countries accomplishing acquisitions in less industrialized countries. They analyzed the consequence of a country of ownership (COOW) change on consumers' brand perceptions. This change to a less industrialized country could rise negative associations, and suggest a change of brand origin, manufacture and design, i. e., a transformation of the brand (Johansson et al., 2018).

To more emotional consumers, these associations were relevant, resulting in a weaker brand loyalty. Conversely, more rational consumers tended to demonstrate a stronger brand loyalty despite of the less favorable country images, since they hoped for positive outcomes derived from the acquisition.

Finally, Fang and Wang (2018) observed the effect of cross-border acquisitions on the acquirer' brand image. Their conclusions specified a noteworthy gain on brand image for the acquirer when the company changed to a country with a more favorable image and also a better

evaluation of the brand acquisition when consumers perceived a high compatibility between the countries' ability to produce quality goods within their respective product categories.

Therefore, the underlying country image (more favorable or less favorable) is a determining factor of whether a COO change is perceived to be beneficial or detrimental (Herz & Diamantopoulos, 2017). Moreover, research has shown that changes in country of manufacture (COM) or brand origin (BO) to a country with a more favorable image generally boosts consumers' responses. On the other hand, the COM or BO change to a country with a less favorable image typically makes their responses decline.

This positive change can be understood as a gain in country image while this negative change can be seen as a loss in country image. Accordingly, country image favorability, based on BO and COM, has the potential to explain consumers reactions towards acquisitions and production shifts, as well as marketers' decisions to purchase a brand or expand its manufacturing facilities to a different country, especially considering the direct comparison between gain and losses in the origin cues, the so-called asymmetric effects, not explored in past literature but investigated in this study.

In addition, BO and COM can also change together, another issue not addressed by COO research that may occur in the globalized market, possibly modifying consumers perceptions. Therefore, this study also showed scenarios in which an acquisition (change in BO) and a production shift (change in COM) occurred simultaneously. The next section exhibited COO effect moderators, e. g., factors that influence the size of this effect.

2.1.3 Moderation

COO research employed a wide variety of product categories and countries (as origins) in order to support the country of origin effect (Usunier, 2006). As a consequence, studies have found distinct results about the extent of the COO effect across countries and product categories (Tseng & Balabanis, 2011), e. g., they have uncovered several moderators of this effect related to both countries and products, that may have enhanced or reduced consumers responses.

Indeed, consumers hold differing views of countries, shaped by diverse influences (Samiee, 2010), e. g., consumers have distinct images of countries, what can explain country-specific variations in the COO effect.

Another reason for these differences across countries is that consumers can be more or less familiar with a particular country (Herz & Diamantopoulos, 2017). This concept, named

country familiarity, refers to the level of knowledge about the COO (Lee & Ganesh, 1999). It is a sense of acquaintance about a country (Clark, Li, & Shepherd, 2017) and negatively moderates COO effects on consumers evaluations: consumers with low country familiarity trust more on COO information than those with high country familiarity (Lee & Ganesh, 1999).

Furthermore, COO effect is product specific (Ahmed et. al, 2004; Bilkey & Nes, 1982; Loureiro & Kaufmann, 2017), e. g., the product has an important role to determine the extent of COO effect (Pharr, 2005). Thus, this effect varies across product categories due to differences on product type and product characteristics (utilitarian vs hedonic products, public vs private goods), number of product cues, product involvement, product/brand familiarity and product ethnicity.

First, regarding product type, utilitarian products are associated with the resolution of consumers' practical and functional needs, while hedonic products are related to consumers' sensory, symbolic and affective needs (Batra & Ahtola, 1990; Holbrook & Hirschman, 1982).

In general, COO effect seems to be moderated by the utilitarian versus hedonic nature of the product (Koschate-Fischer et. al, 2012). However, there is no consensus about this moderation. For instance, Costa, Carneiro and Goldszmidt (2016) demonstrated that COO effect is stronger for utilitarian-oriented than for hedonic-oriented products, while Brijs et al.'s (2011) found precisely the opposite result. Additionally, Zeugner-Roth and Bartsch (2019) underscored that hedonic products are more expected to feature COO ("made in") in their advertisements than utilitarian products in both developed and developing markets.

On the other hand, with regard to the aspect of conspicuousness in product consumption, the product type encompasses the distinction between private and public goods. Conspicuousness is the social and public visibility associated with the consumption of a product (Piron, 2000). It is related to audience reaction to product consumption (Mason, 1984).

As a consequence, public goods are visible, e. g, their consumption is witnessed by other consumers, receiving influences from reference groups, while private goods are used without any witnesses (Piron, 2000). For this reason, the choice of a public good may be affected by status symbols, self-images, or ideal selves (Hamzaoui-Essoussi & Merunka, 2007), while a choice of a private good usually may not be.

This discrimination (public vs private) is noteworthy to COO research, because the importance of the COO can differ whether a product is used publicly or privately (Piron, 2000). Moreover, brand origin (BO) seems more essential for public goods than for private goods, due to the symbolic meanings that involve this product type consumption. In contrast, country of

manufacture (COM) seems more significant for private goods, especially if the product is complex (see Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007).

Second, the available quantity of product cues is a decisive factor to address the magnitude of COO effect on consumers responses. There are intrinsic cues, e.g., product attributes which cannot be changed or manipulated without also altering the physical characteristics of the product itself (Olson & Jacoby, 1972), such as taste, design, material, performance, size, color (Bloemer et al., 2009; Chao & Rajendran, 1993; Godey et al., 2012; Lu et al., 2016; Usunier, 2006; Zeithaml, 1988) and also extrinsic cues, which are product-related cues that are not a part of the physical product (Olson & Jacoby, 1972), such as country of origin, brand, price, warranty, store name, level of advertising (Bilkey & Nes, 1982; Chao & Rajendran, 1993; Godey et al., 2012; Lu et al., 2016; Usunier, 2006; Zeithaml, 1988).

Even though consumers rely more on intrinsic cues when making quality evaluations (Olson & Jacoby, 1972) and establishing their attitudes (Godey et al., 2012), they tend to use more extrinsic cues, because intrinsic features are not always accessible and when they are, consumers are either unable to evaluate them or unwilling to spend time and effort to do it (Zeithaml, 1988).

In this setting, there are other extrinsic cues more relevant to consumers than COO (BO and COM), such as brand or price (Ahmed et al., 2004; D'Astous & Ahmed, 1999; Godey et al., 2012; Montanari, Rodrigues, Giraldi, & Neves, 2018). For instance, strong brands can reverse COO effect and counterbalance a less favorable country image (Castro & Giraldi, 2012). Therefore, the use of several extrinsic cues can reduce COO impact on consumers evaluations (Agrawal & Kamakura, 1999; Ahmed et al., 2004; Chao & Rajendran, 1993; Johansson et al., 1985; Kabadayi & Lerman, 2011; Pharr, 2005; Verlegh & Steenkamp, 1999).

Third, product involvement is also important for COO research. It encompasses the perceived relevance of the product category to the consumer (Mittal & Lee, 1988; Quester & Lim, 2003). Then, the involvement can be high, when the consumers place more importance on the product category, or low, when the product is less important to them.

In addition, this concept is associated with consumers' interests (personal and social interests regarding the product), product's pleasure value (hedonic value of the product to the consumer, its ability to provide pleasure and enjoyment), product's symbolic value (representative value of the product to the consumer, e. g., degree to which expresses the person's self), risk importance (perceived importance of possible negative consequences associated with wrong product choice) and probability of purchase error (risk of making a wrong decision) (Kapferer & Laurent, 1985).

Overall, past COO research reported that product involvement moderates the importance that consumers place on COO, e. g., it generates fluctuations on the COO effect. However, this moderation is still controversial in the literature.

On one hand, some authors (see Ahmed et. al, 2004; Gurhan-Canli & Maheswaran, 2000; Josiassen et al., 2008; Josiassen, 2010, Koschate-Fischer et al., 2012) suggested that product involvement weakens COO effect: consumers give more importance to COO and country image when they are less involved with the product, once this information is easily available. Conversely, others (see D'Astous & Ahmed, 1999; Moradi & Zarei, 2012) indicated that product involvement strengthens the COO effect: the greater the involvement, the greater the importance of COO in consumers evaluations, because consumers analyze all information sources carefully, including COO.

Similarly, COO literature is also unclear about the moderating role of product familiarity. This concept denotes consumers' knowledge and experiences towards a specific product (Alba & Hutchinson, 1987).

In line with Han (1989), two opposite arguments can explain familiarity with products from different countries. The first, called halo effect, suggests that when product familiarity is low, country image becomes a signal of quality and is relevant for country products evaluation by consumers, indirectly affecting the brand. This implies that when consumers are familiar with a product category, they rely less on indirect evidence, such as the country of origin (Laroche et al., 2005).

The second, called summary effect, indicates that when product familiarity is present, country image becomes a summary construct of beliefs about countries and affects attitudes towards the brand in a direct way (Han, 1989). Therefore, the greater the product familiarity, the better product evaluation (Josiassen et al., 2008).

Nevertheless, some studies (see Knight & Calantone, 2000; Laroche et al., 2005; Srinivasan et al., 2004) failed to demonstrate effects of product familiarity and a possible power of this moderation. Others (see Josiassen et al., 2008) were able to confirm only the halo effect.

Likewise, brand familiarity, which represents "the extent of a consumer's direct and indirect experience with a brand" (Campbell, Keller, Mick, & Hoyer, 2003, p. 293), can reduce the effect of COO on consumers' responses (Koschate-Fischer et al., 2012; Wu & Fu, 2007), e.g., reinforcing the halo effect argument.

Ultimately, product ethnicity refers to the association of a product category with a particular country (Usunier & Cestre, 2007). It denotes a "product-country match", e. g, "occurs

when important dimensions for a product category are also associated with a country's image” (Roth & Romeo, 1992, p.482).

This means that important characteristics related with a country must be congruous with the most relevant features of a product category (Spielmann, 2016). Country characteristics include both manufacturing and branding capabilities, e. g., COM and BO associations (Usunier & Cestre, 2007), which can be linked or not to products’ features.

For instance, German engineering and manufacturing competence make the association between cars and Germany much more coherent than the association between coffee and Germany. In a similar vein, Italian fashion design and branding expertise make associating clothes with Italy more realistic than associating detergents. For this reason, cars and clothes respectively match with Germany and Italy and they can be considered ethnic products of these countries.

Equally, they can be viewed as typical products of Germany and Italy, because in a conceptual domain, product ethnicity is a form of typicality (Usunier & Cestre, 2007), e. g., it represents the degree to which an item is perceived to represent a category (Loken & Ward, 1990), which in the COO context implies how much a product category can be representative of a country, or strongly associated with a country (Hamzaoui-Essoussi & Merunka, 2006).

In COO research, product typicality/ethnicity is positively related to consumers responses, such as attitudes (Spielmann, 2016; Tseng & Balabanis, 2011), product quality evaluations (Hamzaoui-Essoussi & Merunka, 2006; Loureiro & Kaufmann, 2017), brand image and brand equity evaluations (Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011) and willingness to buy (Usunier & Cestre, 2007).

Typical products of a country have more favorable country images than atypical products from the same origin, what may explain differences in consumers responses towards products from different countries (Tseng & Balabanis, 2011), e. g., the COO effect. Hence, products with high ethnicity usually have more COO cues in their advertisements than products with low ethnicity (Zeugner-Roth & Bartsch, 2019).

Overall, despite the vast research on the topic, the fact that COO effect differs across countries and product categories complicates both reproduction and generalization of country of origin field results (Lu et al., 2016; Tseng & Balabanis, 2011).

In order to minimize these limitations, this study controlled for product involvement and product ethnicity. Product/brand familiarity is also considered a covariate, but in this investigation was not selected as a control because of the fictitious character of the brand.

Moreover, country image was also measured in the main study (see more details in sections 3.2 and 3.4). The succeeding section focused on the operationalization of the COO effect.

2.1.4 Operationalization

Despite the fact that the country of origin effect can be captured directly by asking the consumer the importance of the COO, as stated by D'Astous & Ahmed (1999), the most recurrent methodologies in the literature are based on procedures such as conjoint analysis, product and brand mapping techniques, experimental designs and scales in different formats (Durand, 2016), which address the effect in an indirect manner.

The focus on indirect approaches can be explained by some limitations of the direct measurement. First, a conventional question to the consumer about the relevance of the COO does not reproduce a real buying situation, where the consumer has access to more information cues to decide, such as brand name, packaging, advertising, price. This can lead to a bias, because the consumer can place a higher importance in the country of origin or otherwise, can be reluctant to admit any influence of it in his or her decision, denying the use of this cue.

Second, consumers may also try to look rational, structuring their answer in objective features of the product (e. g., intrinsic cues, such as taste, performance, materials). Indeed, these direct measures can be convenient, but typically the consumer is not ready to articulate quantitatively the importance of country of origin to its decisions (Maheswaran et al., 2013).

On the other hand, among the indirect methods of operationalizing the country of origin effect, several authors employed conjoint analysis (Ahmed et al., 2004; Aruan et al., 2018; Coskun & Burnaz, 2016; D'Astous & Ahmed, 1999; Ettenson, 1993; Ettenson, Wagner, & Gaeth, 1988; Godey et al., 2012; Ho et al., 2018; Jegethesan, Sneddon, & Soutar, 2012; Lang & Crown, 1993; Okechuku, 1994; Veale & Quester, 2009), e. g., they tried to access the impact of country of origin on consumers' evaluation towards a product considering it as a set of attributes: country of origin, price, brand, and others (Verlegh & Steenkamp, 1999).

This approach has the core advantage of including several product characteristics usually available to consumers in their purchase decisions, representing the complexity of a decision situation. However, it only addresses the relative importance of the country of origin opposed to other pieces of information, as said by Coskun and Burnaz (2016) and Durand (2016). It is not capable to verify the extent of this effect on consumers' product evaluations and decisions, because there is not a dependent measure to effectively display this effect.

Thus, to investigate this effect size, a large number of studies, as reported by Lu et al. (2016), employed surveys. Scales of different formats (semantic, differential, likert) along with statistical techniques of dependence were extensively used, capturing the COO effect and its magnitude through the influence that country image (see section 2.1.4.2), as an independent variable, may have on consumer attitudes, purchase intentions or other dependent variables.

Among these statistical methods, Verlegh and Steenkamp (1999) suggested correlation analysis as a measurement alternative, which have been also used by Roth and Romeo (1992). Giraldi and Carvalho (2009), Giraldi (2016), Giraldi and Oliveira (2017), Guina and Giraldi (2014), Hu and Wang (2010), Mostafa (2015) and Pucci et al. (2017) for example, employed regression analysis and the R^2 (coefficient of determination) in order to find the extent of the effect.

In addition, Brijs et al. (2011), Chowdhury and Ahmed (2009), Giraldi and Lopes (2012), Han (1990), Laroche et al. (2005), Lee and Ganesh (1999), Li, Yang, Wang and Lei (2012), Li, Wang, Jiang, Barnes and Zhang (2014), Loureiro and Kaufmann (2017), Mariutti and Giraldi (2019), Meshreki, Ennew and Mourad (2018), Moradi and Zarei (2012) and Siew et al. (2018) applied structural equation modelling, whose coefficients show the magnitude of the COO effect.

Nevertheless, these studies are not completely conclusive, since there are many factors that can moderate the magnitude of this effect (see section 2.1.3 again) , such as product categories (D'Astous & Ahmed, 1999), product intrinsic (taste, design, material, performance) and extrinsic (price, brand, store reputation, warranty) cues (Godey et al, 2012; Pharr, 2005), product familiarity, consumers knowledge and expertise about the offers (Durand, 2016), product ethnicity (Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011; Spielmann, 2016; Tseng & Balabanis, 2011; Usunier & Cestre, 2007), consumers' involvement with the product (Ahmed et. al, 2004; D'Astous & Ahmed, 1999; Gurhan-Canli & Maheswaran, 2000; Josiassen et al., 2008; Josiassen, 2010, Koschate-Fischer et al., 2012; Moradi & Zarei, 2012; Pharr, 2005; Samiee, Leonidou, Stottinger, & Christodoulides, 2016), consumers' familiarity with the country (Herz & Diamantopoulos, 2017; Lee & Ganesh, 1999). In surveys, only a small proportion of respondents indicated that COO plays a role in product choice (Herz & Diamantopoulos, 2013), which can be attributed to these moderators.

Therefore, experimental designs have gained strength in the literature in order to underpin the COO effect (see Aruan et al., 2018; Ashill & Sinha, 2004; Bartikowski et al., 2019; Chao, 1998; Chao, 2001; Chao & Rajendran, 1993; Costa et al., 2016; Drozdenko & Jensen,

2009; Fang & Wang, 2018; Fetscherin & Toncar, 2010; Ha- Brookshire, 2012; Ha- Brookshire & Yoon, 2012; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011; Han & Terpstra, 1988; Herz & Diamantopoulos, 2017; Hui & Zhou, 2003; Insch & McBride, 2004; Iyer & Kalita, 1997; Johansson & Nebenzahl, 1986; Johnson, et al, 2016a; Johnson et al., 2016b; Koschate-Fischer et al., 2012; Piron, 2000; Prendergast et al., 2010; Rashid & Byun, 2018; Schooler, 1965; Srinivasan et al, 2004; Tseng & Balabanis, 2011; Wu & Fu, 2007).

This method has the benefit to control or minimize the variability of extraneous variables (Malhotra, 2011; Price, Jhangiani, Chiang, Leighton, & Cuttler, 2017), which is very important in COO research, considering the variety of factors that can increase or decrease the COO effect (moderators) as stated before.

Moreover, the experimental approach verifies whether there is a causal relationship between two variables (Kline, 2009; Price et al., 2017). This means that is possible to suggest the existence of the country of origin effect through the relationship between two concepts, usually country image or COO cue (independent variable) and product evaluations or attitudes (dependent variable). This technique allows an appropriate manipulation of these variables in order to isolate the impact of country of origin (Srinivasan et al., 2004), which can artificially force consumers to evaluate products relying only on the COO cue (Magnusson et al., 2011).

Precisely, Maheswaran et al (2013) found a pattern on the experiments involving country of origin, with two predominant methods. In the first one, country of origin information is manipulated as one of several product-related attributes and the evaluations for products made in countries with favorable or unfavorable images are contrasted. In the other, respondents are asked to evaluate two identical sets of product attributes with country of origin alone manipulated as either favorable or unfavorable. The statistical examination of both cases was based on analysis of variance (ANOVA).

Overall, regardless of the methodology, some general aspects on the operationalization of the country of origin effect can be highlighted: (i) the different arrangement to present the country of origin concept (e.g., single-cue or multi-cue studies and single or multiple origin studies), (ii) the presence of country image as a driver of the COO effect and (iii) the price as a promising outcome to reproduce COO effect, instead of another alternatives (attitudes, product evaluations, purchase intentions, product quality).

These topics were addressed next, underscoring the main choices of this study.

2.1.4.1 Single-cue vs multi-cue studies and decomposition of the COO construct

Early COO studies, such as Schooler (1965) and Nagashima (1970), involved a single cue, that is, they presented country of origin as the only information to consumers make their evaluations (Bilkey & Nes, 1982; Maheswaran et al, 2013).

However, in daily circumstances, consumers have access to multiple cues, which can compromise studies external validity (Lu et al., 2016), because the impact of COO can be overestimated (Dinnie, 2008; Usunier, 2006). Therefore, when consumers encounter more information, the efficacy and relevance of the country of origin on product evaluations will possibly be reduced (Agrawal & Kamakura, 1999; Ahmed et al., 2004; Chao & Rajendran, 1993; Johansson et al., 1985; Kabadayi & Lerman, 2011; Pharr, 2005; Verlegh & Steenkamp, 1999).

To overcome this limitation, that persisted until the 1990s (Srinivasan et al., 2004), the literature has switched to multi-cue studies (Usunier, 2006) adding other cues to understand consumers' preferences towards products. This approach has become predominant in the last 35 years (1978-2013), with brand as the most recurrent cue (59%), followed by price (39%), design (35%), and quality (27%) (Lu et al., 2016).

This multi-cue setting seems mainly linked with a conjoint analysis approach in COO research, but it can also be applied along with dependence techniques, placing the cues as independent variables and the consumers' preferences, attitudes or intentions as dependent variables.

In addition, the first literature investigations referred to a single origin, e. g., operationalized COO as single construct, focusing on the country where the product was manufactured (made-in country). Nevertheless, with the globalization, the "made in" country rarely is the same country of the brand, and for that reason, researchers have attempted to decompose the COO construct into different components (Magnusson et al, 2011) since the late 1980s (Usunier, 2011).

These variations of the COO concept are associated with the several countries that have a relationship with the product (Coskun & Burnaz, 2016), e. g., they are related to the multiple sources of the product. It includes dimensions of country of design (COD), country of parts (COP), country of assembly (COA), country of manufacture (COM), and country of brand (COB)/brand origin (BO).

Both COM and BO were defined and explained before (sections 2.1.1 and 2.1.2). However, their definitions are shown again here along with the conceptualization of the other COO components, in order to allow a theoretical comparison among them. The definitions can be visualized next on Table 3:

Table 3
COO components

COO component	Conceptualization
Country of design or engineering (COD)	<p>“Country where the product was conceived and engineered.” (Insch & McBride, 2004, p. 257).</p> <p>“Country where the product is designed/conceived (and with which the brand is generally associated)” (Hamzaoui-Essoussi & Merunka, 2006, p. 147).</p> <p>“Country with which the brand is associated” (Chowdhury & Ahmed, 2009, p. 497).</p> <p>“Country where the final product was initially conceptualized and designed.” (Ha-Brookshire & Yoon, 2012, p. 446).</p>
Country of parts (COP)	<p>“Country where the majority of the materials used in the product came from and/or the component parts were made” (Insch & McBride, 2004, p. 257).</p> <p>“Country in which the major parts of the product are made.” (Chowdhury & Ahmed, 2009, p. 497).</p> <p>“Country where component parts are manufactured” (Ha-Brookshire & Yoon, 2012, p. 446).</p>
Country of assembly (COA)	<p>“Country where the majority of the product’s final assembly occurred” (Insch & McBride, 2004, p. 257).</p> <p>“Country in which the product is actually made” (Chowdhury & Ahmed, 2009, p. 497).</p> <p>“The country where the product is partially or fully assembled, but not ready to be sold to the end consumer.” (Ha-Brookshire & Yoon, 2012, p. 446).</p>
Country of manufacture (COM)	<p>“Country where a brand is actually manufactured or assembled” (Agrawal & Kamakura, 1999, p. 258)</p> <p>Country where the product is manufactured or assembled (Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Insch and McBride, 2004)</p> <p>Country where the product is primarily produced and assembled (Fetscherin & Toncar, 2010, p.167)</p> <p>“Country (or region) that, according to consumers, produces the branded product” (Hamzaoui-Essoussi et al., 2011, p. 973).</p> <p>“Country where the final product is manufactured.” (Ha-Brookshire & Yoon, 2012, p. 446).</p> <p>Country where the product is manufactured (Johnson et al., 2016b).</p>

Continue

Conclusion

COO component	Conceptualization
Country of brand (COB) or Brand origin (BO)	“Country where the corporate headquarters of the company marketing the product or brand is located.” (Johansson et al., 1985, p. 389).
	“Country with which the firm producing a brand is associated” (Agrawal & Kamakura, 1999, p. 258)
	“Country with which consumers associate the brand.” (Wu & Fu, 2007, p. 334)
	“Country that the brand is originally from and where the headquarters is located” (Fetscherin & Toncar, 2010, p. 167)
	“Country where the brand appears to originate, which reflects the “nationality of the brand.” (Hamzaoui-Essoussi et al., 2011, p. 973).
	Country where the brand is based (Johnson et al., 2016b).
	“Place, region or country where a brand is perceived to belong by its target customers.” (Thakor & Kohli, 1996, p. 26)

Each COO component corresponds to different stages of the production process (production of parts, product design, and final assembly), that in business practice are usually assigned to distinct countries (Maheswaran et al., 2013). They provide different and specific information to consumer evaluation (Ha-Brookshire & Yoon, 2012) and the relative importance of each one of them depends on the product category (Johansson et al., 2018).

However, their conceptualizations may overlap. For instance, the country of design (COD) in business practice usually refers to the country of the brand (brand origin - BO). On the other hand, country of assembly (COA) and country of manufacture (COM) are also related, because products can be assembled and manufactured in the same country. The latter, which has become equivalent to the “made in” label, is also highly connected to the country of parts (Johansson et al., 2018).

Furthermore, if the COO construct is decomposed into many dimensions, the COO effect will probably be reduced (Tse & Lee, 1993). In this regard, a possible consensus is the decomposition of COO in two levels (country of manufacture and brand origin) since these are present in every product category (Wu & Fu, 2007), “countries differ in branding and manufacturing capabilities” (Johnson et al., 2016b, p. 405) and consumers value country of manufacture and brand origin combinations differently (Ho et al., 2018), because they are interested in knowing the manufacturing country to ensure that products are made in a safe manner and they are also concerned with the added value communicated by the brand considering the country and its excellence in certain product category (Ha-Brookshire & Yoon, 2012).

In addition, according to the systematic review conducted by Lu et. al (2016), country of manufacture (44 articles) and brand origin or country of brand (31 articles) are the most frequently used components, along with country of design (33 articles), that is typically the country of brand.

Wherefore, this research was classified as a multi-cue investigation: it employed country of manufacture (COM) and brand origin (BO) as COO components (cues) and consequently, as independent variables of an experimental design (see section 3.2.2). This approach looks not only to the interaction between BO and COM but also to the change in these two components framed to the consumer as a loss or a gain in the country image (for methodological details, see section 3.4).

As discussed before, this is a differential in this research, because it not only considers the interplay between BO and COM, but also possible asymmetric effects, building up in studies such as Aruan et al. (2018), Drozdenko and Jensen (2009), Fang and Wang (2018), Han and Terpstra (1988), Herz and Diamantopoulos (2017), Johansson and Nebenzahl (1986), Johnson et al. (2016a), Johnson et al (2016b), Johansson et al (2018), Lee and Lee (2011), Lee et al. (2014), Liu et al. (2018), Matarazzo et al. (2018), Srinivasan et al. (2004). The basic definitions used here derived from Johansson et al. (1985) and Insch and McBride (2004), what was further explained in the method (section 3.2.2).

These dimensions could be a part of a conjoint analysis approach, just like Coskun and Burnaz (2016), Godey et. al (2012), Ho et. al (2018) studies or a part of a survey and dependence analysis, such as Eng, Ozdemir and Michelson (2016) article, that used BO and COM along with price, brand image and brand loyalty as independent variables in a logit model. However, the experimental design employed here allows to manipulate both BO and COM and to infer a causal relationship with consumers' willingness to pay. In the next section, the country image construct and its operationalization were presented.

2.1.4.2 Country image as a driver of COO effect

“Country image is a key construct in the study of the country of origin effects” (Carneiro & Faria, 2016, p. 2), because “when country image is activated for either product- or nonproduct-related factors and becomes salient, it is clearly diagnostic and influences subsequent product evaluations” (Maheswaran et al., 2013, p.172), regardless of whether the product is new or

already established on the market (Coskun & Burnaz, 2016, Hamzaoui-Essoussi & Merunka, 2006).

Thus, consumers' preferences will be greater for products from a country with a more favorable image, because their product evaluations will be more positive (Koschate-Fischer et al., 2012). Therefore, multinational marketers, exporters and retailers can design brand strategies to take advantage from a more favorable country image (Li et al., 2014; Suter et al., 2018) or to avoid the potential pitfalls associated with a less favorable country image (Li et al., 2014).

Conceptually, according to Roth and Diamantopoulos (2009), country image can be understood from three distinct definition groups that differ in their focal image object. The first group, product image -PI, has emerged along with the initial country of origin studies in the 1960s and 1970s and it has examined the country's image comparatively, employing several countries and products in order to verify the image of these products by contrasting different origins.

Product image is, therefore, "the picture, the reputation, the stereotype that businessmen and consumers attach to products of a specific country" (Nagashima, 1970, p. 68). It is related to the entire beliefs that consumers hold regarding both products and brands of a country (Li et al., 2014) and it is based on their prior perception of the country's production and marketing strengths and weaknesses (Roth & Romeo, 1992).

In line with these definitions, product image can be categorized as a "micro country image" (Pappu & Quester, 2010) and it is associated with products' attributes. For instance, consumers may consider German products reliable and durable, Italian products attractive in terms of design, Japanese products innovative and US products exclusive, with prestige.

These features are present on the most employed scales that measure product image: Nagashima (1970), Han (1990), Roth and Romeo (1992) and Knight, Spreng and Yaprak (2003). These scales focused on product attributes, treated image as a unidimensional construct and were applied in surveys and experimental designs.

Particularly, Nagashima (1970) outlined dimensions of price and value, service and engineering, advertising and reputation, design and style, and consumers' profile. Han (1990) used technical advancement, prestige value, workmanship, price and serviceability. In turn, Roth and Romeo (1992) understood the image of products in terms of workmanship, prestige, innovation and design. Still, Knight et al. (2003) reported dimensions of innovation, advertising, distribution, price and workmanship.

In contrast, the two other groups of definitions date back to 1980s and 1990s, when researchers began to recognize the complexity and multidimensionality of the country of origin construct, and also continued to apply this concept frequently in surveys and experiments.

One group, named country of origin image (COI), has been more generally adopted (Maheswaran et al, 2013) and considers “the total of all descriptive, inferential and informational beliefs one has about a particular country” (Martin & Eroglu, 1993, p. 193), regardless of a product category (Carneiro & Faria, 2016; Pucci et al., 2017). It includes beliefs about the country’s economic and technological development stages, as well as affective assessments of its social and political systems (Wang, Li, Barnes, & Ahn, 2012). It comprises infrastructure, level of technology and industrialization, per capita income (Aruan et al., 2018).

This definition reflects a “macro country image” (Pappu & Quester, 2010), and it is measured by scales whose dimensions are associated with country’s characteristics. For instance, Parameswaran and Yaprak (1987) presented dimensions of country general attributes (GCA); general product attributes (GPA) and specific product attributes (SPA), which were further extended by Pisharodi and Parameswaran (1992).

In turn, Martin and Eroglu (1993) specified political, economic and technological spheres of a country's image, which was replicated by Pappu and Quester (2010). Laroche et al. (2005) divided country image in beliefs about the country’s industrial development and technological advancement, affect towards country’s people and consumers’ desired level of interaction with the sourcing country.

The last group, product-country image (PCI), emphasizes the country image in relation to the role played by the country as the origin of its products (Roth & Diamantopoulos, 2009). In this line, image is the way consumers view different countries and products made in distinct countries (Li et al., 1997).

This definition suggest that image of a country and image of the product are different but related concepts, once the image of a country can transfer meaning to a product category, possibly influencing consumers’ purchase intentions, e. g., country image may affect consumers’ purchase intentions indirectly through product image (Wang et al, 2012). For instance, when a company launches a new product in the market, consumers’ image perception of a country can be transferred to the product (Coskun & Burnaz, 2016) and then, can influence consumers’ purchase intentions.

If consumers have a more (or less) favorable product-country image for a certain product and country, this image could be extended to a generalized more (less) favorable evaluation of all products from that country (Agrawal & Kamakura, 1999).

Therefore, this category is similar to the concept of COO effect (Samiee et al., 2016) and it can be operationalized by dimensions of quality, satisfaction, economic value and made-in features, according to Nebenzahl, Jaffe and Usunier (2003) scale. This was the only PCI measurement identified by Roth and Diamantopoulos (2009) in their broad literature review, and for that reason, the only one mentioned here. The three groups of definitions of country image were presented in Table 4, along with the operationalization of this construct.

Table 4
Country image

Theoretical Group	Operationalization (dimensions)
Product Image (PI)	Product attributes/characteristics:
Images, perceptions of the country's products attributes (micro level).	<ul style="list-style-type: none"> - Price and value - Workmanship - Advertising and reputation - Service and engineering - Serviceability - Design and style - Consumers' profile - Technical advancement - Innovation - Prestige value - Distribution
Country image (COI)	Country characteristics:
Overall image of a country.	<ul style="list-style-type: none"> - Political - Technological
Beliefs about a country in general (macro level).	<ul style="list-style-type: none"> - Economic - Social (people)
Product-Country Image (PCI)	Country characteristics transferred to products characteristics:
Image of products derived from the overall image of the country.	<ul style="list-style-type: none"> - Quality - Satisfaction with the product made in - Economic value
It is related to the role played by the country as the origin of its products (macro and micro level).	<ul style="list-style-type: none"> - Made-in features

Table 4 suggest little uniformity both conceptually and operationally regarding the country image construct. This has already been indicated by Carneiro and Faria (2016) and Roth and Diamantopoulos (2009) and it generates considerable confusion (Roth & Diamantopoulos, 2009).

In COO research, is never clear what is being measured, whether is country image, product image or consumers' attitude, because origin image is a construct that encompasses at the same time countries, products and consumers (Usunier, 2011).

This means that country image cannot be completely separated from the product: its influence on consumers' purchase intentions is primarily channeled through their perceptions of the attributes of a particular product (Wang et al., 2012), as stated before. Therefore, COO effects are driven by the performance of products originated of a certain country (Maheswaran et al., 2013).

In addition, "country image is decomposed in the case of hybrid products" (Jaffe & Nebenzahl, 2006, p. 119). Country of manufacture (COM) is more associated product and brand quality (Aruan et al., 2018; Karimov & El-Murad, 2019) while brand origin (BO) is more related with brand image (Hamzaoui-Essoussi et al., 2011).

For instance, due to the "strong" image of Germany in manufacturing, consumers can infer that cars made in Germany have high quality (Maheswaran et al., 2013). On the other hand, France has a strong association with fashion, what influences consumers' evaluations of fashion brands from this country (Aruan et al., 2018).

Despite these conceptual and measurement issues, country image can be comprehended as the associations that consumers hold towards the country and its products. It indicates how both countries and products are perceived by consumers, constituting a perceptual, associative, unintentional process in their minds.

However, COO studies usually apply the concept of country image as specific to a given product category (Hamzaoui-Essoussi & Merunka, 2006). Then, since this research is conducted in a specific product category, the definition and operationalization adopted were derived from Roth and Romeo (1992) and belonged to the first group of definitions (product image – PI).

This measure captures the image through dimensions that are production oriented and marketing oriented (Roth & Romeo, 1992). This means that the dimensions that underlie country image are associated with both brand origin -BO (design, prestige) and country of manufacture - COM (workmanship, innovation), which are directly related to the study purpose of verifying the influence of changes in BO and COM on consumers' willingness to pay for a brand.

Furthermore, this scale has been widely employed in COO research, including in the study of Koschate-Fischer et al. (2012), that focused on specific products and used the same outcome of this research (willingness to pay).

Next, the most common outcomes of COO effect, with an emphasis on pricing consequences, were displayed.

2.1.4.3 Price as an outcome of COO effect

In COO literature, country of origin effect has been reported through several outcomes, such as product quality evaluations (Adina et al., 2015; Bilkey & Nes, 1982; Carneiro & Faria, 2016; Chao, 1998; Chowdhury & Ahmed, 2009; Fetscherin & Toncar, 2010; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Inch & McBride, 2004; Iyer & Kalita, 1997; Josiassen et al., 2008; Li et al., 2012; Loureiro & Kaufmann, 2017; Meshreki et al., 2018; Veale & Quester, 2009; Verlegh & Steenkamp, 1999; Wu & Fu, 2007), product beliefs (Hui & Zhou, 2003; Laroche et al., 2005), brand, brand image, brand loyalty and overall brand equity (Ashill & Sinha, 2004; Balabanis & Diamantopoulos, 2011; Hamzaoui-Essoussi et al., 2011; Herz & Diamantopoulos, 2017; Lee et al., 2014; Loureiro & Kaufmann, 2017; Mariutti & Giraldi, 2019; Moradi & Zarei, 2012; Mostafa, 2015), attitudes and general evaluations (Bartikowski et al., 2019; Brijs et al., 2011; Chao, 2001; Costa et al., 2016; Fang & Wang, 2018; Guina & Giraldi, 2014; Hui & Zhou, 2003; Jegethesan et al., 2012; Johansson et al., 1985; Johnson, et al., 2016a; Johnson et al., 2016b; Josiassen et al., 2008; Josiassen, 2010; Lang & Crown, 1993; Lee & Ganesh, 1999; Rashid & Byun, 2018), willingness to pay and price perceptions (Agrawal & Kamakura, 1999; Aichner et al., 2016; Drozdenko & Jensen, 2009; Ha-Brookshire & Yoon, 2012; Hulland, Todino, & Lecraw, 1996; Johansson and Nebenzahl, 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci et al., 2017; Saridakis & Baltas, 2016; Shen & Wang, 2017; Siew et al., 2018; Thanasuta et al., 2009), perceptions of risk and value (Hakala, Lemmetyinen, & Kantola, 2013; Koschate-Fischer et al., 2012), purchase intentions and purchase behavior (Al-Aali, Randheer, & Hasin, 2015; Ashill & Sinha, 2004; Brijs et al., 2011; Chao, 2001; Giraldi, 2016; Giraldi & Carvalho, 2009; Giraldi & Lopes, 2012; Herz & Diamantopoulos, 2017; Lee & Lee, 2011; Li et al., 2014; Li et al., 2012; Prendergast et al., 2010; Rashid & Byun, 2018; Wang et al., 2012).

Regularly, these outcomes have been investigated considering consumer behavior and in a minor extent, organizational behavior (Durand, 2016), by applying well established scales to operationalize these constructs.

In addition, the majority of studies has displayed about the importance of COO and country image as a driver of consumers' quality evaluations, attitudes, preferences and purchase intentions (Chowdhury & Ahmed, 2009; Koschate-Fischer et al., 2012), suggesting a stronger COO effect on quality than on attitudes and behavioral intentions (Agrawal & Kamakura, 1999; Verlegh & Steenkamp, 1999).

However, outcomes indicating actual behaviors and decisions in markets, rather than measures of attitudes, intentions and self-reports, are necessary in COO research (And  hn & L'Espoir Decosta, 2018; Lu et al., 2016), since these traditional measurements do not precisely reproduce consumers' real behaviors (Smith & Swinyard, 1983).

Indeed, although attitudes and predispositions can be considered solid predictors of purchase intentions, intent does not automatically translate into behavior in the marketplace and may not be aligned with it (Papadopoulos et al., 2018).

Therefore, a suitable alternative is the monetization of measures closer to the marketplace (Lu et al., 2016), given that among the factors that influence a consumer actual buying behavior, budget constraints are extremely relevant to consumers (Magnusson et al., 2011).

In this aspect, focusing on price as an outcome variable allows the monetization of the COO effect (Jaffe & Nebenzahl, 2006), because price is “the amount of money we must sacrifice to acquire something we desire” (Monroe, 2003, p. 5) or “what is given up or sacrificed to obtain a product” (Zeithaml, 1988, p. 10).

Price represents a sacrifice for the consumer (Meshreki et al., 2018) and therefore, it is a monetary cost that consumers give up in order to engage in a purchase transaction (Lichtenstein, Ridgway, & Netemeyer, 1993).

This construct is closer to actual consumer behavior than intentions or evaluations measures, given that consumers can evaluate a product from a certain country more favorably than a product from another country, but, at the same time be reluctant to pay a higher price for it (Koschate-Fischer et al., 2012).

Beyond its economic characteristic, from the marketing point of view, price is a summary of the brand strength or power (Jaffe & Nebenzahl, 2006) and it can be used as a direct measurement of brand equity (Christodoulides & Chernatony, 2010). Price affects the “give” side of the value equation (Meshreki et al., 2018), and wherefore, it is a relevant consequence of the COO.

Despite of its importance, the relationship between COO and price has been little explored in the literature (Ha-Brookshire & Yoon, 2012), and there is not considerable evidence about COO influence on consumers' pricing decisions (Agrawal & Kamakura, 1999).

Several studies (see Ahmed et al., 2004; Coskun & Burnaz, 2016; D'Astous & Ahmed, 1999; Eng et al., 2016; Ettenson, 1993; Ettenson et al., 1988; Godey et al., 2012; Ho et al., 2018; Jegethesan et al., 2012; Lang & Crown, 1993; Montanari et al., 2018; Okechuku, 1994; Srinivasan et al., 2004; Veale & Quester, 2009) employed price as a competing variable to COO

and its subcomponents (country of design, country of parts, country of assembly, country of manufacture, country of brand/brand origin) in order to verify its relative importance associated with these cues, instead of considering this concept a consequence of COO. Overall, their conclusions indicated that price is a more important information than country of origin to consumers' decisions, without demonstrating the size of the effect.

Only a few (see Agrawal & Kamakura, 1999; Aichner et al., 2016; Drozdenko & Jensen, 2009; Ha-Brookshire & Yoon, 2012; Hu & Baldin, 2018; Hu & Wang, 2010; Hulland et al., 1996; Johansson & Nebenzahl, 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci et al., 2017; Saridakis & Baltas, 2016; Siew et al., 2018; Thanasuta et al., 2009) underscored price as a dependent or outcome variable, in an attempt to quantify the extent of the COO effect using a measure closer to real consumers' behavior in the markets.

Their majority showed a positive effect of these cues (BO and COM) on price responses and operationalized COO as a single construct, focusing either on the country of manufacture (COM) or on the brand origin (BO) of the product (Table 5).

Table 5
Price as a dependent variable in COO research

Studies	COO subcomponents		Operationalization of price	Main results
Johansson and Nebenzahl (1986)	Country of manufacture (COM).	of	Willingness to pay (WTP). Respondents received a price and then, they were asked to indicate the amount above or below this reference price they would be willing to pay for the product made in a different country.	COO had an influence on price. This relationship seemed positive, but the study did not report that empirically.
Hulland et al. (1996)	Country of manufacture (COM).	of	Price ratios based on sales prices.	COO information had a positive effect on price: in a certain product category, the COO could fix higher prices. Branding and risk moderated this relationship. Branded products had a negative effect on price ratios. On the other hand, the purchase risk had a positive influence on price. However, this study employed a seller perspective, so the sellers' price ratios were used.
Agrawal and Kamakura (1999)	Brand (BO)	origin	Sale prices. Hedonic price model.	COO presented no influence on sales prices. Consumers did not pay more or less because they hold better or worse image regarding the quality of products from different countries.

Continue

Continuation

Studies	COO subcomponents		Operationalization of price	Main results
Thanasuta et al. (2009)	Brand (BO)	origin	Market prices used as proxies for consumers' willingness to pay (WTP). Hedonic price model.	Countries perceived to have a higher value to consumers received a positive and significant price premium, demonstrating a positive COO effect on price.
Drozdanko and Jensen (2009)	Country of manufacture (COM)	of	Willingness to pay (WTP). Respondents received a price and were asked to indicate the amount above or below it they would be willing to pay for the product made in a different country.	Consumers demonstrated a positive bias (i.e. increased willingness to pay) toward products from developed countries relative to less developed countries, showing a positive COO effect on price.
Hu and Wang (2010)	Country of origin of retailer.	of the	Willingness to pay (WTP). Real-world transaction prices in the Internet auction Web site eBay's U.S.	The results revealed that U.S. retailers were able to charge a price premium, which came from country-of-origin equity (positive COO effect) instead of trading risk or product quality.
Ha-Brookshire and Yoon (2012)	Country of parts (COP) and country of manufacture (COM).	of	Perceived retail price. It was measured by a single question asking the participant to estimate the retail price for each of the four types of cotton shirt with different COP and COM combinations.	Products made in USA with American cotton were the best evaluated, while products made in China with Chinese cotton were the worst. Even that the study had not directly mentioned, this might suggest a positive relationship between COO and WTP, due to the more favorable image of the USA in comparison to China.
Koschate-Fischer et al. (2012)	Country of manufacture (COM).	of	Willingness to pay (WTP). Becker, DeGroot and Marschak's (1964) procedure (BDM).	Country of origin has indeed a positive impact on consumers' WTP. Therefore, consumers were willing to pay more for products from countries with a more favorable image than for products from countries with a less favorable image. Additionally, there was a negative moderating influence of brand familiarity on COO effect in a high involvement setting.
Aichner et al. (2016)	Brand (BO)	origin	Willingness to pay (WTP). Respondents were asked to indicate how much they would be willing to pay for the products as a maximum price.	In a foreign branding strategy, consumers' WTP decreased when the product's actual origin was disclosed. This could be associated with the more favorable image of the foreign country chosen to the product branding in comparison with the real COO. Therefore, a positive relationship between a more favorable COO and price could be suggested.
Saridakis and Baltas (2016)	Brand (BO).	origin	Sale prices. Hedonic price model.	A brand's COO played a role in the determination of price structure, and its influence varied within a product category.

Continue

Conclusion

Studies	COO subcomponents		Operationalization of price	Main results
Pucci et al. (2017)	Country of manufacture (COM).	of	Willingness to pay (WTP). Respondents were asked for how much more (0% to 50%) they were willing to pay for a product made in a different country. A price was probably given to the consumers.	There was an influence of country of origin on price, represented by willingness to pay. However, the direction of this relationship (positive or negative) varied among the countries of the study.
Hu and Baldin (2018)	Country of manufacture (COM).	of	Sales prices. Hedonic price model.	COO was the most important attribute to determine sales, reflecting an effect on price. Consumers paid more for products from a foreign COO.
Lee et al. (2018)	Country of manufacture (COM).	of	Willingness to pay (WTP). Respondents were asked to select a pricing option from a multiple-choice set, and the mean values were calculated.	COO positively influenced consumers' WTP when consumers had little prior knowledge about the product category.
Siew et al. (2018)	Brand (BO).	origin	Willingness to pay (WTP). Respondents were asked whether they were willing to pay more for brands they love. This measure is based on Netemeyer et al. (2004) study.	The perceived brand origin strength had a positive and indirect effect on willingness to pay. Brand love mediated the influence of brand origin on willingness to pay.

Consequently, brand origin (BO) and country of manufacture (COM) have never been simultaneously observed regarding price consequences (Table 5), despite the acknowledged fact that these cues provide distinct pieces of information to consumers, that interact and influence their responses, as discussed before (sections 2.1.2 and 2.1.4.1).

In this sense, prior COO research (see Ashill & Sinha, 2004; Chao, 1998; Chao, 2001; Chowdhury & Ahmed, 2009; Fetscherin & Toncar, 2010; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011; Han & Terpstra, 1988; Inch & McBride, 2004; Iyer & Kalita, 1997; Moradi & Zarei, 2012; Mostafa, 2015; Wu & Fu, 2007) demonstrated this interaction mostly through experimental designs and it suggested that, in general, COO subcomponents (treated as independent variables) affect consumers' quality perceptions, evaluations, responses, purchase intentions and brand equity (dependent or outcome variables) differently, e. g., consumers react in a different way depending on COO dimensions. Moreover, these dimensions interplay, e.g., the fit/congruence between them, is significant to consumers evaluations (see Johnson et al., 2016a; Johnson et al., 2016b).

This means that, the significance, the signal and/or the magnitude of country of design (COD), country of parts (COP), country of assembly (COA), country of manufacture (COM), and country of brand (COB)/brand origin (BO) effects on consumers' responses varied in previous studies.

Drawing an analogy, it is reasonable to assume that brand origin (BO) and country of manufacture (COM) may have different effects on price in terms of size, valence and significance, and that the fit and interaction between these two COO components may influence pricing decisions as well, particularly when a change in BO and/or COM occurs due to a business situation, such as an acquisition or a shift in the production location.

This investigation of how changes in BO and COM can influence price is also a contribution of this study, because consumers can be willing to pay premium prices or expect discounts on products depending on brand origin (BO) and country of manufacture (COM) combinations. Additionally, in certain cross-countries business situations, as for instance when a company starts to produce elsewhere, such as Apple manufacturing iPhones in China (COM change) or when a brand is being taken over by another firm, such as the acquisition of Body Shop by Natura (BO change), consumers can modify their price tolerance.

Returning to Table 5, there is also information about the operationalization of price as a dependent variable. Some studies focused on observed market data, such as sales prices (Agrawal & Kamakura 1999; Hulland et al., 1996; Hu & Baldin, 2018; Saridakis & Baltas, 2016; Thanasuta et al., 2009) or retail prices (Ha-Brookshire & Yoon, 2012), using mainly hedonic price models.

This approach has the advantage of using real purchases (Breidert et al., 2006; Wertenbroch & Skiera, 2002) but the price variations in the data are usually very limited (Breidert et al., 2006) and the data is only available after the sales of the product. This fact makes unfeasible to apply to new or unknown products (Le Gall-Ely, 2009). The latter situation fits this study, since it used fictitious brands (for details, see section 3.5).

On the other hand, the remaining studies (Drozdenko & Jensen, 2009; Hu & Wang, 2010; Johansson & Nebenzahl 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci et al., 2017; Siew et al., 2018) employed willingness to pay (WTP) as an outcome measure.

Willingness to pay is the maximum amount of money a consumer is willing to spend for a product or a service (Cameron & James, 1987; Homburg et. al, 2005), e. g., the maximum price a consumer accepts to pay in order to receive a certain quantity of a good (Wertenbroch & Skiera, 2002). Hence, "WTP is a measure of the value that a person assigns to a consumption or usage experience in monetary units" (Homburg et. al, 2005, p. 85). It reflects consumers'

price tolerance (the maximum price that consumers are willing to pay or accept before switching (Homburg et. al, 2005) and purchase probability (Wertenbroch & Skiera, 2002).

It is a reservation price (Le Gall-Ely, 2009; Wang, Venkatesh, & Chatterjee, 2007; Wertenbroch & Skiera, 2002) and it measures the subjective value that a consumer assigns to a certain quantity of a product (Wertenbroch & Skiera, 2002) as a threshold (Wang et al., 2007). Therefore, WTP allows consumers to express in monetary terms, their judgment of the product's perceived value (Le Gall-Ely, 2009).

Consequently, their propensity to buy relies on whether the actual price is above, below or equal to this threshold or price limit (Wang et al., 2007). Hence, they buy a product from a set of alternatives, for which their WTP surpasses purchase price the most (Wertenbroch & Skiera, 2002), e.g., if the price is equal or below their WTP, consumers will consider the purchase of the product.

Past research focused in COO and market price data has indicated whether consumers accept market prices or not, but it has not demonstrated how much money consumers are willing to spend to acquire a product or service, e.g., their willingness to pay (WTP). In addition, sales data are only available at the aggregate level, e. g., the individual level of purchase behavior cannot be measured (Breidert et. al, 2006).

In COO research, except for Koschate-Fischer et al. (2012) and Hu and Wang (2010) studies, WTP has been measured by a direct survey based on a single question, asking the consumers how much more or less they are willing to pay for a product depending on the country of origin (see Table 5 again). Along with this question, consumers often received a reference or base price to deliver an answer.

However, asking directly only one question about WTP, regardless of the format of the question (open ended or discrete choice), is not recommended (Desmet, 2016) because "respondents often overstate their price sensitivity" (Lipovetsky et al., 2011, p. 168). Furthermore, a base price can be a standard that interferes in the estimation of consumer's real WTP.

Conversely, Koschate-Fischer et al. (2012) and Hu and Wang (2010) represented an advance in attempting to measure willingness to pay (WTP) in COO research. Both employed on auction methods in which consumers give price bids.

Particularly, the former applied Becker, DeGroot and Marschak's (1964) procedure (BDM). This method is based on a lottery, in which the consumer is asked for the maximum price that he/she would be willing to pay for a product. Then, the purchase price is randomly determined, ascertaining whether the consumer is required to buy the product or not (Voelckner,

2006). If the price drawn from the lottery is less than or equal to his/her willingness to pay (WTP), the consumer is obligated to purchase the product (Miller, Hofstetter, Krohmer, & Zhang, 2011).

This mechanism has incentive compatible character (Breidert et. al, 2006, Le Gall-Ely, 2009; Wertenbroch & Skiera, 2002) and demands a real purchase by the consumers, eliciting their actual willingness to pay (Voelckner, 2006). Another advantage of BDM lottery is that consumers bids do not influence the sale price (Le Gall-Ely, 2009).

In contrast, this method is restricted to specific market situations, because in this practice, consumers often compete with each other to acquire a product in a limited quantity, whereas in a store the supply of goods is unrestricted and they can buy the amount they want (Le Gall-Ely, 2009; Wertenbroch & Skiera, 2002).

On the other hand, the latter was based on an auction mechanism similar to BDM, but in which consumers could adjust their WTP. As well as BDM, it can be characterized as an incentive, real and direct method to estimate willingness to pay (Voelckner, 2006; Miller et al., 2011). At the same time, this measure shares BDM criticism of not being representative of an actual purchase situation, because an auction bidding process also presents a limited stock of products and a competition among consumers for these products.

Therefore, this study builds up on previous research on COO and willingness to pay (WTP). It is similar to existing studies in the sense that it is also based on a survey technique and it consists in a direct approach to measure WTP but differs from them because it introduces the Van Westendorp (1976) Price Sensitivity Meter (PSM) in COO research.

The principle of this method is that consumers cannot manifest a single price for a product or service, but instead they can express an acceptable price range (Ceylana et al., 2014), e. g., a lower and an upper threshold to the price (Lipovetsky et al., 2011).

Therefore, Van Westendorp (1976) measure is a survey based on four open ended questions about consumers' price acceptability and price judgments, e g., questions that describe the price that consumers consider that the product is (i) so expensive that he would not buy it, (ii) so cheap that they would question its quality, (iii) starting to get expensive, (iv) a bargain. These questions provide an optimal price point, an indifference price point and a range of acceptable prices (difference between the point of marginal cheapness and the point of marginal expensiveness) (Ceylana et al., 2014), used to calculate consumers' willingness to pay and price sensitivity afterwards. Additionally, these prices points indicate the proportion of consumers who would purchase the product (Harmon et al., 2007). These details were further explained in the method (section 3.2.1).

Despite of the hypothetical bias of survey techniques (Desmet, 2016; Le Gall-Ely, 2009, Voelckner, 2006) due to the fact that the consumer is not obligated to buy the product and it is not a real market situation, this method is “very flexible when product features need to be varied and when a larger set of possible prices need to be tested” (Breidert et. al, 2006, p. 21).

It does not impose price points on respondents (Lipovetsky et al., 2011) and it can aid managerial decision making (Desmet, 2016). In addition, multiple questions offer more realistic results for pricing decisions than single questions, increasing attention to price information and reducing the bias (Desmet, 2016).

The PSM has been used in many commercial applications, such as the market research company GfK, that applies this measure in order to obtain price ranges for new or re-launched products (Breidert et. al, 2006). In academic research, this method has been recently employed in marketing studies, such as Ceylana et.al (2014), Khandker and Joshi (2018), Salamandi, Alijosiene and Gudonaviciene (2014).

Unlike BDM approach, PSM can be used in any market situation, and it can provide not only willingness to pay (WTP) but also price sensitivity, as suggested by Desmet (2016). In addition, as BDM demands an obligation for consumers to purchase the product, the PSM procedure can be less costly and preferable by managers (Voelckner, 2006).

Overall, except for Agrawal and Kamakura (1999), the studies on COO and price preferences (Table 5) suggested that country of origin (comprehended either as country of manufacture or brand origin) can affect sales/market prices and consumers’ willingness to pay. Therefore, consumers answer to COO information by paying premium prices or expecting discounts, e. g., products from different countries generate distinct price dispositions on consumers (Hulland et al., 1996).

This COO effect seems positive, but the revisions do not clarify its sources, or explain how it works. For instance, according to Koschate-Fischer et al. (2012), consumers may pay more for products from countries with a more favorable image than for products from countries with a less favorable image, indicating a positive relationship between country image and consumers’ willingness to pay.

On the other hand, Drozdenko and Jensen (2009) attributed this positive bias of COO on price to country’s development, stating that there is an increased willingness to pay toward products from developed countries relative to less developed countries. Hu and Wang (2010) underscored the role of country of origin equity to determine price premiums.

In addition, price consciousness, e. g., how much consumers focus only in paying a low price for a product or service (Lichtenstein et al., 1993) appears to moderate this positive

relationship between country of origin and price, as demonstrated by Koschate-Fischer et al. (2012), and it was taken as a control in this research (section 3.2.3).

Therefore, this research followed Koschate-Fischer et al. (2012) approach, assigning to country image the role of driver of consumers' price preferences. This choice was based on previous research, that have emphasized the role of country image as a determinant of COO effect, as explained on section 2.1.4.2.

The next topic of this literature review developed the research hypotheses, grounded on signaling theory, prospect theory and their relationship with COO studies.

2.2 Hypotheses development

In this section, signaling theory and prospect theory were applied and discussed with COO research in order to conceptually underpin research hypotheses and, therefore, to answer the research question in the empirical part of the study.

2.2.1 Signaling theory and COO components

Signaling theory (Erdem & Swait, 1998) derived from information economics, which assumes that information is a valuable resource (Stigler, 1961) and buyers and sellers attempt to maximize their utility (Calfee & Ford, 1988).

From this economic perspective, information is never entirely available to sellers and buyers on the market. This can influence important decisions, because consumers (buyers) are constantly making choices about goods and services subject to resources and time constraints, while companies (sellers) are always elaborating product, communication, distribution and price strategies in order to increase their profitability.

Precisely, there is asymmetric information: companies know better than consumers the quality of the products they sell (Erdem & Swait, 1998). Consequently, as some information is private or not readily visible by the consumers, information asymmetries arise between those who access and own this information and those who could potentially make better decisions if they had it (Connelly, Certo, Ireland, & Reutzel, 2011; Ho & Wei, 2016). Further, there is also imperfect information, since consumers lack full information about product offerings (Nelson,

1970) and they cannot willingly evaluate the quality or trust in these products (Erdem & Swait, 1998).

Therefore, given that information affects decision-making processes used by individuals in households, businesses, and governments (Connelly et al., 2011), signaling theory emerged as a research stream focused on signaling in product markets: how elements of marketing mix act as signs of quality to consumers (Erdem & Swait, 2016).

The main point of signaling theory in consumer markets is to verify in which situations extrinsic information from the marketing mix become credible signals to consumers and, therefore manipulable by companies (Erdem et al., 2006), always aiming to reduce information asymmetries in the markets.

Signals are “observable characteristics attached to the individual that are subject to manipulation by him” (Spence, 1973, p.357). They include manipulated attributes or activities that carry information about economic agents (companies, consumers, job applicants) characteristics (Spence, 1974).

Specifically, in the consumer market, signals convey information persistently from sellers to buyers (Spence, 2002) in order to influence desired results (Taj, 2016). While sellers (companies) send information about their specific features (Christodoulides & Chernatony, 2010; Mavlanova, Benbunan-Fich, & Koufaris, 2012), choosing how to communicate (signal) this information (Connelly et al., 2011), buyers (consumers) receive and examine this information to access the credibility and validity of these sellers (Mavlanova et al., 2012).

Usually, signalers or senders (companies) communicate positive information in a clear effort to transmit confident organizational attributes (Connelly et al., 2011), and at the same time, avoid sending negative information intentionally in order to reduce information asymmetry (Taj, 2016).

On the other hand, receivers (consumers) make purchase decisions based on this information (Connelly et al., 2011). They evaluate the credibility of the signal, e. g., “the believability of an entity’s intentions at a particular time” (Erdem et al., 2006, p.35), which comprises a signal’s honesty (the extent to which the signaler actually holds the underlying quality associated with the signal) and fit (the extent to which the signal corresponds to the delivered quality) (Connelly et al., 2011).

Furthermore, credibility depends on signal clarity and consistency, e. g., relies on the lack of ambiguity in the information (Erdem & Swait, 1998) and on the coherence between marketing mix elements over time and across markets (Erdem & Swait, 2016).

In this study, signaling theory was suitable to support the theoretical relationship between COO (brand origin and country of manufacture) and consumers' willingness to pay (WTP) and also to compare brand origin (BO) and country of manufacture (COM) effects on WTP.

First, country of origin, represented either as the brand origin (BO) or the made in country (COM), is as an extrinsic information that acts as a signal and affects consumers' quality evaluations (Adina et al., 2015; Bilkey & Nes, 1982; Koschate-Fischer et al., 2012; Laroche et al., 2005; Verlegh & Steenkamp, 1999), risk perceptions, purchase likelihood (Hakala et al., 2013; Koschate-Fischer et al., 2012) and price responses (Ha-Brookshire & Yoon, 2012; Hulland et al., 1996; Koschate-Fischer et al., 2012; Shen & Wang, 2017). Consequently, marketers manipulate COO information (Pharr, 2005) and choose whether to communicate or not consumers about product's origin in order to influence their responses.

Second, brand origin (BO) and country of manufacture (COM) can be considered signals that carry different, but complementary information to consumers. As explained before, while brand origin (BO) refers to the country where the brand is located, country of manufacture (COM) corresponds to the country where the brand is produced (Johnson et al., 2016b). Both signals are directly related to how consumers perceive respectively branding and manufacturing capabilities of a country, e. g., to which extent consumers evaluate country image as more or less favorable.

Indeed, there is an interplay between these two cues (Ha-Brookshire & Yoon, 2012; Ho et al., 2018) and both can build a credible country image. Hence, cumulating positive COO cues leads to more favorable brand evaluations (Bartikowski et al., 2019), because consumers' preferences are greater for products from a country with a more favorable image (Koschate-Fischer et al., 2012).

Based on signaling theory, this means that if consumers are receiving positive origin information consistently, this enhances signals credibility and results in positive responses, such as a higher willingness to pay (WTP), due to the role of country image favorability as determinant of consumers' behavior (Herz & Diamantopoulos, 2017).

This argument is reinforced by previous COO studies on both BO and COM (see Coffey & Kabadayi, 2019; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Ho et al., 2018; Johnson et al., 2016a; Johnson et al., 2016b; Moradi & Zarei, 2012; Mostafa, 2015; Srinivasan et al., 2004), which suggested that brands with more favorable BO and COM images are capable to engender positive behavior outcomes, while brands with less favorable BO and COM images may cause negative ones.

Additionally, even without exploring both BO and COM, previous research on acquisitions, e.g., change in BO (see Fang & Wang, 2018; Lee & Lee, 2011; Lee et al., 2014; Matarazzo et al., 2018) and production shifts, e.g., change in COM (see Han & Terpstra, 1988; Johansson and Nebenzahl, 1986) underlined an increase (decrease) on consumers' responses as a consequence of a more (less) favorable country image. By extension, a change in both BO and COM (acquisition and production shift) is expected to generate a positive (negative) behavior due to a more (less) favorable image in both cues.

These statements led to the first hypothesis:

Hypothesis 1. BO and COM favorability has an effect on consumers' willingness to pay for a brand.

This hypothesis was divided into:

Hypothesis 1a. A brand with a more favorable BO and a more favorable COM has a positive effect on consumers' willingness to pay.

Hypothesis 1b. A brand with a less favorable BO and a less favorable COM has a negative effect on consumers' willingness to pay.

However, as products are related to both BO and COM, they may also elicit multiple and sometimes contradictory associations on consumers (Hamzaoui-Essoussi & Merunka, 2006) when BO and COM information differ. According to signaling theory, this can damage signal credibility due to lack of clarity in the origin information, negatively influencing consumers' evaluations, such as their willingness to pay.

For instance, a strong brand with a more favorable country image can be produced in a country with a less favorable image to explore economies of scale and costs, such as Nike (American) fabricating sports shoes in Asia. Hence, different and inconsistent associations can be created with USA and China in consumers' minds.

Otherwise, a brand from a country with a less favorable country image can offshore its manufacturing to a country with a more favorable image in order to enhance consumers' added value, as Hyundai (South Korea) does in United States and Germany, what can also form distinct connotations, confusing consumers.

In addition, because BO and COM are continually changing as a result of cross-borders acquisitions and production shifts, it is becoming increasingly problematic for companies to maintain the consistency of both signals, which can also compromise credibility and consumers responses. In contrast, these changes may offer an opportunity to firms to manipulate the new origin and counteract negative effects, delivering a clear, consistent and credible message.

Therefore, drawing on signaling theory, when BO and COM correspond to the same country - the so-called country of origin fit (Johnson et al., 2016a; Johnson et al., 2016b)- and this country has a more favorable image, consumers develop positive responses, due to a positive, clear, consistent and credible information. Conversely, when BO and COM differ, e. g., there is a lack of fit, consumers' evaluations are reduced due to ambiguity, as showed by Johnson et al. (2016b).

Once COO changes, consumers turn out to be disoriented as to which COO cue to apply when they are evaluating the brand (Johansson et al., 2018). For instance, if both BO and COM change to a country with a more favorable image, firms can send a unique and more credible signal to its consumers, improving their responses. However, if only BO or COM change country with a more favorable image, consumers may get confuse, and react undesirably.

Bearing this discussion in mind, the following hypothesis was presented:

Hypothesis 2. COO (BO and COM) fit has an effect on consumers' willingness to pay for a brand.

Precisely:

Hypothesis 2a. A brand with a more favorable BO and a more favorable COM has a higher consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.

Hypothesis 2b. A brand with a less favorable BO and a less favorable COM has a lower consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.

To foster this debate, signaling theory also allowed a direct comparison between brand origin (BO) and country of manufacture (COM). Marketing managers need to know which cue

represents a stronger effect on consumers' willingness to pay (WTP), so they can decide where to fix their brand and manufacture locations.

While brand origin is a stronger brand association, country of manufacture is an information not directly associated with the brand (Hamzaoui-Essoussi et al, 2011), e. g, the brand origin can be related with the brand equity and can generate a higher value in comparison to the country of manufacture (Eng et al., 2016).

Indeed, brand origin is a relatively transparent information cue (Zhou, Yang, & Hui, 2010) that can be identified through the brand signals, such as brand name (Leclerc, Schmitt, & Dubé, 1994; Usunier, 2011), packaging and advertising (Thakor & Kohli, 1996), once these signals are available to consumers without requiring much effort from them.

First, products usually carry brand names with several country connotations (Chowdhury & Ahmed, 2009). Notably, the brand name can suggest the origin due to language or linguistic cues (Coskun & Burnaz, 2016; Spielmann, 2016; Usunier, 2011; Usunier & Cestre, 2007) such as spelling, pronunciation (Coskun & Burnaz, 2016; Balabanis & Diamantopoulos, 2008; Thakor & Kohli, 1996) and sound of brand names (Leclerc et al., 1994): Ferrari (Italian), Siemens (German), Havaianas (Brazilian), Cartier (French), Lancôme (French), Louis Vuitton (French), Zara (Spanish). In addition, a brand name can also make explicit references to the country such as British Airlines (British), US Bank (USA) or even to the country capital or cities, such as "Smalto Rome" (Italian), Kiko Milano (Italian).

Second, brand origin can be inferred from the packaging when the company uses flags, colors or typical sceneries that suggest a country (Usunier, 2011) such as the Brazilian soft drink Guaraná Antártica, which uses the green color predominant in the national flag and also the guarana fruit, typical of the country. Budweiser is another example, because its packaging translates the red color of the US flag, and also has the "America" word in the product.

Third, advertising can also drive origin recognition through messages, slogans, logos and celebrity endorsers that incorporate country stimuli. For instance, slogans such as "Das Auto" and references to "German Engineering" from Volkswagen remind consumers of its "Germanness" (Magnusson et al., 2011). Lindt message "Master Swiss Chocolatier since 1845" in the US packaging is a communication strategy that links the brand to the favorable associations with Swiss Chocolate (Johnson et al., 2016b). IKEA promotes its Sweden origin through the colors of the store, product names (Magnusson et al., 2011). Carrefour supermarket communicates the French colors in this logo. Coke used the US singer Taylor Swift, an emblematic American girl, as the face of Diet Coke advertising campaign in 2015.

On the other hand, country of manufacture (COM) transfers partial information and meaning to the brand (Hamzaoui-Essoussi et al., 2011), because it is related to different aspects, such as the country's economic and technical capacities and expertise of manufacturing products. Different from brand origin, it is only readily visible in packaging, as in the "made in China" in the back of the iPhone or the "made in Brazil" label in the Brazilian coffee.

Drawing on signaling theory, it is possible to argue that, brand origin (BO) is a more visible signal to the consumers than country of manufacture (COM), given that BO is most of the time promptly available to them when the company decides to communicate this information, and thus BO can have a greater influence on consumers' willingness to pay (WTP).

Additionally, brand origin (BO) is also a more credible signal compared to country of manufacture (COM), because it is related to the brand, and for that reason has a stronger and positive effect on consumers' willingness to pay (WTP).

To reinforce this argument, it is possible to state that brand origin is associated with a single country and its stable over time (Samiee, 2011), being fixed in consumers' long-term memory (Keller, 1993).

Even with the frequent cross borders acquisitions and subsequent change in brand origin (BO) that happen in this globalized market, companies usually communicate only one country as the BO and often maintain its previous brand associations.

An example is the American fashion group Michael Kors Holdings Ltd, that purchased the Italian fashion brand Versace, but saved the Italian identity, including its origin, by changing the name to Capri Holdings Limited. Complementary, as the brand origin (BO) belongs to a long-term memory, consumers take more time to process the change in brand origin (BO), as seen in the Volvo's case.

In contrast, country of manufacture not only can change over time, once a firm and a can move its manufacturing facilities to another locations (Hamzaoui-Essoussi et al., 2011), but this change is more constant and driven by practical factors, such as government incentives, low cost labor, tax reductions. Hence, this variation can result in a weaker association in consumers' mind (Loureiro & Kaufmann, 2017).

Hence, based on signaling theory, it is conceivable to infer that brand origin (BO) is both a clear and consistent signal to the consumers, which means respectively a non-ambiguous and also a coherent information, which by analogy can indicate a positive effect on consumers' willingness to pay for a brand.

On the other hand, consumers receive and interpret different signals from the company comprising different manufacturing places. This can be ambiguous to them (decreasing signal

clarity) and likewise can reveal a lack of consistency (once every company sends a different message to its consumers depending on the country of manufacture selected), which can in turn reduce credibility and result in a weaker effect on consumers' WTP.

Then, it was hypothesized that:

Hypothesis 3. A brand with a more favorable BO and a less favorable COM has a higher consumers' willingness to pay than a brand with a less favorable BO and a more favorable COM.

In the succeeding section, prospect theory was used to delineate the last research hypothesis.

2.2.2 Prospect theory and COO components

Prospect theory (Kahneman & Tversky, 1979) was developed in order to overcome problems in which preferences violated expected utility theory, and consequently, better explain decisions under risk (Barberis, 2013; Levy, 1992).

This type of decision can be seen as a choice between prospects or gambles, e. g., a contract that produces an outcome with a probability (Kahneman & Tversky, 1979). When choosing among risky alternatives (prospects), people overweight outcomes that are considered certain, in comparison to outcomes which are merely probable – the so-called certainty effect (Kahneman & Tversky, 1979).

Furthermore, in order to simplify choices, people frequently neglect components that the alternatives share and focus on the components that differentiate them, which may produce behavior inconsistencies, because the same alternative can be presented in different forms (Kahneman & Tversky, 1979). This implies that the framing of a choice affects preferences (Thaler, 1980), e. g., the same situation framed differently can result in distinct behaviors, a phenomenon named isolation effect.

Taking these aspects into account, prospect theory postulates that people derive utility from “gains” and “losses”, measured based on a reference point, rather than from absolute levels of wealth (Barberis, 2013; Prieto, Caemmerer, & Baltas, 2015). Changes in this reference point may result in different choices (Thaler, 1980), because values are attached to changes in wealth

or welfare rather than final states (Kahneman & Tversky, 1979), e. g., people valuations are relative and not absolute (Neumann & Böckenholt, 2014).

Precisely, people react differently to gains and losses. First, except for very small probabilities, they are risk averse for gains and risk seeking for losses (Kahneman & Tversky, 1979; Levy, 1992; Thaler, 1980). Indeed, given that people overweight certain outcomes, a risk averse preference for a sure gain is developed over a larger gain that is merely possible and a risk seeking preference is established for a merely probable loss over a certain smaller loss (Kahneman & Tversky, 1979). Consequently, people naturally prefer a certain gain of \$500.00 to a 50% chance of \$1000, and conversely, select a 50% chance of losing \$1000 rather than a chance of losing \$500.00 for sure (Barberis, 2013).

The combination of these two patterns of behavior is inconsistent with the expected utility theory (Levy, 1992), because people prefer an option with a lower expected utility but that offers either a higher certainty or a possibility to avoid losses. This results in a value function that is concave in the region of gains, but convex in the region of losses (Kahneman & Tversky, 1979).

There is a diminishing sensitivity (Barberis, 2013) as the changes (losses or gains) move away from the reference point (Levy, 1992) and the preference between negative prospects is exactly the mirror image of the preference between positive prospects (reflection effect) (Kahneman & Tversky, 1979).

Second, “losses loom larger than gains” (Kahneman & Tversky, 1979, p. 279), e. g., there is an asymmetry in behavior (Neumann & Böckenholt, 2014): people are more sensitive to losses than to gains of the same extent (Barberis, 2013). Therefore, people give more weight to losses than to comparable gains (Levy, 1992), and normally will attempt to avoid a loss more than try to obtain a gain.

This principle, termed loss aversion, is captured by the value function, that is steeper in the region of losses than in the region of gains (Barberis, 2013), since the discomfort of losing is greater than the benefit of a correspondent gain.

In this setting, this study employed prospect theory in order to compare differences on consumers’ willingness to pay (WTP) due to asymmetric effects caused by a change in COO cues (BO and/or COM).

When the change (brand takeover, outsourcing or both) occurs from a country with a less favorable image towards a country with more favorable image, there is possibly a gain to the consumer, because the new attribute is better than the reference level (Sivakumar, 1995; Sivakumar & Feng, 2019), what could produce better consumers’ responses. Some COO studies

on production shifts (see Drozdenko & Jensen, 2009; Johansson and Nebenzahl, 1986) and acquisitions (see Fang & Wang, 2018; Lee & Lee, 2011; Lee et al., 2014; Liu et al., 2018; Matarazzo et al., 2018) collaborate to this argument by suggesting that consumers really perceive a benefit due to the positive image change, translated into outcomes such as price, purchase and repurchase intentions, brand image and brand equity.

In a similar vein, when a change happens from a country with a more favorable image towards a country with less favorable image, a loss situation can be characterized, given the new attribute is worse than the reference level (Sivakumar, 1995; Sivakumar & Feng, 2019), plausibly leading to worse consumers' responses.

This was reinforced by Han and Terpstra (1988), that discovered a negative effect on brand equity after a production shift to a country with a less favorable image, and also by Johansson et al. (2018), that identified consumers' negative associations caused by a change in the ownership, and consequently in the brand origin.

The reference point in both cases (gain and loss) is the initial origin of the brand and how much people are willing to spend for the it at this point, e. g., the COO (BO and COM) before the business scenario (brand takeover, outsourcing or both) and consumers' willingness to pay at this moment, which acts as a reference price.

Grounded on prospect theory rationality, it is reasonable to state that a loss in the origin (BO, COM or both) is more valuable to consumers than an equivalent gain (loss aversion principle). Thus, consumers tend to be more sensitive and show proportionally, or in absolute terms, a higher willingness to pay (WTP) in a loss scenario rather than in a gain scenario.

This was corroborated by Mandler et al. (2017), that addressed brand origin (BO) misclassifications and demonstrated that negative affective responses (due to the perception of the true brand origin as less favorable) led to greater losses in consumers' brand evaluations than positive affective responses (due to the perception of the true brand origin as more favorable) led to gains in these evaluations.

Therefore, the final hypothesis was outlined:

Hypothesis 4. A brand that changes to a less favorable BO or/and COM has relatively a higher consumers' willingness to pay than a brand that changes to a more favorable BO or/and COM.

It is important to emphasize that the use of prospect theory as theoretical background is rare in COO field (see Lu et al., 2016). On the other hand, this theory has been studied in consumer research, and the results about the existence of loss aversion are inconsistent, e. g.,

both symmetric and asymmetric behavior has been observed considering gains and losses (Cha & Aggarwal, 2003; Halme & Somervuori, 2013; Klapper, Ebling, & Temme, 2005) and the significance and extent of the phenomenon is still debated (Bell & Lattin, 2000; Klapper et al., 2005; Neumann & Böckenholt, 2014).

More specifically, while some studies supported that losses are more valuable than gains, e. g., loss aversion (see Hardie, Johnson & Fader, 1993; Kalwani, Yim, Rinne & Sugita, 1990; Kalyanaram & Little, 1994; Neumann & Böckenholt, 2014; Park & Nicolau, 2019; Prieto et al., 2015; Putler, 1992), others found empirical evidence that gains can be more appreciated than losses in some product and service categories (Mazumdar & Papatla, 1995; Halme & Somervuori, 2013) and specific contexts (Krishnamurthi, Mazumdar, & Raj, 1992) .

In addition, some investigations reported no asymmetric effects of gain and losses (Ataman & Roederkerk, 2010; Bell & Lattin, 2000) or only partial sustenance to loss aversion (Klapper et al., 2005).

These controversial findings can be a consequence of not effectively accounting for consumers' heterogeneity (Bell & Lattin, 2000; Klapper et al., 2005), consumers' loyalty (Krishnamurthi et al., 1992), product-related factors, such as product category type (Neumann & Böckenholt, 2014) or attribute type, e. g., price versus quality (Cha & Aggarwal, 2003; Hardie et al., 1993), level of promotions (Mazumdar & Papatla, 1995). These possible influencers are discussed and there is no consensus of their effect, as demonstrated in Neumann & Böckenholt (2014) meta-analysis.

Despite these shortcomings, loss aversion is wide accepted (Willemsen, Böckenholt, & Johnson, 2011). Therefore, the last hypothesis was maintained and summarized with the other three discoursed before, in order to clarify how each one of them is related to existing research and this study's intended contributions.

This can be visualized in Table 6, presented next.

Table 6
Existing research and intended contribution

Existing research	Intended contribution	Hypothesis
Price-related consequences of COO have received limited attention in literature, despite the importance of price as a measure closer to actual behavior. The few COO studies that used price as an outcome suggested a positive effect on behavior but employed only one cue: brand origin (BO) or country of manufacture (COM). Accordingly, the effect of both BO and COM on prices and how changes in these cues (e. g., acquisitions and production shifts) can modify these prices has never been explored, even considering the relevance of both BO and COM to consumers. Furthermore, the use of willingness to pay (WTP) as a proxy of price is scarce, but promising, because it allows the estimation of individual price dispositions, instead of introducing measures in an aggregate level. However, WTP has a limitation in COO studies: it has been operationalized mostly with a single question, which can result in bias. With this regard, the use of Van Westendorp (1976) Price Sensitivity Meter (PSM), never employed in COO, to estimate consumers' WTP is a suitable alternative, given its capacity of addressing WTP with more questions.	To verify the influence of changes in COO (brand origin and country of manufacture) on consumers' willingness to pay for a brand.	<p><i>Hypothesis 1.</i> BO and COM favorability has an effect on consumers' willingness to pay for a brand.</p> <p><i>Hypothesis 1a.</i> A brand with a more favorable BO and a more favorable COM has a positive effect on consumers' willingness to pay.</p> <p><i>Hypothesis 1b.</i> A brand with a less favorable BO and a less favorable COM has a negative effect on consumers' willingness to pay.</p>
There is no agreement on the most relevant COO information to consumers: brand origin (BO) or country of manufacture (COM). This is a critical aspect to be examined given BO and COM interact and influence consumers and companies. In addition, the relevance of these origin information (BO and COM) to consumers can be transformed after acquisitions (change in BO) and productions shifts (change in COM) due to differences in country image favorability, which is still neglected by COO research. Overall, existing studies on consumers' responses post-acquisitions and production shifts are still scarce, focused on other brand and companies' features rather than country image and only on changes in BO or COM, without considering a possible variation in both cues.	To verify which COO component (brand origin or country of manufacture) has the stronger effect on consumers' willingness to pay for a brand.	<p><i>Hypothesis 2.</i> COO (BO and COM) fit has an effect on consumers' willingness to pay for a brand.</p> <p><i>Hypothesis 2a.</i> A brand with a more favorable BO and a more favorable COM has a higher consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.</p> <p><i>Hypothesis 2b.</i> A brand with a less favorable BO and a less favorable COM has a lower consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.</p> <p><i>Hypothesis 3.</i> A brand with a more favorable BO and a less favorable COM has a higher consumers' willingness to pay than a brand with a less favorable BO and a more favorable COM.</p>

Continue

Conclusion

	Intended contribution	Hypothesis
Existing research		
Another aspect ignored in COO effects towards acquisitions and production shifts is a possible direct comparison between changes to a more favorable BO or COM (gain situation) and equivalent changes to a less favorable BO or COM (loss situation). Indeed, consumers can react differently to gains and losses of the same extent (asymmetric effect).	To identify possible differences in consumers' willingness to pay, due to potential COO (BO and COM) asymmetric effects.	<i>Hypothesis 4.</i> A brand that changes to a less favorable BO or/and COM has relatively a higher consumers' willingness to pay than a brand that changes to a more favorable BO or/and COM.

Next, the methodological procedures adopted in the research were established.

3 Method

This section presented how the research was structured in its empirical part and elucidated how the study hypotheses were verified.

3.1 Methodological approach

This thesis employed an experimental approach to address the research question. This method is suitable to determine cause and effect relationships (Malhotra, 2011), which is the case of this main investigation: *How do changes in COO (brand origin and country of manufacture) influence consumers' willingness to pay for a brand?*

Experiment is a type of study that aims to verify whether there is a causal relationship between two variables, e. g, whether variations in an independent variable cause a change in a dependent variable (Price et al., 2017).

The researcher manipulates one or more independent variables and measure their influence on one or more dependent variables, at the same time that controls the effect of extraneous variables (Malhotra, 2011).

This method produces the most convincing evidences of a theory and suggests causality in a conclusive way (Webster Jr & Bell, 2007), which is a core advantage in comparison to other methodological approaches.

Furthermore, as stated before (section 2.1.4), experimental designs have been widely used in country of origin research (see Aruan et al., 2018; Ashill & Sinha, 2004; Bartikowski et al., 2019; Chao, 1998; Chao, 2001; Chao & Rajendran, 1993; Costa et al., 2016; Drozdenko & Jensen, 2009; Fang & Wang, 2018; Fetscherin & Toncar, 2010; Ha-Brookshire, 2012; Ha-Brookshire & Yoon, 2012; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011; Han & Terpstra, 1988; Herz & Diamantopoulos, 2017; Hui & Zhou, 2003; Insch & McBride, 2004; Iyer & Kalita, 1997; Johansson & Nebenzahl, 1986; Johnson, et al, 2016a; Johnson et al., 2016b; Koschate-Fischer et al., 2012; Piron, 2000; Prendergast et al., 2010; Rashid & Byun, 2018; Schooler, 1965; Srinivasan et al, 2004; Tseng & Balabanis, 2011; Wu & Fu, 2007). “The experiment is able to overcome the bias with direct measurement and also uniquely establish the causal effect of country of origin” (Maheswaran et al., 2013, p.158).

By applying an experimental process, this research was classified as explanatory or causal (Malhotra, 2011). In addition, this study was quantitative, e. g., based on the validation of facts, estimates and relationships, representativeness through large samples, and statistical data analysis (Hair Jr, Wolfinbarger, Ortinau, & Bush, 2010).

The quantitative method is often used in studies that intend to discover and categorize the relationship among variables, as well as those that investigate the causal relationship between phenomena (Richardson, 1999), such as this research.

In the following section, the variables and measures employed in the main experiment were delineated.

3.2 Variables and measures

This section exposed the conceptualization and operationalization of the variables involved in the experimental setting.

3.2.1 Dependent variable

The dependent variable represents the presumed effect in the experiment, e. g., the variable the experimenter measures as an outcome (Kline, 2009; Price et al., 2017), which in this case is consumers' willingness to pay (WTP): the maximum amount of money a consumer is willing to spend for a product or a service (Cameron & James, 1987; Homburg et al., 2005).

For WTP elicitation, the current study employed Van Westendorp (1976) Price Sensitivity Meter (PSM), which is a proxy based on four open ended questions about consumers' price acceptability and price judgments (Table 7).

The benefits of this method include calculation of price ranges (Khandker & Joshi, 2018) and estimation of individual WTP by methodological extensions (Desmet, 2016), providing a more accurate and realistic measure.

Precisely, Price Sensitivity Meter (PSM) questions in Table 7 highlight prices that consumers consider respectively: (1) too expensive, (2) too cheap, (3) expensive and (4) cheap (bargain) for a certain product.

Table 7
Dependent variable

Variable	Measurement
Willingness to pay The maximum amount of money a consumer is willing to spend for a product or a service (Cameron & James, 1987; Homburg et al., 2005).	Four items, as open-ended questions, following the Price Sensitivity Meter (PSM): 1. At what price would you consider this product so expensive that you would not consider buying it? 2. At what price would you consider the price of this product so low that you'd question its quality? 3. At what price would you consider the product starting to get expensive – not out of the question, but you'd need to give some thought to buying it? 4. At what price would you consider the product to be a bargain – a great buy for the money?
Source: adapted from Van Westendorp (1976).	

Arguably, consumers must be consistent in their responses, e. g., they must notice that these questions (Table 7) are slightly different and answer appropriately (too cheap < cheap < expensive < too expensive).

Inconsistent responses are removed from the database (Van Westendorp, 1976) and for each of the four price questions cumulative frequencies are plotted against the current price on a graph (Lipovetsky et al., 2011). However, cheap and expensive curves are reversed (Desmet, 2016). As a result, four critical points are derived from the intersections of the graph:

- *Point of marginal cheapness (PMC)*: the lower end of the acceptable prices range and the price point where more sales would be lost due to dubious quality than would be gained from bargain pursuers (Khandker & Joshi, 2018). In the graph, it is the point of intersection of “too cheap” and “cheap” (inverted, e. g., “not cheap”) lines (Desmet, 2016). At this price, the proportion of consumers who think it is “too cheap” is the same as the percent of respondents who think it is “getting expensive.”
- *Point of marginal expensiveness (PME)*: the intersection of “expensive” (inverted, e.g., “not expensive”) and “too expensive” lines (Desmet, 2016). It denotes the point where the consumers consider the product too expensive for the value derived from it

(Khandker & Joshi, 2018). It is the higher end of the acceptable prices range (Khandker & Joshi, 2018).

- *Indifference price (IDP)*: is the point at which most consumers are indifferent to the price (Khandker & Joshi, 2018). Consequently, they consider this price neither expensive nor cheap, corresponding to a normal price that they would expect to find it in the market (Desmet, 2016). This price can be either a median price really paid by consumers to acquire a product or the price of the product offered by an important market leader (Van Westendorp, 1976). This point lies at the intersection of “cheap” (inverted, e. g., “not cheap”) and “expensive” (inverted, e.g., “not expensive”) lines (Desmet, 2016).
- *Optimal penetration price or optimal pricing point (OPP)*: at this price, the proportion of consumers who believe the product is “too expensive” is the same of those who think it is “too cheap” (Khandker & Joshi, 2018; Van Westendorp, 1976). This price embodies a very low resistance against the price of a particular product (Van Westendorp, 1976). In the graph, it is observed at the intersection of “too cheap” and “too expensive” lines (Desmet, 2016).

The difference between the point of marginal cheapness (PMC) and the point of marginal expensiveness (PME) provides the acceptable price range (Desmet, 2016; Van Westendorp, 1976): the range that most consumers consider the price of the product reasonable (Lipovetsky et al., 2011). Consequently, the share of sales below or above these two pricing points is very insignificant (Van Westendorp, 1976).

In addition, the difference between the optimal penetration price or optimal pricing point (OPP) and the indifference price point (IDP) is small or null (Van Westendorp, 1976). In the former case, the IDP is usually higher than OPP (Van Westendorp, 1976).

In this research, the graph (see Appendix C), elaborated with the support of the statistical software XLSTAT for Excel, underscored these four pricing points for the entire sample. The PMC was R\$ 80.00, the PME was R\$ 250.00, the OPP was R\$ 100.00 and the IDP was R\$ 150.00.

However, the aforementioned pricing points are aggregate measures that take all the price responses into account. To estimate individual WTP, this study conducted a factor

analysis on the four prices (too cheap, cheap, expensive and too expensive), based on principal component analysis (PCA) extraction.

Factor analysis (FA) is a statistical technique that examines relationships (correlations) among variables in order to summarize or reduce data (Hair et al., 2009; Malhotra, 2011; Price et al., 2017). Hence, this analysis is suitable to sum up price information and consequently create a single WTP measure.

Additionally, principal component analysis (PCA) encompasses the total data variance (Malhotra, 2011) and pursues to combine variables (principle components) that explain as much variance as possible (Field, 2009), which is appropriate to include as much price variance as conceivable.

Overall, the required assumptions to perform this analysis were met in this sample. First, Kaiser-Meyer-Olkin (KMO), a measure of sample adequacy, was satisfactory (0.68) according to Field (2009). Second, Bartlett's sphericity test, that checks the hypothesis that variables are not correlated in the population (Malhotra, 2011) was statistically significant ($X^2(6) = 3535.77$, $p < 0.05$). This confirmed that the four prices were interrelated, and then a factor analysis was feasible. Furthermore, the communalities (Appendix D), e. g., the shared variance between variables, were above the adequate bound of 0.5 (Hair et al., 2009).

By applying the eigenvalues criteria with the PCA method, one factor was extracted (Appendix D), corresponding to willingness to pay (WTP) construct and explaining 81.55% of the total variance, an appropriate value (Hair et al., 2009).

In this case, as only one factor was obtained, a rotated solution was not necessary. The factor loadings were above the acceptable limit of 0.5 (Hair et al., 2009) in the four PSM scale items (Appendix D). These loadings were combined in order to create a single composite measure of WTP, founded on a weighted average of the four prices.

This new variable was employed as consumers' willingness to pay (WTP) in this study. Alternatively, the four prices were also separately analyzed as WTP proxies in order to support the results obtained through this composite measure.

Ultimately, another methodological approaches to quantify individual willingness to pay (WTP) were considered as possibilities, such as a relative measure calculated by the difference between the bargain (cheap) price and the indifference price (IDP), the normal market price.

In this particular situation, the conceptual notion of willingness to pay was associated with the fair price that consumers would pay (bargain or cheap) in relation to the market price, which works as a reference price. For instance, if what consumers, on average, think is a good

price (bargain) is higher than the market price, a company can increase its price based on their willingness to pay.

Nevertheless, despite its conceptual relevance, this approach blends an individual (bargain price) and an aggregated (indifference price) measure and it does not contemplate the other three price responses (too cheap, expensive and too expensive). These characteristics can be perceived as limitations, because a single price question can increase bias (Desmet, 2016) and a relative measure may result in a negative willingness to pay (WTP) due to a bargain price (individual response) lower than the market price (aggregated measure). Therefore, these alternative options were not considered in the data analysis.

Lastly, regardless the of the measurement selected, consumers' willingness to pay (WTP) was asked twice in the experiment: before and after the manipulation (for details, see section 3.4). Consequently, to operationalize the variation in this variable and relatively how much more or less a consumer was willing to pay according to scenarios' manipulations, a percentage difference was calculated and employed as the effective dependent variable in the main data analysis procedures (sections 4.4 and 4.5).

3.2.2 Independent variables

The independent variables are the assumed cause (treatment), i. e., the variables that experimenter manipulates (Kline, 2009; Perdue & Summers, 1986; Price et al., 2017). In this study, two independent variables were directly manipulated to measure the presumed effects on consumers' willingness to pay (WTP): brand origin (BO) and country of manufacture (COM).

Conceptually, brand origin (BO) is “the country where the corporate headquarters of the company marketing the product or brand is located” (Johansson, Douglas, and Nonaka 1985, p. 389), while country of manufacture (COM) is the country where the product is manufactured or assembled (Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Insch & McBride, 2004).

In the experiment, these variables were exposed to consumers in different levels at distinct times: systematic variations were built around two countries (USA and China), which respectively represented a more and a less favorable image regarding BO and COM. These variations set two baselines (gain and loss) and three business scenarios (brand takeover, outsourcing and brand takeover along with outsourcing), as further explained in sections 3.4 and 3.5.

To ensure that BO and COM manipulations were successful, a measure of country image was included in the main study (Table 8).

Table 8
Country image

Variable	Measurement
Country image “The overall perception consumers form of products from a particular country, based on their prior perception of the country’s production and marketing strengths and weaknesses” (Roth and Romeo 1992, p. 480).	Four items on a seven-point bipolar semantic differential scale: 1. How would you rate innovativeness of products from [COO]? Innovativeness designates the use of new technology and engineering advances. (1 = “not innovative,” and 7 = “innovative”) 2. How would you rate the attractiveness of the design of products from [COO], regarding appearance, style, colors, and variety? (1 = “no attractive design,” and 7 = “attractive design”) 3. How would you rate the prestige of products from [COO], including their exclusivity, status, and brand name reputation? (1 = “low prestige,” and 7 = “high prestige”) 4. How would you rate the workmanship of products from [COO], which comprises reliability, durability, craftsmanship, and manufacturing quality? (1 = “bad workmanship” and 7= “good workmanship”)
	Source: adapted from Roth and Romeo (1992)

As Table 8 showed, the country image notion and measure were adapted from Roth and Romeo (1992). These authors captured country image using production and marketing-oriented dimensions (Roth & Romeo, 1992), e.g., elements associated with both manufacturing (workmanship, innovation) and marketing (design, prestige) capabilities, reflecting both BO and COM, which were the focus of this study.

Their scale has been widely employed in COO research, including the study of Koschate-Fischer et. al (2012) that was based on specific products and used the same outcome of this research (willingness to pay). Similar to this empirical investigation, the average of the four scale items was computed to produce a single country image measure.

In addition, two questions (Table 9) about brand origin (BO) and country of manufacture (COM) were asked to consumers after the manipulation, e.g., the business scenario, in order to safeguard manipulation comprehension (change in BO, COM or both).

This procedure was implemented before in the pretests (see section 3.4).

Table 9
Brand origin and country of manufacture change

Variable	Measurement
Brand origin (BO) “The country where the corporate headquarters of the company marketing the product or brand is located” (Johansson et al., 1985, p. 389).	One item on a seven-point bipolar semantic differential scale: 1. The [chosen product category] is _____. (1 = Chinese and 7 = American).
Country of manufacture (COM) The country where the product is manufactured or assembled (Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Inch and McBride, 2004).	One item on a seven-point bipolar semantic differential scale: 1. The [chosen product category] is produced/manufactured in _____. (1 = China and 7 = US).

Both items were measured by a seven-point bipolar semantic differential scale (Table 9), whose extremes were the countries used as stimuli in the study for both BO and COM.

3.2.3 *Extraneous variables*

Extraneous variables are characterized as “uncontrolled variables other than the independent variable that may affect the dependent variable” (Kline, 2009, p. 43). So, grounded on extant COO literature (see sections 2.1.3 and 2.1.4), this study identified and measured price consciousness, product involvement and product ethnicity to control these variables and to hold them constant across conditions, as recommended by Kline (2009) and Price et. al (2017).

The conceptualization and operationalization of these variables are in Table 10.

Table 10
Extraneous variables

Variable	Measurement
Price consciousness “The degree to which the consumer focuses exclusively on paying a low price.” (Lichtenstein et al., 1993, p. 235).	Four items on a seven-point Likert-type scale (1 = “strongly disagree,” and 7 = “strongly agree”) 1. I usually buy products when they are on sale. 2. I buy the lowest priced product that will suit my needs. 3. When it comes to choosing a product for me, I rely heavily on price. 4. Price is the most important factor when I am choosing a brand. Source: adapted from Lichtenstein, Bloch, and Black (1988)

Continue

Conclusion

Variable	Measurement
Product involvement Perceived relevance of the product category to the consumer (Mittal & Lee, 1988, Quester & Lim, 2003).	Three items on a seven-point Likert-type scale (1 = “strongly disagree” and 7 = “strongly agree”) 1. I choose my [target product category] very carefully. 2. Which [target product category] I use matters to me a lot. 3. Choosing a [target product category] is an important decision to me. Source: adapted from Mittal and Lee (1988)
Product ethnicity The association of a product category with a particular country (Usunier & Cestre, 2007).	Four items on a seven-point Likert-type scale (1 = “strongly disagree” and 7 = “strongly agree”) 1. The product category of [target product category] reflects the [COO]. 2. I associate the product category of [target product category] with the country [COO]. 3. The product category of [target product category] makes me think of [COO]. 4. There is a strong link between the product category of [target product category] and [COO]. Source: Spielmann (2016)

The first variable in Table 10 (price consciousness) reflects “the degree to which the consumer focuses exclusively on paying a low price” (Lichtenstein et al., 1993, p. 235), e.g., their price sensitivity. Consequently, this variable may be directly correlated with consumers’ willingness to pay (WTP), which implies that consumers can differ in their WTP depending on their price consciousness, as already suggested by Koschate-Fischer et al. (2012).

The remaining variables in Table 10 (product involvement and product ethnicity) are both associated with the chosen product category. They can moderate the COO effect by increasing or decreasing consumers’ willingness to pay (WTP), and for this reason they were also treated as controls.

While product involvement refers to the relevance of the product category to the consumer (Mittal & Lee, 1988) and has a controversial effect on consumer responses (see Ahmed et. al, 2004; D’Astous & Ahmed, 1999; Gurhan-Canli & Maheswaran, 2000; Josiassen et al., 2008; Josiassen, 2010, Koschate-Fischer et al, 2012; Moradi & Zarei, 2012), product ethnicity is defined by the association of a product category with a particular country (Usunier & Cestre, 2007), and positively influences consumers evaluations and behavior (see Hamzaoui-

Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et al., 2011; Spielmann, 2016; Tseng & Balabanis, 2011; Usunier & Cestre, 2007).

Overall, the three extraneous variables were measured by items on a seven-point scale Likert-type scale (1 = “strongly disagree,” and 7 = “strongly agree”). These items, adapted from widely employed studies in international marketing and COO research, were summarized in single composite indicators, calculated from their average in order to express price consciousness, product involvement and product ethnicity.

Demographic variables (gender, age, nationality, education, income) were included as additional extraneous variables (Table 11). Among these variables, income is really important when a price outcome is being evaluated, as in this study.

Table 11

Additional extraneous variables

Variable	Measurement
Gender It indicates consumer' gender (male or female).	One question with two distinct options. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female
Age It indicates consumers' age.	One open-ended question. Age: _____ years old.
Education It indicates consumers' education level.	One question with six different options. Education: <input type="checkbox"/> Complete primary education <input type="checkbox"/> Complete high school <input type="checkbox"/> Complete university degree <input type="checkbox"/> Complete graduated degree
Income It indicates consumers' income.	One question with seven different options, with distinct income ranges. Income: <input type="checkbox"/> Until R\$ 1500.00 <input type="checkbox"/> From R\$ 1501.00 to R\$ 3000.00 <input type="checkbox"/> From R\$ 3001.00 to R\$ 4500.00 <input type="checkbox"/> From R\$ 4501.00 to R\$ 6000.00 <input type="checkbox"/> From R\$ 6001.00 to R\$ 7500.00 <input type="checkbox"/> From R\$ 7501.00 to R\$ 10000.00 <input type="checkbox"/> Above R\$ 10000.00

All these measures exposed in these sections can be seen in Appendix B. This appendix presented the structure of the main study, with the stimuli (product, brand, countries), the scenarios and the variables of one of the experimental conditions.

Next, sample procedures and participants recruitment to the empirical research were outlined.

3.3 Participants

Targeting a population of consumers from a single country (Brazil), this research carried out an experiment based on a non-probabilistic convenience sample of 413 Brazilian consumers recruited online in 2019 with the support of social media (Facebook and LinkedIn) to answer a questionnaire, which alleged purpose was to evaluate their perceptions about a new line of sunglasses (for details see section 3.4).

Employing a nonprobability sampling, which does not encompass a random selection of the participants (Kline, 2009) and even more, a convenience sampling, in which the researcher selects the sample units (Malhotra, 2011) can generate several limitations, compromising the results' representativeness towards the population.

However, instead of producing representative and accurate estimations of consumers' willingness to pay, this research was focused on testing theoretical hypotheses and on examining relationships among constructs, which can justify a convenience sampling according to Roth and Diamantopoulos (2009).

In this sense, Brazilian respondents were suitable, because they are constantly exposed to a wide assortment of foreign products with different brand origins (BO) and countries of manufacture (COM). This information is enough to investigate the research hypotheses and the constructs relationships without concentrating on population representativeness.

Furthermore, the use of a consumer sample rather than a student sample can preserve experiment external validity, and consequently, the generalizability of the perceived effects (Bello, Leung, Radebaugh, Tung, & van Witteloostuijn, 2009).

Thus, regular consumers were randomly allocated into six experimental groups and subsequently completed a self-administered questionnaire. Random assignment of the cases to the conditions can support a causal inference by minimizing differences among these conditions (Kline, 2009).

Moreover, this chance-based method works best with large samples (Price et. al, 2017). Then, this was one of the criteria to select a sample size of 413 respondents (more than 65 per condition).

Other criterion was related to data analysis and statistical power (Malhotra, 2011), given that a larger sample is able to reduce sample error and to increase this power (Hair et. al, 2009). More specifically, to conduct an analysis of variance (ANOVA), which is the case here (see section 3.6), groups needed more than 30 members and approximately 150 to increase statistical power without reducing the reliability level (α) (Hair et. al, 2009).

Ultimately, the mean sample size in similar studies was used as a reference (Malhotra, 2011). Experimental studies that employed WTP as an outcome variable (see Johansson & Nebenzahl, 1986; Koschate-Fischer et al., 2012; Rashid & Byun, 2018) showed an average of at least 30 respondents per condition.

On the other hand, experimental researches that used BO and COM as explanatory variables (see Fetscherin & Toncar, 2010; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et. al, 2011; Han & Tersptra, 1988; Iyer & Kalita, 1997; Johnson, et al, 2016a; Johnson et al., 2016b; Srinivasan et al., 2004; Wu & Fu, 2007) maintained or even raised the number of respondents per cell, ranging from 30 to 54.

Next, the research design and the procedures of the empirical research were explained in detail.

3.4 Research design and procedures

The research hypotheses were investigated with a 2 (Baseline: gain and loss) x 3 (Business scenarios: brand takeover, outsourcing and brand takeover along with outsourcing) between-subjects, full-factorial design, resulting in six conditions (Figure 2).

	BRAND TAKEOVER (BO CHANGE)	OUTSOURCING (COM CHANGE)	BRAND TAKEOVER AND OUTSOURCING (BOTH CHANGE)
GAIN Less favorable BO (-) Less favorable COM (-)	More favorable BO (+) Less favorable COM (-)	Less favorable BO (-) More favorable COM (+)	More favorable BO (+) More favorable COM (+)
LOSS More favorable BO (+) More favorable COM (+)	Less favorable BO (-) More favorable COM (+)	More favorable BO (+) Less favorable COM (-)	Less favorable BO (-) Less favorable COM (-)

Figure 2. Research design

As Figure 2 displays, brand origin (BO) and country of manufacture (COM) were manipulated to investigate a causal effect on consumers' willingness to pay. The systematic variation of the origin information only, as more favorable or less favorable, is a common approach in COO studies (Maheswaran et al., 2013) as well as the use of two-level COO designations, because the COO effect tends to become weaker if the COO is divided into many dimensions (Tse & Lee, 1993). Indeed, it is almost impossible for consumers to keep track of all COO components (Magnusson et al., 2011), so the focus should be on the most debated COO cues: brand origin and country of manufacture (Johnson et. al, 2016b).

Nevertheless, this research not only manipulated different combinations of more or less favorable BO and COM but framed a gain or a loss in country image using these COO dimensions.

More specifically, the experiment first introduced to consumers a country with a more (less) favorable country image in both dimensions (BO and COM), with a picture of a fictitious brand and a brief product description: "The picture shows one of the models from the new line of [chosen product category] of the [more favorable or less favorable nationality, e.g., Italian] brand [brand name], available online and in the stores since January of 2019".

In this stage, consumers answered about their willingness to pay (Van Westendorp, 1976) toward the brand (dependent variable), country image (Roth & Romeo, 1992) evaluations (manipulation check variable), product ethnicity (Usunier & Cestre, 2007), product involvement (Mittal & Lee, 1988; Quester & Lim, 2003) and price consciousness (Lichtenstein et al., 1993), the so-called control variables.

Next, a one-page news article (Appendix A) was presented to them, describing a business scenario and consequently, modifying COO information (BO and/or COM). This procedure was in line with previous research on COO (e.g. Herz & Diamantopoulos, 2017; Koschate-Fischer et al., 2012).

Depending on the starting point (a more or a less favorable country image), these COO variations indicated a positive or a negative change scenario, e. g., a gain or a loss in country image (BO and/or COM). Therefore, six conditions (scenarios) were outlined:

- (1) A positive (gain) change scenario involving a brand takeover: BO change to a more favorable country.
- (2) A positive (gain) change scenario involving an outsourcing: COM change to a more favorable country.
- (3) A positive (gain) change scenario involving a brand takeover and an outsourcing: BO and COM change to a more favorable country.
- (4) A negative (loss) change scenario involving a brand takeover: BO change to a less favorable country.
- (5) A negative (loss) change scenario involving an outsourcing: COM change to a less favorable country.
- (6) A negative (loss) change scenario involving a brand takeover and an outsourcing: BO and COM change to a less favorable country.

In order to maintain consistency across these conditions and wherefore, reduce possible confounds, the news articles (Appendix A) were designed in similar manner. Overall, they were built around the brand that it was changing and had the same structure: a headline focused on a positive or negative change, a generic picture and a short text composed of three paragraphs. These paragraphs described, in this order: (i) the business scenario (brand takeover, outsourcing or brand takeover along with outsourcing), (ii) the country of manufacture (COM) information and (iii) the brand origin (BO) information.

After reading the business scenario, consumers provided once again answers about the dependent variable, e. g., willingness to pay (WTP). This procedure was necessary due to the study main purpose: to verify the influence of changes in COO (brand origin and country of manufacture) on consumers' willingness to pay for a brand. Therefore, when COO (BO and COM) information changes, a possible WTP variation could suggest a relationship between these variables, as explored in the hypotheses' development (section 2.2).

Subsequently, they indicated his or her country image and product ethnicity evaluations, regarding the new brand origin and/or manufacturing location of the brand. Lastly, they were asked to recall both brand origin (BO) and country of manufacture (COM) to ensure they understood the manipulation. Precisely, they had to identify the BO and COM after the business situation presented, to safeguard their scenario comprehension regarding the change in the origin (see Appendix B).

Their responses should reveal no threats to the study's internal validity, i. e., to the degree to which a causal relationship between variables can be inferred (Price et al., 2017). Internal validity checks whether the independent variables manipulation is the actual cause of the effect on the dependent variables (Malhotra, 2011), making sure there is no other plausible explanation for the results other than presumed causes described by the study (Kline, 2009).

As additional control variables, demographic measures were included at the end of the questionnaire. This scenario-based survey experiment is structured in Figure 3:

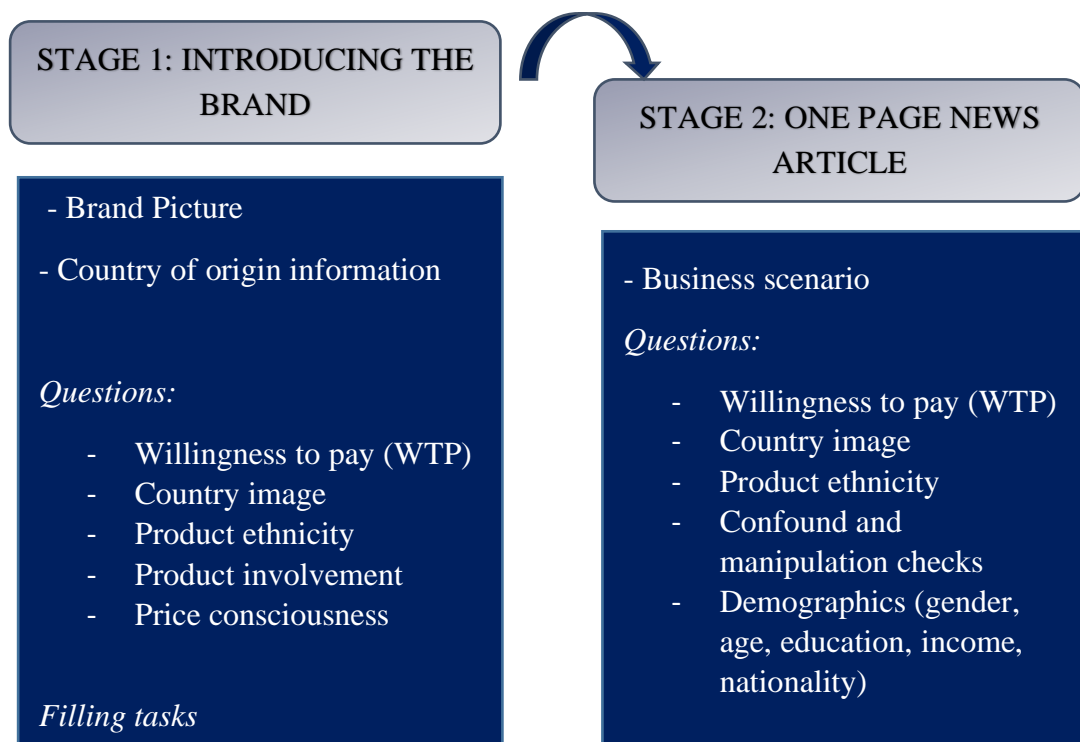


Figure 3. Stages of the empirical research

Given the complexity of the scenarios, it is important to underscore that a successful pretest (N=105) was conducted with three of the six conditions (loss scenarios – 4, 5 and 6) in order to check perceived scenario authenticity and manipulation comprehension (the last was also controlled in the main experiment as stated before). Only three conditions were necessary

in the pretest because they represented the main business scenarios (a brand takeover, an outsourcing, a brand takeover along with an outsourcing), which differed only in the framing of a loss or a gain situation from the other three (gain scenarios – 1, 2 and 3).

Initially, participants were randomly assigned to one of the three conditions ($N = 35$ in each treatment). Next, they were asked to rate, on a seven-point Likert-type scale (1 = “strongly disagree” and 7 = “strongly agree”), whether they could easily imagine this business situation or believe the scenario presented is possibly authentic or even believe this situation can happen in the international market. These questions were adapted from Herz and Diamantopoulos (2017). As expected, in all tested scenarios the perceived scenario authenticity was satisfactory, with overall means (M) above five, and standard deviations (SD) around 1.7 (Table 12).

Table 12

Pretest: scenario authenticity

Scenario type	Authenticity			Overall authenticity
	I could easily imagine this business situation.	I believe the scenario presented is possibly authentic.	I believe this situation can happen in the international market.	
Brand takeover	$M = 5.23$ ($SD = 1.78$)	$M = 4.91$ ($SD = 1.79$)	$M = 5.14$ ($SD = 1.73$)	$M_{\text{overall}} = 5.10$ ($SD_{\text{overall}} = 1.76$)
Outsourcing	$M = 5.80$ ($SD = 1.56$)	$M = 5.77$ ($SD = 1.6$)	$M = 5.69$ ($SD = 1.72$)	$M_{\text{overall}} = 5.75$ ($SD_{\text{overall}} = 1.62$)
Brand takeover and outsourcing	$M = 5.34$ ($SD = 2.01$)	$M = 5.03$ ($SD = 1.85$)	$M = 5.94$ ($SD = 1.49$)	$M_{\text{overall}} = 5.4$ ($SD_{\text{overall}} = 1.82$)

Note. M = mean; SD = standard deviation; M_{overall} = overall scenario means; SD_{overall} = overall scenario standard deviation.

Thereafter, in the pretest, participants were asked about brand origin (BO) and country of manufacture (COM) from now on (Table 13). The following questions were proposed and used afterwards in the main experiment: (1) “The [chosen product category] is _____” (1 = less favorable nationality/country and 7 = more favorable nationality/country) and (2) “The [chosen product category] is produced/manufactured in _____” (1 = less favorable nationality/country and 7 = more favorable nationality/country).

Once again, results were acceptable (Table 13): the respondents stated the correct BO and COM. In the brand takeover scenario, BO changed to a less favorable country and COM remained in a more favorable country. Conversely, the outsourcing setting denoted a COM change to a less favorable country while BO continued the same. With regard to the brand takeover along with an outsourcing condition, both BO and COM changed to a less favorable country.

Table 13

Pretest: manipulation comprehension

Scenario type	Manipulation	
	The [chosen product category] is _____. (1 = less favorable nationality/country and 7 = more favorable nationality/country)	The [chosen product category] is produced/manufactured in _____. (1 = less favorable nationality and 7 = more favorable nationality)
Brand takeover	M= 2.57 (SD = 1.97)	M= 6.46 (SD = 1.40)
Outsourcing	M= 5.48 (SD = 1.85)	M=1.85 (SD = 1.83)
Brand takeover and outsourcing	M=2.46 (SD = 1.95)	M=1.69 (SD = 1.93)

Note. M = mean; SD = standard deviation; M_{overall} = overall scenario means; SD_{overall} = overall scenario standard deviation.

The main stimuli were presented in the next topic.

3.5 Stimuli

A product category (sunglasses) and two countries (United States of America - USA and China) were selected as main stimuli. In the current study, the focus on a single product category could minimize confounding effects on consumers evaluations of marketing practices, involvement and other extraneous factors (Balabanis & Diamantopoulos, 2008).

Furthermore, the sunglasses choice was supported by several reasons. First, sunglasses can be considered high involvement products (Kim & Sung, 2009) with a broad market price variation, which is important to capture differences in consumers' willingness to pay (WTP).

Second, this product category is part of a global industry whose success relies on strong brands and high-quality products (Forbes, 2015), branded and produced in many different countries. A good example is Ray-Ban, an American sunglass brand owned by the Italian company Luxxotica and made in Italy and China.

Therefore, a huge diversity of sunglasses brands with multiple origins (BO and COM) is widely available to consumers. As a consequence, these products' BO and COM can be associated with either a more favorable or a less favorable image. This allows the manipulation of these cues in the experiment and also a representation of a possible real business scenario, increasing experiment external validity, e.g., the degree to which the research findings can be

generalized to other circumstances or settings, like the real-world environment (Price et al., 2017).

Third, the category chosen does not carry strong associations with the countries employed in the research, avoiding product ethnicity confounds (Usunier & Cestre, 2007) and consequently enhancing experiment internal validity. In this sense, a first pretest ($N = 40$) was conducted with several product categories to verify possible product-country associations. Moreover, a second pretest ($N = 38$), with an independent sample of consumers, employed some selected countries as stimuli to investigate possible country-product relations.

Precisely, in the first pretest, consumers were asked to mention countries in line with the product categories introduced as stimuli, while in the second they were requested to name product categories according to the countries presented. In both cases, the product category of sunglasses performed well, with no associations with the two stimulus countries: USA and China. These pilot studies structures were based on Usunier and Cestre (2007).

Then, a fictitious sunglasses brand was developed (“Slitt”). The deliberately choice of an artificial brand rather than a real brand was made to avoid any brand familiarity confounding effect - see Rashid and Byun (2018) -, and thus place COO cues (BO and COM) in the spotlight. Brand names can obscure origin effects, particularly in terms of the relative importance of country-of-manufacture cues (Iyer & Kalita, 1997). Consequently, an imaginary brand can dilute the brand name effect.

The chosen brand name (“Slitt”), was verified along with other fictitious brand names generated by an online program from Macquarie University (Australia), called ARC NonWord Database and previously applied in international marketing research (see Halkias, Micevski, Diamantopoulos & Milchram, 2017).

The consumer sample ($N = 40$) of the first pretest also answered an open-ended question to safeguard that the name was not related to a specific country. Overall, the brand name “Slitt” was free of origin associations and it was appropriate as stimulus material, because a quarter of the subjects (25%) could not indicate any brand origin and eleven different countries were mentioned in the pretest as possible origins.

Regarding the choice of specific countries, the study manipulation required two countries that, on one hand, differed in their COO images favorability (BO image and COM image), and on the other hand, offered products to other marketplaces rather than their domestic market, particularly Brazil (respondents’ country).

Therefore, USA and China were selected as target countries for the positive and negative COO change scenarios. The pretest ($N = 38$) using Roth and Romeo (1992) well-established

scale to measure country image confirmed by a paired-sample t-test that USA image ($M_{USA} = 6.21$) is significantly more favorable than China's image ($M_{China} = 4.01$; $t(37) = 11.79$, $p < 0.05$), considering both BO and COM dimensions. In addition, Brazilian participants were sufficiently familiar with products coming from these two countries, including the sunglasses product category.

Lastly, a fictitious company name ("Swon Corporation") was created along with the fictitious brand name ("Slitt"). This was necessary to accurately describe the business scenarios in the one-page news article (Appendix A). The pretest ($N = 40$) showed that this name (among others suggested) was acceptable and free of any nationality or product category direct associations. All the pretests were conducted in Portuguese with samples of Brazilian consumers.

The subsequent section elucidated data analysis actions.

3.6 Data analysis

In this study, data analysis procedures were divided into five stages: (i) sample profile, (ii) constructs reliability, (iii) manipulation checks, (iv) controls and (v) hypotheses verification.

In the first stage (Table 14), demographic characteristics (gender, age, education and income) were observed in order to outline a sample profile and to check whether the experimental consumer groups were comparable or not. On the last aspect, homogeneous groups are preferred, because they reduce intersubject variance and enhance the prospect of finding support for theory (Sternthal, Tybout, & Calder, 1994).

To perform these comparisons between groups, descriptive statistics and parametric and nonparametric tests of independent samples (One-Way ANOVA and Kruskal-Wallis), were selected for each demographic variable. The exception was gender (nominal variable), contrasted only using frequencies.

The analysis of variance (ANOVA) compares means across three or more groups (Price et. al, 2017). This technique can be only applied to continuous variables and relies on critical statistical assumptions: independent observations, normal distribution and homogeneity of variance (Kline, 2009). Conversely, Kruskal-Wallis test of independent samples is a nonparametric alternative to ANOVA, and consequently, it is used to compare ordinal variables (Field, 2009; Malhotra, 2011; Sprent & Smeeton, 2001) or continuous variables when statistical conditions are not satisfied (Field, 2009).

ANOVA is quite robust to its hypotheses' violation (Field, 2009; Kline, 2009) and, as a parametric procedure, commonly yields a higher statistical power (Brunner, Domhoff, & Langer, 2002; Field, 2009; Noguchi, Gel, Brunner, & Konietzschke, 2012), particularly in large samples (Field, 2009; Malhotra, 2011) with equal group sizes (Kline, 2009).

Table 14
Data analysis procedures

Stage	Purpose	Variables	Statistical analysis
(i) Sample profile	To check comparability between groups.	Gender Age Education Income	Descriptive statistics Tests of independent samples (One-Way ANOVA and Kruskal-Wallis)
(ii) Constructs reliability	To verify internal consistency (reliability) of the measures.	Willingness to pay Country image Price consciousness Product involvement Product ethnicity	Cronbach alpha (α)
(iii) Manipulation checks	To investigate the validity of the COO (BO and COM) manipulation.	Country image Brand origin Country of manufacture	Descriptive statistics Tests of dependent samples (paired-sample t-test and Wilcoxon signed-rank test)
(iv) Controls	To examine how extraneous variables (controls) can influence the dependent variable, in order to avoid possible confounds and internal validity issues.	Price consciousness Product involvement Product ethnicity	Descriptive statistics Tests of independent samples (One-Way ANOVA and Kruskal-Wallis)
(v) Hypotheses verification	To test research hypotheses.	Willingness to pay (percentage difference) Brand origin Country of manufacture (baseline and business scenarios)	Descriptive statistics Tests of dependent samples (paired-sample t-test and Wilcoxon signed-rank test) Tests of independent samples (parametric and nonparametric Two-Way ANOVA)

After this early stage, the scales employed to measure dependent, independent and extraneous variables were assessed. Specifically, as the majority of the variables (constructs) was operationalized by single composite indicators, the Cronbach alpha (α) was computed, as reported in Table 14.

This coefficient evaluates internal consistency reliability of each construct (Hair, Hair, Anderson, Tatham, & Black, 2009; Price et al., 2017). It is a score that addresses the degree to which the measures are free from random error by estimating content sampling error (Kline, 2009). If the scores have no reliability, they are just random numbers that quantify nothing

(Kline, 2009). In contrast, reliable scores indicate a consistent measure, composed by correlated items that reflect the same underlying construct (Price et al., 2017).

A value of 0.80 or greater suggests a good internal consistency (Price et al., 2017) and a minimum threshold of 0.7 or 0.6 in exploratory research is still acceptable (Hair et al., 2009). However, if the alpha is less than 0.5, most of the observed score variance derives from random error and there is a high level of imprecision (Kline, 2009).

Next, in the third stage (Table 14), to ensure that the COO (BO and COM) manipulation worked as intended, tests of dependent samples (paired-sample t-test and Wilcoxon signed-rank test) were conducted for the entire sample. In this setting, the manipulated COO (USA vs China) was the independent variable and the measured country image (Roth & Romeo, 1992) the dependent variable.

The dependent-samples t-test compares two means for the same sample at two different times or under two different conditions (Price et al., 2017), which in this case were represented by two distinct countries (USA and China), assessed in terms of country image by the same consumers. The nonparametric equivalent test to paired-samples t-test is the Wilcoxon signed-rank test, used when normality of differences assumption is not respected (Field, 2009).

Furthermore, to reinforce the success of this manipulation and to safeguard that respondents not only noticed different country images (USA and China), but also understood the manipulation (change in BO, COM or both), two additional questions asking brand origin (BO) and country of manufacture (COM) were analyzed at this stage. Hence, tendency central measures, such as means and medians (Malhotra, 2011) were used to check whether consumers were capable, on average, to indicate the exact brand origin (BO) and country of manufacture (COM) of the product category.

Following this phase, extraneous variables (controls) were examined (Table 14). In line with demographics' analysis (first stage), comparisons between the experimental groups using One-Way ANOVA and Kruskal-Wallis tests were implemented.

Ultimately, to verify research hypotheses, a within-subjects analysis to compare pre and post scenario WTP responses followed by a between-subjects investigation contrasting the percentage difference on consumers' WTP, was undertaken.

The former focused on pairwise comparisons using tests of dependent samples (paired-sample t-test and Wilcoxon signed-rank test), in line with Herz and Diamantopoulos (2017) procedures. These tests were able to expose noteworthy variations (increases and decreases) in consumers' willingness to pay (WTP) depending on COO (BO and COM manipulations) and therefore, were capable to confirm or not the first research hypothesis.

On the other hand, the latter presented Two-Way ANOVA (parametric and nonparametric), with post-hocs. The Two-Way ANOVA is classified as a factorial ANOVA, because it has two independent variables included in a factorial design (Field, 2009; Price et al., 2017), which in this case derived from COO cues (BO and COM), and it was presented in the research design: 2 (Baseline: gain and loss) x 3 (Business scenarios: brand takeover, outsourcing and brand takeover along with outsourcing).

These between-subjects' analyses were capable not only to distinguish between gains and losses, but also to verify the relative importance of BO and COM in terms of changes in consumers' willingness to pay (WTP), e. g, to complement previous analysis and give further support to the remaining hypotheses. According to these statistical analysis, Table 15 established the methodological relationships of this study.

Table 15
Methodological relationships

Objective	Hypotheses		Theoretical foundation	Statistical analysis
General To verify the influence of changes in COO (brand origin and country of manufacture) on consumers' willingness to pay for a brand.	<i>Hypothesis 1.</i> BO and COM favorability has an effect on consumers' willingness to pay for a brand.		Signaling theory	Paired-sample t-test and Wilcoxon signed-rank test
	<i>Hypothesis 1a.</i> A brand with a more favorable BO and a more favorable COM has a positive effect on consumers' willingness to pay.		Erdem and Swait (1998)	
	<i>Hypothesis 1b.</i> A brand with a less favorable BO and a less favorable COM has a negative effect on consumers' willingness to pay.		Erdem et al. (2006)	
Specific To verify which COO component (brand origin or country of manufacture) has the stronger effect on consumers' willingness to pay for a brand.	<i>Hypothesis 2.</i> COO (BO and COM) fit has an effect on consumers' willingness to pay for a brand.		Signaling theory	Two-Way ANOVA
	<i>Hypothesis 2a.</i> A brand with a more favorable BO and a more favorable COM has a higher consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.		Erdem and Swait (1998)	
	<i>Hypothesis 2b.</i> A brand with a less favorable BO and a less favorable COM has a lower consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.		Erdem et al. (2006)	
	<i>Hypothesis 3.</i> A brand with a more favorable BO and a less favorable COM has a higher consumers' willingness to pay than a brand with a less favorable BO and a more favorable COM.			

Continue

Conclusion

	Hypotheses	Theoretical foundation	Statistical analysis
Objective			
Specific			
To identify possible differences in consumers' willingness to pay, due to potential COO (BO and COM) asymmetric effects.	<i>Hypothesis 4.</i> A brand that changes to a less favorable BO or/and COM has relatively a higher consumers' willingness to pay than a brand that changes to a more favorable BO or/and COM.	Prospect Theory Barberis (2013) Kahneman and Tversky (1979) Levy (1992)	Two-Way ANOVA

The following section discussed the foremost results.

4 Results and discussions

This section presented experiment main results and debated research hypotheses outcomes.

4.1 Sample profile

The final sample of 413 Brazilian consumers included 184 male (44.6%) and 229 female (55.4%) participants with ages ranging from 17 to 73 years old (mean age 31.58 years, with a standard deviation of 9.16).

Respondents were on average, highly educated: 0.3% had completed only primary school, 17.7% high school, 45% held a university degree (bachelor or college) and 37% obtained a graduated degree.

In addition, their income was extremely varied, with a significant quote of respondents with a middle or small income (until R\$3000) and also a relevant proportion with a high income. Precisely, 14.8% of respondents earned until R\$1500.00, 28.3% received from R\$ 1501.00 to R\$ 3000.00, 16.9% from R\$ 3001.00 to R\$ 4500.00, 10.9% from R\$ 4501.00 to R\$ 6000.00, 8.0% from R\$ 6001.00 to 7500.00, 10.4% from R\$7501.00 to R\$ 10 000.00 and 10.7% above R\$ 10 000.00.

Overall, this sample profile was very similar across the six groups (see Tables 16, 17 and 18). This homogeneous character of the groups was confirmed by comparisons between them in terms of demographic characteristics, that displayed no significant differences in gender, age, education and income.

More specifically, the tendency of a balanced sample between male and female participants was showed through frequency measures in all scenarios (Table 16), with a slight predominance of females (except in the first scenario).

Furthermore, age similarities were present in position and dispersion measures, such as means, medians and standard deviations (Table 16). This observation was endorsed by a nonparametric Kruskal-Wallis test of independent samples ($X^2(5) = 3.84, p > 0.05$).

Despite the choice of this test due to the non-normality of age groups (Kolmogorov-Smirnov test – K-S), an analysis of variance (ANOVA) was also conducted due to its statistical power (Brunner, Domhof, & Langer, 2002; Field, 2009), supporting no age differences ($F(5,407) = 0.38, p > 0.05$) across different scenarios, as well as Kruskal-Wallis test.

Table 16
Gender and age descriptive statistics per group

Scenario	Sample size	Gender		Age
		Female	Male	
Positive brand takeover (BO changes from China to USA)	67 (100%)	30 (44.8%)	37 (55.2%)	M= 30.72 (SD = 10.35) Md = 28.00
Positive outsourcing (COM changes from China to USA)	66 (100%)	40 (60.6%)	26 (39.4%)	M= 31.94 (SD = 9.19) Md = 29.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	67 (100%)	36 (53.7%)	31 (46.3%)	M= 32.04 (SD = 9.12) Md = 30.00
Negative brand takeover (BO changes from USA to China)	77 (100%)	41 (53.2%)	36 (46.8%)	M= 31.45 (SD = 8.99) Md = 30.00
Negative outsourcing (COM changes from USA to China)	66 (100%)	40 (60.6%)	26 (39.4%)	M=30.86 (SD = 7.85) Md = 30.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	70 (100%)	42 (60%)	28 (40%)	M= 32.46 (SD = 9.48) Md = 31.00
Overall	413 (100%)	229 (55.4%)	184 (44.6%)	M= 31.58 (SD = 9.16) Md = 29.00

Note. M = mean; SD = standard deviation; Md = median.

Likewise, a nonparametric Kruskal-Wallis test of independent samples also reported no significant differences in education ($X^2(5) = 6.64$, $p > 0.05$) and income ($X^2(5) = 2.70$, $p > 0.05$) across the six groups. In these cases, the test selection derived from the ordinal nature of both variables (education and income), as recommended by Field (2009).

With regard to the absence of significant differences in education, the six groups reproduced the same pattern (see Table 17), regardless of some percentage variations: highly educated respondents, with at least an university degree and often a post graduated course, implying in a percentage of at least 38.6% of bachelor's and colleges' degrees and 29.9% of graduated degrees.

Consequently, the proportion of participants with only primary school was insignificant in all groups, ranging from 0% to 1.5%. Additionally, the fraction of members with high school was not very representative, with slight disparities: greater frequencies in the first (26.8%) and

sixth (22.8%) experimental groups and minor ones in the third (9.0%) and fifth (13.6%) groups (Table 17).

This education profile was nearly the same of the complete sample, as previously discussed, underpinning the resemblance between groups.

Table 17
Education descriptive statistics per group

Scenario	Education			
	Primary school	High school	University Degree	Graduated Degree
Positive brand takeover (BO changes from China to USA)	0%	26.8%	43.3%	29.9%
Positive outsourcing (COM changes from China to USA)	0%	16.7%	40.9%	42.4%
Positive brand takeover and outsourcing (BO and COM change from China to USA)	1.5%	9.0%	44.7%	44.8%
Negative brand takeover (BO changes from USA to China)	0%	16.9%	48.1%	35.0%
Negative outsourcing (COM changes from USA to China)	0%	13.6%	54.6%	31.8%
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0%	22.8%	38.6%	38.6%
Overall	0.3%	17.7%	45%	37%

On the other hand, the lack of clear differences in income also exposed comparable frequencies in all groups (see Table 18). Notably, participants with a middle or small income (until R\$ 3000) represented together a substantial proportion, ranging from 38.6% to 47.7% within groups.

However, a relevant number of participants have also presented a high income (Table 18), particularly considering a percentage from 4.6% to 14.3% that received between R\$ 7501.00 and R\$ 10 000.00 and a share between 7.6% and 14.2% that earned a wage above R\$ 10 000.00.

Therefore, these groups results were consistent with the income sample features outlined at the beginning of this section.

Table 18
Income descriptive statistics per group

Scenario	Income						
	Until R\$ 1500	From R\$ 1501 to R\$ 3000	From R\$ 3001 to R\$ 4500	From R\$ 4501 to R\$ 6000	From R\$ 6001 to R\$ 7500	From R\$ 7501.00 to R\$ 10000	Above R\$ 10000
Positive Brand takeover (BO changes from China to USA)	16.4%	31.3%	17.9%	7.5%	10.4%	4.6%	11.9%
Positive outsourcing (COM changes from China to USA)	10.6%	33.3%	19.7%	9.1%	6.1%	12.1%	9.1%
Positive Brand takeover and outsourcing (BO and COM change from China to USA)	7.5%	35.8%	11.9%	19.4%	6%	10.4%	9.0%
Negative brand takeover (BO changes from USA to China)	14.3%	27.3%	16.9%	10.4%	9.1%	10.4%	11.6%
Negative outsourcing (COM changes from USA to China)	21.2%	22.7%	21.2%	10.6%	6.1%	10.6%	7.6%
Negative brand takeover and outsourcing (BO and COM change from USA to China)	18.6%	20.0%	14.3%	8.6%	10.0%	14.3%	14.2%
Overall	14.8%	28.3%	16.9%	10.9%	8%	10.4%	10.7%

Having established through groups' comparisons that demographic characteristics were no cause of concern to theory support, the next stage examined constructs reliability.

4.2 Constructs reliability

In the current study, to account for constructs reliability, the Cronbach alpha (α) was computed to the sample.

This coefficient (Table 19) was above the acceptable bound of 0.5 (Hair et al., 2009), indicating high reliabilities for all constructs. The highest alpha was "Product ethnicity" (0.94) while the lowest alpha was "Price consciousness" (0.61), which it was still adequate according to Hair et al (2009).

Table 19
Constructs reliability

Construct	Crombach's Alpha (α)
Willingness to pay (Van Westendorp, 1976)	$\alpha = 0.72$
Country image (Roth & Romeo, 1992)	$\alpha = 0.84$ ($\alpha_{USA} = 0.83$, $\alpha_{CHINA} = 0.81$)
Price consciousness (Lichtenstein, Bloch & Black, 1988)	$\alpha = 0.61$
Product involvement (Mittal & Lee, 1988)	$\alpha = 0.86$
Product ethnicity (Spielmann, 2016)	$\alpha = 0.94$ ($\alpha_{USA} = 0.93$, $\alpha_{CHINA} = 0.93$)

In addition, the variables “Country image” and “Product ethnicity” were measured considering both countries stimuli (USA and China). Therefore, the Cronbach’s alphas were calculated to both countries separately and to the entire sample, showing consistency in the reliability scores (Table 19).

Next, manipulation checks were described.

4.3 Manipulation checks

The COO (BO and COM) manipulation check, estimated by a Wilcoxon signed-rank test, indicated that USA’s country image ($Md_{USA} = 5.75$) was significantly more favorable than China’s country image ($Md_{China} = 4.25$; $z = -14.72$, $p < 0.05$), considering both BO and COM dimensions, confirming the pretest results.

This nonparametric test was selected for two reasons. First, there were two dependent samples, e. g., the same respondents evaluated both USA and China’s country images. Second, the data distribution (difference between the images’ scores) was not normal, according to Kolmogorov-Smirnov (K-S) test (K-S statistic = 0.07; $df = 413$; $p < 0.05$).

Remarkably, despite the violation of the normality assumption, this result remained reliable in the parametric equivalent paired-sample t-test ($M_{USA} = 5.72$, $M_{China} = 4.27$; $t(412) = 19.72$, $p < 0.05$), suggesting an effective manipulation.

Furthermore, consistent with expectations, respondents stated on average the correct brand origin (BO) and country of manufacture (COM), supporting the pretests outcomes (see Table 20).

Table 20
Manipulation comprehension

Scenario	Manipulation	
	1. The [chosen product category] is _____. (1 = Chinese and 7 = American).	2. The [chosen product category] is produced/ manufactured in _____. (1 = China and 7 = US).
Positive brand takeover (BO changes from China to USA but the COM is still China)	M = 5.06 (SD = 2.12) Md = 6.00	M = 1.45 (SD = 1.27) Md = 1.00
Positive outsourcing (COM changes from China to USA, but BO is still China)	M = 2.11 (SD = 1.77) Md = 1.00	M = 6.28 (SD = 1.37) Md = 7.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	M = 5.49 (SD = 1.88) Md = 6.00	M = 6.07 (SD = 1.64) Md = 7.00
Negative brand takeover (BO changes from USA to China, but COM is still USA)	M = 2.45 (SD = 1.94) Md = 1.00	M = 5.45 (SD = 2.23) Md = 7.00
Negative outsourcing (COM changes from USA to China, but BO is still USA)	M = 5.12 (SD = 2.16) Md = 6.00	M = 1.33 (SD = 0.77) Md = 1.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	M = 2.30 (SD = 1.97) Md = 1.00	M = 1.24 (SD = 0.92) Md = 1.00

Note. M = mean; SD = standard deviation; Md = median.

In addition, participants were on average more certain about the country of manufacture (COM) information than the brand origin (BO) information, because the means and medians responses on the second question were closer to the accurate BO or COM, e. g., the extremes of the scales (Table 20).

The following topic discussed the extraneous (control variables), exploring their possible influence on consumers' willingness to pay (WTP).

4.4 Controls

The sample of Brazilian consumers demonstrated, considering the midpoint of the scale being 4, a reasonable price consciousness (M = 4.34, SD = 1.14, Md = 4.25) and a relatively high product involvement (M = 5.40, SD = 1.55, Md = 5.67). Product ethnicity was not a relevant aspect to both USA (M = 3.46, SD = 1.66, Md = 3.50) and China (M = 2.42, SD = 1.46, Md = 2.00).

The mentioned variables, apart from product ethnicity (USA), preserved these features across the six experimental groups, showing no systematic differences.

Precisely, a One-Way ANOVA, chosen due to normality and homogeneity of variance criteria (Appendix E), revealed no significant differences between groups considering price consciousness ($F(5,407) = 0.75, p > 0.05$).

Similarly, a nonparametric Kruskal-Wallis test on product involvement produced nonsignificant results ($X^2(5) = 6.31, p > 0.05$), indicating equal product involvement across groups. This statistical test was selected due to non-normality and heterogeneity of variance (Appendix E). Nevertheless, a corresponding analysis of variance (ANOVA) led to the same outcome ($F(5,407) = 2.28, p > 0.05$), supporting no product involvement variations in the six groups.

With regard to product ethnicity, while Kruskal-Wallis test on China produced no overall effect between groups ($X^2(5) = 3.64, p > 0.05$), the same test on USA suggested significant differences ($X^2(5) = 39.54, p < 0.05$), by contrasting the first group with the last three groups, and by comparing the third group with the last three as well.

Despite the non-normality of the data (Appendix E), an analysis of variance (ANOVA) grasped an equivalent result: absence of statistical differences in China's case ($F(5,407) = 0.52, p > 0.05$) but relevant differences in USA's ($F(5,407) = 8.83, p < 0.05$). Furthermore, Gabriel's and Hochberg's GT2 post hoc tests, employed to unequal sample sizes (Field, 2009), indicated that significant differences occurred between the same groups of the nonparametric analysis, with just one addition: the second and the third groups.

These results were reinforced by descriptive statistics (Table 21). Overall, means, standard deviations and medians of price consciousness, product involvement, product ethnicity (China) were very similar across the six groups.

Conversely, tendency and dispersion measures differed in product ethnicity (USA), with high values for means and medians in the first and third scenarios, underpinning post-hoc results.

Table 21
Control variables descriptive statistics per group

Scenario	Price consciousness	Product involvement	Product ethnicity (USA)	Product ethnicity (China)
Positive brand takeover (BO changes from China to USA)	M= 4.37 (SD = 0.96) Md = 4.25	M= 5.77 (SD = 1.07) Md = 6.00	M = 4.08 (SD = 1.65) Md = 4.25	M= 2.40 (SD = 1.54) Md = 2.00
Positive outsourcing (COM changes from China to USA)	M = 4.18 (SD = 1.09) Md = 4.25	M = 5.58 (SD = 1.47) Md = 6.00	M = 3.42 (SD = 1.68) Md = 4.00	M = 2.66 (SD = 1.46) Md = 2.50
Positive brand takeover and outsourcing (BO and COM change from China to USA)	M = 4.20 (SD = 1.28) Md = 4.25	M= 5.56 (SD = 1.46) Md = 6.00	M = 4.26 (SD = 1.66) Md = 4.50	M= 2.40 (SD = 1.35) Md = 2.00
Negative brand takeover (BO changes from USA to China)	M = 4.46 (SD = 1.32) Md = 4.50	M= 5.20 (SD = 1.63) Md = 5.67	M= 3.00 (SD = 1.46) Md = 3.00	M= 2.44 (SD = 1.56) Md = 2.00
Negative outsourcing (COM changes from USA to China)	M = 4.24 (SD = 1.07) Md = 4.25	M= 4.98 (SD = 1.92) Md = 5.33	M= 2.91 (SD = 1.44) Md = 2.63	M= 2.31 (SD = 1.46) Md = 2.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	M = 4.43 (SD = 1.14) Md = 4.25	M= 5.36 (SD = 1.57) Md = 5.50	M= 3.18 (SD = 1.64) Md = 2.88	M= 2.32 (SD = 1.36) Md = 2.00
Overall	M = 4.34 (SD = 1.14) Md = 4.25	M= 5.40 (SD = 1.55) Md = 5.67	M= 3.46 (SD = 1.66) Md = 3.50	M= 2.42 (SD = 1.46) Md = 2.00

Note. M = mean; SD = standard deviation; Md = median.

Even though groups were not completely homogeneous because of different levels in product ethnicity (USA), as exposed in Table 21, an analysis of covariance (ANCOVA) failed to uncover any influence of this covariate on how much more or less consumers would be willing to pay (percentage difference on consumers' willingness to pay). As a result, F tests separately calculated to each WTP proxy (Composite measure: $F(1, 406) = 0.02$; Too cheap: $F(1, 406) = 0.05$; Cheap: $F(1, 406) = 1.56$; Expensive: $F(1, 406) = 0.00$; Too expensive: $F(1, 406) = 0.78$) were nonsignificant ($p > 0.05$).

The analysis of covariance (ANCOVA), carried out in this case as a robustness test, is an ANOVA conducted with covariates (Kline, 2009), which are measures highly correlated with the dependent variable (Hair et al., 2009) but preferably unrelated to the independent variables (Kline, 2009). The variance explained by a covariate is statistically removed, which reduces error variance (Kline, 2009). After this adjustment, the ANOVA is conducted (Hair et al., 2009; Malhotra, 2011).

Although there are nonparametric substitutes to ANCOVA, such as Quade's Rank Analysis of Covariance (Quade, 1967) and its extensions, this method is typically strong to violations of either normality or homoscedasticity (Olejnik & Algina, 1984) and it has power advantages over rank approaches (Seaman, Algina, & Olejnik, 1985).

Furthermore, ANCOVA works best in experiments where groups are composed by random assignment (Kline, 2009), and provides a way to statistically equate the groups, even if they exhibit different values on the covariate (Page, Brave, & MacKinnon, 2003).

In experimental designs, when the groups do not have similar means on the covariate, there are two statistical corrections offered by an ANCOVA: reduction of error variance and adjustment of the means, given the observed groups differences on the covariate and the statistical relationship between this covariate and the dependent variable (Kline, 2009). This was the case of product ethnicity (USA) in the study.

Therefore, no concerns about confounding effects were necessary and all control variables were excluded from subsequent analysis, that verified research hypotheses.

4.5 Hypotheses verification

This topic was divided in two parts in order to investigate research hypotheses: (i) a within-subjects analysis focused on pairwise comparisons between WTP responses before and after scenarios manipulations and (ii) a between-subject analysis comparing the percentages differences on consumers' WTP in all groups.

As specified before (see section 2.2 again) the first hypothesis referred to the influence of changes in COO (brand origin and country of manufacture) on consumers' willingness to pay for a brand:

Hypothesis 1. BO and COM favorability has an effect on consumers' willingness to pay for a brand.

This hypothesis was separated in two statements:

Hypothesis 1a. A brand with a more favorable BO and a more favorable COM has a positive effect on consumers' willingness to pay.

Hypothesis 1b. A brand with a less favorable BO and a less favorable COM has a negative effect on consumers' willingness to pay.

The following two hypotheses discussed which COO component (brand origin or country of manufacture) had the stronger effect on consumers' willingness to pay for a brand:

Hypothesis 2. COO (BO and COM) fit has an effect on consumers' willingness to pay for a brand.

Hypothesis 2a. A brand with a more favorable BO and a more favorable COM has a higher consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.

Hypothesis 2b. A brand with a less favorable BO and a less favorable COM has a lower consumers' willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.

Hypothesis 3. A brand with a more favorable BO and a less favorable COM has a higher consumers' willingness to pay than a brand with a less favorable BO and a more favorable COM.

Finally, the last hypothesis aimed to identify possible differences in consumers' willingness to pay, due to potential COO (BO and COM) asymmetric effects:

Hypothesis 4. A brand that changes to a less favorable BO or/and COM has relatively a higher consumers' willingness to pay than a brand that changes to a more favorable BO or/and COM.

The hypotheses' results and discussions were introduced next.

4.5.1 Comparisons within groups

Empirical evidence derived from Wilcoxon signed-rank tests (Table 22) uncovered, overall, significant differences in the pre and post scenario willingness to pay (WTP). Indeed, consumers reacted to COO (BO and/or COM) changes related with the takeover and/or the outsourcing except in the fourth experimental group, e. g., negative brand takeover (BO changed from USA to China).

Table 22

Comparisons within groups - Wilcoxon signed-rank test

Scenario	WTP Measure (before and after the manipulation)				
	Composite measure	Too Cheap	Cheap (Bargain)	Expensive	Too Expensive
Positive brand takeover (BO changes from China to USA)	$z = 4.42^*$	$z = 3.39^*$	$z = 3.02$	$z = 3.68^*$	$z = 3.96^*$
Positive outsourcing (COM changes from China to USA)	$z = 2.23^*$	$z = 3.05^*$	$z = 2.89^*$	$z = 1.11$	$z = 1.83$
Positive brand takeover and outsourcing (BO and COM change from China to USA)	$z = 4.47^*$	$z = 3.92^*$	$z = 3.65^*$	$z = 3.88^*$	$z = 4.41^*$
Negative brand takeover (BO changes from USA to China)	$z = -0.29$	$z = 0.73$	$z = -0.94$	$z = -1.33$	$z = 0.58$
Negative outsourcing (COM changes from USA to China)	$z = -4.05^*$	$z = -4.08^*$	$z = -4.01^*$	$z = -3.77^*$	$z = -3.17^*$
Negative brand takeover and outsourcing (BO and COM change from USA to China)	$z = -2.92^*$	$z = -3.29^*$	$z = -3.46^*$	$z = -3.23^*$	$z = -1.98^*$

*Significant at 95%

This pattern remained in the paired-sample t-tests (Table 23), regardless of some extra nonsignificant results, due to non-normality of the differences scores on WTP (Appendix F).

Table 23

Comparisons within groups - paired-sample t-test

Scenario	WTP Measure (before and after the manipulation)				
	Composite measure	Too Cheap	Cheap (Bargain)	Expensive	Too Expensive
Positive brand takeover (BO changes from China to USA)	t (66) = -4.07*	t (66) = -1.90	t (66) = -2.71*	t (66) = -3.55*	t (66) = -3.91
Positive outsourcing (COM changes from China to USA)	t (65) = -0.41	t (65) = -1.58	t (65) = -2.24*	t (65) = 0.68	t (65) = -0.47
Positive brand takeover and outsourcing (BO and COM change from China to USA)	t (66) = -3.98*	t (66) = -2.91*	t (66) = -3.33*	t (66) = -3.16*	t (66) = -4.11*
Negative brand takeover (BO changes from USA to China)	t (76) = -0.87	t (76) = -1.58	t (76) = -0.36	t (76) = -0.13	t (76) = -0.95
Negative outsourcing (COM changes from USA to China)	t (65) = 3.13*	t (65) = 3.52*	t (65) = 3.61*	t (65) = 3.37*	t (65) = 2.32*
Negative brand takeover and outsourcing (BO and COM change from USA to China)	t (69) = 1.73	t (69) = 2.78*	t (69) = 3.02*	t (69) = 2.93*	t (69) = 0.97

*Significant at 95%

However, these additional nonsignificant results were not consistent across all WTP measures and disappeared when the same parametric test was conducted after a data transformation to correct normality issues.

Consequently, only the fourth experimental group produced nonsignificant results across distinct WTP measures in both parametric and nonparametric tests, indicating an absence of a country of origin (COO) effect in this scenario. This controversial outcome might be explained by possible confounds in the manipulation comprehension (see Table 20 again) or even by differences in country image.

On the first aspect, while manipulations were mostly acceptable, participants were on average less certain of country of manufacture (COM) information in this scenario. Thus, with regard to COM question, the mean presented the most inaccurate value and the highest standard deviation, suggesting that some consumers were confused about COM cue after the negative brand takeover. Probably, without paying that much attention, a brand origin (BO) change from USA to China may have looked also as a country of manufacture (COM) shift to this country, which is a common business situation nowadays.

To complete this argument, respondents were also not so convinced of the new brand origin (BO): their responses revealed a high mean and standard deviation, particularly compared to scenarios with China as brand origin (BO).

On the second aspect, slight differences in country image may not have translated into differences in consumers' willingness to pay (WTP). Therefore, compared to the other scenarios, the fourth exhibited the lowest mean difference between USA's country image and China's country image, which might have influenced WTP evaluations (for details, see Appendix G).

Conversely, the remaining scenarios not only underscored a country of origin effect on pricing decisions as past COO research (see Aichner et al., 2016; Drozdenko & Jensen, 2009; Ha-Brookshire & Yoon, 2012; Hu & Baldin, 2018; Hu & Wang, 2010; Hulland et al., 1996; Johansson & Nebenzahl, 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci et al., 2017; Saridakis & Baltas, 2016; Siew et al., 2018; Thanasuta et al., 2009), but decomposed this effect in terms of BO and COM information, showing that consumers respond to changes in both cues.

In addition, the scenarios reproduced authentic current business situations, resultant from cross-border acquisitions and multinational production. This can disprove recent criticism stating that COO is no longer a main issue in the globalized business world (Bhaskaran & Sukumaran, 2007; Maheswaran et al., 2013; Usunier, 2006; Usunier, 2011).

Furthermore, consistent with H1a and H1b, descriptive statistics (Tables 24, 25 and 26) showed that, except for the fourth scenario, consumers were willing to pay a higher price after the brand takeover to USA (COO with a more favorable country image) than before, when the brand was from China (COO with a less favorable country image). This indicated a gain situation, e. g., a rise in consumers' willingness to pay (WTP) due to a gain in country image.

On the other hand, their willingness to pay (WTP) was reduced after the brand takeover by a Chinese company, which is associated with a less favorable image and consequently, a loss situation.

Similarly, a production shift to a country with a more favorable image (USA) increased consumers' price dispositions, whereas the same change in production facilities to a country with a less favorable country image reduced their willingness to pay (WTP). These consumers' responses also reproduced respectively a gain and a loss situation.

Table 24
WTP Descriptive statistics – composite measure

Scenario	WTP - composite measure	
	WTP Before	WTP After
Positive brand takeover (BO changes from China to USA)	M = 206.45 (SD = 168.48) Md = 165.08	M = 250.24 (SD = 191.79) Md = 205.33
Positive outsourcing (COM changes from China to USA)	M = 296.59 (SD = 646.63) Md = 179.61	M = 302.98 (SD = 552.44) Md = 209.96
Positive brand takeover and outsourcing (BO and COM change from China to USA)	M = 160.16 (SD = 119.37) Md = 131.07	M = 217.46 (SD = 177.38) Md = 173.79
Negative brand takeover (BO changes from USA to China)	M = 217.82 (SD = 161.74) Md = 170.46	M = 230.57 (SD = 205.18) Md = 173.15
Negative outsourcing (COM changes from USA to China)	M = 278.22 (SD = 293.47) Md = 181.68	M = 228.67 (SD = 222.31) Md = 144.67
Negative brand takeover and outsourcing (BO and COM change from USA to China)	M = 285.67 (SD = 257.71) Md = 223.13	M = 234.53 (SD = 246.24) Md = 167.20

Note. M = mean; SD = standard deviation; Md = median.

Table 25
WTP Descriptive statistics – individual prices as WTP proxies (part I)

Scenario	Too cheap		Cheap (Bargain)	
	Before	After	Before	After
Positive brand takeover (BO changes from China to USA)	M = 58.69 (SD = 62.50) Md = 50.00	M = 72.45 (SD = 68.87) Md = 50.00	M = 142.94 (SD = 121.50) Md = 100.00	M = 170.63 (SD = 153.96) Md = 150.00
Positive outsourcing (COM changes from China to USA)	M = 60.39 (SD = 98.18) Md = 50.00	M = 87.06 (SD = 230.40) Md = 50.00	M = 175.45 (SD = 352.13) Md = 100.00	M = 197.88 (SD = 413.16) Md = 115.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	M = 49.28 (SD = 44.76) Md = 50.00	M = 73.57 (SD = 88.54) Md = 50.00	M = 105.52 (SD = 75.86) Md = 100.00	M = 141.19 (SD = 133.65) Md = 100.00
Negative brand takeover (BO changes from USA to China)	M = 57.79 (SD = 45.68) Md = 50.00	M = 65.26 (SD = 67.23) Md = 50.00	M = 147.65 (SD = 104.37) Md = 100.00	M = 151.35 (SD = 138.89) Md = 120.00
Negative outsourcing (COM changes from USA to China)	M = 61.85 (SD = 45.42) Md = 50.00	M = 50.58 (SD = 33.32) Md = 50.00	M = 159.15 (SD = 117.50) Md = 120.00	M = 131.29 (SD = 98.67) Md = 100.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	M = 72.70 (SD = 61.58) Md = 50.00	M = 56.21 (SD = 54.70) Md = 50.00	M = 173.43 (SD = 121.33) Md = 145.00	M = 138.11 (SD = 102.99) Md = 100.00

Note. M = mean; SD = standard deviation; Md = median.

Table 26

WTP Descriptive statistics – individual prices as WTP proxies (part II)

Scenario	Expensive		Too expensive	
	Before	After	Before	After
Positive brand takeover (BO changes from China to USA)	M = 236.25 (SD = 183.48) Md = 200.00	M = 283.12 (SD = 229.31) Md = 220.00	M = 403.12 (SD = 382.96) Md = 300.00	M = 494.00 (SD = 385.81) Md = 400.00
Positive outsourcing (COM changes from China to USA)	M = 311.15 (SD = 491.13) Md = 200.00	M = 351.08 (SD = 943.53) Md = 200.00	M = 626.21 (SD = 1399.48) Md = 300.00	M = 644.55 (SD = 1223.56) Md = 400.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	M = 189.39 (SD = 160.23) Md = 150.00	M = 247.87 (SD = 212.82) Md = 200.00	M = 308.21 (SD = 249.20) Md = 200.00	M = 424.31 (SD = 345.55) Md = 300.00
Negative brand takeover (BO changes from USA to China)	M = 252.77 (SD = 175.47) Md = 200.00	M = 254.78 (SD = 225.73) Md = 200.00	M = 429.47 (SD = 372.10) Md = 300.00	M = 470.45 (SD = 496.10) Md = 300.00
Negative outsourcing (COM changes from USA to China)	M = 288.89 (SD = 255.16) Md = 200.00	M = 245.94 (SD = 227.33) Md = 170.00	M = 633.77 (SD = 931.21) Md = 300.00	M = 511.05 (SD = 683.03) Md = 300.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	M = 300.74 (SD = 205.51) Md = 275.00	M = 247.36 (SD = 178.27) Md = 200.00	M = 624.71 (SD = 797.30) Md = 400.00	M = 521.01 (SD = 796.65) Md = 300.00

Note. M = mean; SD = standard deviation; Md = median.

These findings added to the few existing studies on COO effect and mergers and acquisitions (M&A). While these studies (see Fang & Wang, 2018; Lee et al., 2014; Lee & Lee, 2018; Liu et. al, 2018; Matarazzo et. al, 2018) only demonstrated an enhancement on consumers' purchase and repurchase intentions, brand equity and brand image evaluations after a change in brand origin (BO) to a country with a more favorable image, this study took a step further and showed, in the same situation, an increase in consumers' willingness to pay (WTP), which is a measure of actual buying behavior and allows the monetization of the COO effect (Jaffe & Nebenzahl, 2006; Lu et al., 2016). Likewise, this study also exposed that the opposite situation, e.g., a change in brand origin (BO) to a country with a less favorable image, reduced consumers' willingness to pay (WTP).

Moreover, these outcomes also carried analogous insights to extant research on COO effect and production shifts. They indicated positive (negative) price consequences after a change in the country of manufacture (COM) to a country with a more (less) favorable image. This is in line with Johansson & Nebenzahl (1986), that also focused on willingness to pay (WTP) and Han & Terpstra (1988) that directed efforts towards brand equity.

Notably, unlike previous literature, brand origin (BO) and country of manufacture (COM) were both introduced to consumers before and after the acquisitions and production shifts. In addition, an extreme, but possible business situation was also investigated: a change of both BO and COM to a country a more (or less) favorable image, which also resulted in a higher (lower) consumers' willingness to pay, providing full support to hypotheses H1a and H1b, and consequently H1. This hypothesis' result can be visualized in Figures 4 and 5, with the descriptive statistics (means and medians) for the composite measure of WTP.

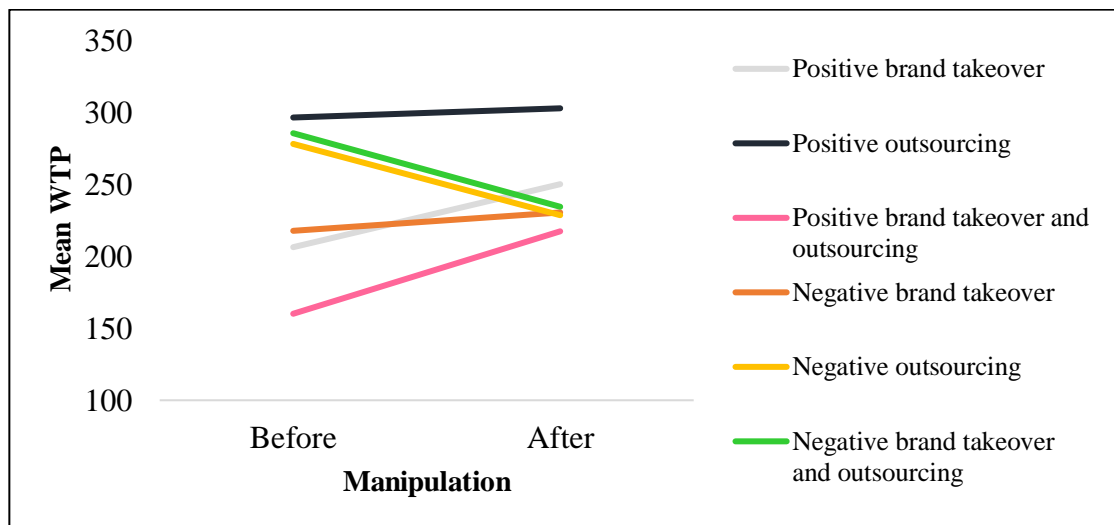


Figure 4. Mean WTP before and after the manipulation of the business scenarios.

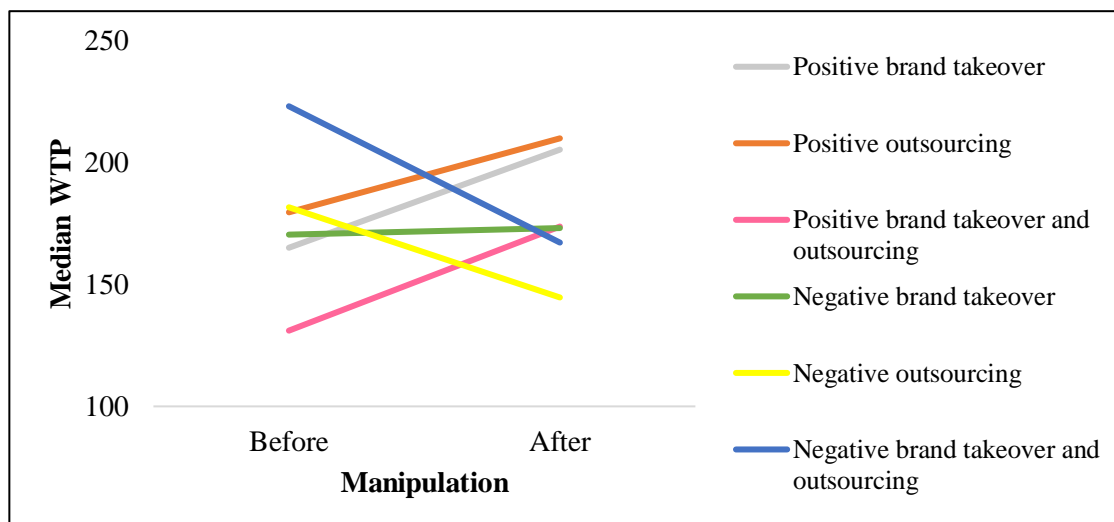


Figure 5. Median WTP before and after the manipulation of the business scenarios.

Overall, consistent with signaling theory (Erdem & Swait, 1998), when consumers received two new positive origin cues after the brand takeover and outsourcing, e. g., when the

BO and COM changed to USA (COO with a more favorable country image), the signal credibility was enhanced and the willingness to pay increased. Conversely, when the new origin in terms of BO and COM switched to China (COO with a less favorable country image in both origin cues), consumers were willing to pay less than before.

This finding was also in line with past studies on both BO and COM (see Coffey & Kabadayi, 2019; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Ho et al., 2018; Johnson et al., 2016a; Johnson et al., 2016b; Moradi & Zarei, 2012; Mostafa, 2015; Srinivasan et al., 2004), which indicated that more (less) favorable BO and COM images can generate positive (negative) behavior responses.

However, different from these studies, the effect of both cues was directly measured and used a distinct outcome: consumers' willingness to pay (WTP), which is important to show that consumers not only prefer and allocate a higher value to brands from a COO with a more favorable country image but also, are willing to spend more money to obtain them (Koschate-Fischer et al., 2012). The subsequent section explored the remaining research hypotheses.

4.5.2 Comparisons between groups

Nonparametric Two-Way ANOVA on consumers' willingness to pay (percentage differences) produced a significant (i) main effect for baseline (gain vs loss) across all WTP measures, (ii) overall effect for business scenarios (brand takeover, outsourcing or both) across only three WTP measures, and (iii) interaction effect between baseline and business scenarios (Table 27).

Table 27

Comparisons between groups – Nonparametric Two-Way ANOVA

	WTP Measure (Percentage difference)				
	Composite measure	Too cheap	Cheap (Bargain)	Expensive	Too Expensive
Statistical Tests					
Baseline (gain vs loss)	F (1,407) = 54.34*	F (1,407) = 44.57*	F (1,407) = 44.65*	F (1,407) = 50.47*	F (1,407) = 39.46*
Business (brand takeover, outsourcing or both)	F (2,407) = 3.56*	F (2,407) = 2.19	F (2,407) = 3.25*	F (2,407) = 2.49	F (2,407) = 4.33*
Baseline x Business	F (2,407) = 5.01*	F (2,407) = 4.66*	F (2,407) = 4.28*	F (2,407) = 5.73*	F (2,407) = 3.72*

*Significant at 95%

This nonparametric alternative was based on Aligned Ranks Transformation (ART) (Wobbrock, Findlater, Gergle, & Higgins, 2011) and it was selected due to the non-normality and heterogeneity of variances of the WTP data, operationalized as percentage differences (Appendix H).

Different from the other constructs of this research, the WTP measure had an open-ended character, derived from Van Westendorp (1976) Price Sensitivity Meter (PSM). This resulted in extreme scores (outliers) and consequently, skewed and tailed distributions of WTP (and WTP percentage differences), disrupting the robustness of the parametric test (Two-Way ANOVA). Thus, a nonparametric test was less restrictive (Field, 2009) and more suitable to compare unequal sample sizes (Kline, 2009) than the parametric alternative.

As exposed in Table 28, the parametric Two-Way ANOVA also exhibited a significant main effect of baseline (gain vs loss) on consumers' willingness to pay (percentages differences) but unlike the nonparametric test, displayed a nonsignificant main effect of business scenarios (brand takeover, outsourcing or both) as well as no interaction effect.

Table 28
Comparisons between groups – Two-Way ANOVA

	WTP Measure (Percentage difference)				
	Composite measure	Too cheap	Cheap (Bargain)	Expensive	Too Expensive
Statistical Tests					
Baseline (gain vs loss)	F (1,407) = 11.85*	F (1,407) = 10.52*	F (1,407) = 5.61*	F (1,407) = 10.17*	F (1,407) = 11.41*
Business (brand takeover, outsourcing or both)	F (2,407) = 2.25	F (2,407) = 1.07	F (2,407) = 1.12	F (2,407) = 2.79	F (2,407) = 2.36
Baseline x business	F (2,407) = 1.67	F (2,407) = 1.75	F (2,407) = 1.22	F (2,407) = 2.64	F (2,407) = 1.13

*Significant at 95%

Bearing the preceding discussion in mind, this study debated mainly the results presented in Table 27. First, they revealed a nonsignificant influence of business scenarios (brand takeover, outsourcing or both) on consumers' willingness to pay (WTP). Despite an overall main effect of business scenarios (Table 27) considering three different WTP measures (composite measure, cheap (bargain) price and too expensive price), post hocs (Table 29) showed only one significant difference: brand takeover (change in BO) and outsourcing (change in COM), which was not consistent across gain and losses (Table 30).

Table 29
Contrasts – Post hocs within factors

	WTP Measure (Percentage difference)				
	Composite measure	Too cheap	Cheap (Bargain)	Expensive	Too Expensive
Business scenarios					
Brand takeover – Outsourcing	t (407) = 2.54*	t (407) = 2.09	t (407) = 2.43*	t (407) = 2.02	t (407) = 2.80*
Brand takeover – Brand takeover and outsourcing	t (407) = 0.53	t (407) = 0.87	t (407) = 0.48	t (407) = 0.15	t (407) = 0.57
Outsourcing– Brand takeover and outsourcing	t (407) = 2.00	t (407) = 1.21	t (407) = 1.92	t (407) = 1.86	t (407) = 2.21

*Significant at 95%

More specifically, even though post hoc tests (Table 29) reported that brand takeover scenario (change in BO) significantly differed from the outsourcing scenario (change in COM) across three WTP measures (composite measure, cheap (bargain) price and too expensive price), this finding was not reproduced in the other WTP measures (too cheap and expensive prices) and a simple main effect analysis using Kruskal Wallis test of independent samples (Table 30) uncovered nonsignificant differences across business scenarios regarding both gain and loss situations, which also removed possible confounding effects from the fourth scenario, examined in the previous section (see again the item 4.5.1).

The last observation can be underpinned by the significant interaction effect on consumers' WTP (see Table 27 again), specifying that different baselines (gain vs loss) were differently affected by the business scenarios.

Table 30
Simple main effects – Kruskal-Wallis tests

	WTP Measure (Percentage difference)				
	Composite measure	Too cheap	Cheap (Bargain)	Expensive	Too Expensive
Baseline					
Gain	X ² (2) = 6.61*	X ² (2) = 0.63	X ² (2) = 3.32	X ² (2) = 10.25*	X ² (2) = 5.87
Loss	X ² (2) = 7.06*	X ² (2) = 15.37*	X ² (2) = 7.82*	X ² (2) = 2.49	X ² (2) = 8.36*

*Significant at 95%

Drawing from signaling theory, this result was controversial, because both brand origin (BO) and country of manufacture (COM) exerted the same effect on consumers' willingness to pay (WTP). Indeed, the changes in BO (brand takeover), COM (outsourcing) or both (brand

takeover and outsourcing) produced equivalent percentage differences on consumers' WTP, offering no support to hypotheses H2 (H2a and H2b) and H3, derived from signaling theory.

According to this theory, both BO and COM may act as signals to influence consumers' responses (Verlegh & Steenkamp, 1999). Particularly, when BO and COM show a congruence, e. g., a country of origin fit (Johnson et al., 2016a; Johnson et al., 2016b), a clear, consistent and credible information is delivered to consumers, what should have reinforced the COO effect and consumers' willingness to pay compared to the other two business scenarios (hypotheses H2a and H2b).

Furthermore, when BO and COM differed, BO should have elicited a higher variation in consumers' willingness to pay (WTP) than COM (hypothesis H3), because BO is not only a more credible signal associated with the brand (Hamzaoui-Essoussi et al, 2011), but also a more visible information to consumers through brand signals, such as brand name (Leclerc, Schmitt, & Dubé, 1994; Usunier, 2011), packaging and advertising (Thakor & Kohli, 1996; Usunier, 2011). In addition, brand origin is usually associated with a single country and it is more stable over time (Samiee, 2011), being fixed in consumers' long-term memory (Keller, 1993).

However, the absence of differences between BO and COM cues could be a consequence of the use of fictitious, and thus, unfamiliar brands. Under conditions of low brand familiarity, consumers usually pay attention to where the product is manufactured, e.g., its country of manufacture (Coskun & Burnaz, 2016). Predominantly in a high involvement setting, which is the case of this research, the reliance on extrinsic cues such as the COO ("made in" country or country of manufacture) arise in the circumstance of low brand familiarity (Koschate-Fischer et al., 2012).

When consumers are not familiar with the brand, they use both brand origin (BO) and country of manufacture (COM) to make evaluations (Wu & Fu, 2007). Consequently, these cues become equally important (Wu & Fu, 2007) or COM turns into the most significant attribute (Coskun & Burnaz, 2016), what relies on the halo effect argument (Han, 1989).

In addition, brand origin (BO), as a brand signal, loses strength when the brand is unfamiliar to consumers, because brand name is unknown, packaging is not promptly identified, and advertising is not acknowledged.

Nevertheless, considering that BO and COM are mutually essential in determining consumers' willingness to pay due to a low brand familiarity, these cues had not caused a stronger COO effect on WTP when they were congruent, e.g., when they displayed a country of origin fit (the same BO and COM). This may be explained by two reasons.

First, consumers may have interpreted them as a single information about the product's origin, given that USA and China were respectively recognized as a more and a less favorable country regarding both manufacturing and branding capabilities.

Second, and more likely, brand familiarity was not the main factor behind these variations in consumers' willingness to pay: in fact, the change in BO (brand takeover), COM (outsourcing) and both BO and COM (brand takeover and outsourcing) was small (see descriptive statistics, especially the medians, in Table 30) and it was only captured because COO was highlighted to consumers and they used this information, even if they denied it (Herz & Diamantopoulos, 2017).

Actually, COO matters when consumers evaluate low involvement products, but in the presence of other extrinsic cues and a high involvement product category, the impact of COO is weak, and the brand becomes the decisive factor in consumers' choice (Ahmed et. al, 2004).

Grounded in signaling theory, the brand is a more credible signal, because it informs physical, functional and symbolic attributes of the product to consumers, as well as reminds them the marketing mix elements and other information, including its origin (Erdem & Swait, 2016).

Likewise, the brand is particularly important to the product category of sunglasses, which is associated with a high involvement (Kim & Sung, 2009). For instance, Agarwal and Teas (2004) indicated, in this category, a positive relationship between brand and consumers' quality evaluations, but not a notable effect of COO on quality.

Similarly, Piron (2000), by comparing different products categories, concluded that sunglasses were less susceptible to a COO effect on consumers' purchase intentions than other products, such as luxury goods.

Therefore, it is reasonable to believe the product category of sunglasses makes consumers more acquainted with the brand than with the category itself, and at that point, an unbranded sunglass can be automatically considered as a low-quality product by consumers, while a branded product is a reference.

As a result, the COO effect on consumers' willingness to pay was reduced (Table 31).

Table 31

Descriptive statistics – WTP percentage differences

Scenario	WTP Measure (Percentage difference)				
	Composite measure	Too Cheap	Cheap (Bargain)	Expensive	Too Expensive
Positive brand takeover (BO changes from China to USA)	M = 0.59 (SD = 2.12) Md = 0.06	M = 0.71 (SD = 2.47) Md = 0.00	M = 0.58 (SD = 2.41) Md = 0.00	M = 0.45 (SD = 1.47) Md = 0.00	M = 0.72 (SD = 2.46) Md = 0.00
Positive outsourcing (COM changes from China to USA)	M = 0.17 (SD = 0.51) Md = 0.00	M = 0.30 (SD = 0.66) Md = 0.00	M = 0.12 (SD = 0.29) Md = 0.00	M = 0.08 (SD = 0.30) Md = 0.00	M = 0.26 (SD = 1.14) Md = 0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	M = 0.86 (SD = 3.20) Md = 0.07	M = 1.13 (SD = 4.43) Md = 0.00	M = 1.06 (SD = 5.98) Md = 0.00	M = 0.79 (SD = 2.76) Md = 0.00	M = 0.90 (SD = 2.97) Md = 0.00
Negative brand takeover (BO changes from USA to China)	M = 0.18 (SD = 0.86) Md = 0.00	M = 0.19 (SD = 0.76) Md = 0.00	M = 0.13 (SD = 0.81) Md = 0.00	M = 0.12 (SD = 0.79) Md = 0.00	M = 0.29 (SD = 1.31) Md = 0.00
Negative outsourcing (COM changes from USA to China)	M = -0.11 (SD = 0.21) Md = -0.03	M = -0.01 (SD = 1.15) Md = 0.00	M = -0.10 (SD = 0.44) Md = 0.00	M = -0.10 (SD = 0.21) Md = 0.00	M = -0.10 (SD = 0.25) Md = 0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	M = -0.09 (SD = 0.45) Md = -0.01	M = -0.11 (SD = 0.65) Md = 0.00	M = -0.11 (SD = 0.40) Md = 0.00	M = -0.09 (SD = 0.45) Md = 0.00	M = -0.04 (SD = 0.60) Md = 0.00

Note. M = mean; SD = standard deviation; Md = median.

Moreover, findings (Table 27) also indicated that consumers' willingness to pay was affected by the COO baseline (gain vs loss), e. g., the initial country of origin (BO and COM) before the business scenario (brand takeover, outsourcing or both).

A simple main effect analysis (Table 32), based on a series of pairwise Mann-Whitney independent tests, also exposed significant differences between gain and losses across business scenarios, eliminating possible confounding effects caused from the fourth scenario, discussed before (see again the item 4.5.1) and confirming this result.

Table 32

Simple main effects – Mann Whitney tests

Business scenarios	WTP Measure (Percentage difference)				
	Composite measure	Too cheap	Cheap (Bargain)	Expensive	Too Expensive
Brand takeover	U = 1670.00*	U = 1945.50*	U = 1764.50*	U = 1678.50*	U = 1928.50*
Outsourcing	U = 1110.00*	U = 1082.50*	U = 1079.00*	U = 1145.00*	U = 1292.00*
Brand takeover and outsourcing	U = 1061.00*	U = 1180.50*	U = 1169.00*	U = 1169.00*	U = 1200.50*

This was initially consistent with prospect theory (Kahneman & Tversky, 1979), that postulates that people not only derive utility from “gains” and “losses”, measured based on a reference point (Barberis, 2013), but react differently to gains and losses (Kahneman & Tversky, 1979).

However, different from prospect theory and from COO literature on loss aversion (see Mandler et al., 2017), consumers paid relatively more for gains than equivalent losses, providing no support to H4. Precisely, consumers were willing to spend more money, on average (see descriptive statistics in Table 31), due to a change in COO cues (BO, COM or both) that happened from a country with a less favorable image to a country with more favorable image (gain situation), than the corresponding loss in these cues occurred from a country with a more favorable image to a country with less favorable image.

A possible justification for this surprising result may be derived from the hypothetical bias of survey techniques to estimate consumers’ willingness to pay (Desmet, 2016; Le Gall-Ely, 2009), in which consumers do not hold a purchase obligation (Voelckner, 2006).

Primary, consumers may not feel a loss in the origin because they don’t have to make a monetary sacrifice to acquire the product, e. g., they don’t have to give up their money to purchase the product, what would be consistent with the notions of price and willingness to pay in the literature (see again the definitions of price and willingness to pay of Cameron & James, 1987; Homburg et. al, 2005; Lichtenstein et al., 1993; Monroe, 2003; Meshreki et al., 2018; Wertenbroch & Skiera, 2002; Zeithaml, 1988). Therefore, they become less sensitive and do not really try to avoid the loss situation by decreasing their willingness to pay in a high proportion.

Similarly, if consumers do not have to pay for the product, they may overstate their willingness to pay in gain situations, such as an improvement in the origin. In addition, as people overweight outcomes that are considered certain, in comparison to outcomes which are merely probable – the so-called certainty effect (Kahneman & Tversky, 1979), consumers may underestimate their willingness to pay even if they are not pursuing a gain or its related benefits.

In this matter, research can reduce this hypothetical bias by providing a known product (Desmet, 2016) or introducing a realistic purchase context and competitive environment with pictures of competing products (Chernev, 2003). This can help consumers to become more inclined to follow prospect theory principle of loss aversion (e. g., losses loom larger than gains).

Additionally, an alternative explanation can be derived from studies on consumer behavior that applied prospect theory and revealed that gains can be more valuable than

equivalent losses to consumers (see Mazumdar & Papatla, 1995; Halme & Somervuori, 2013; Krishnamurthi et al., 1992). For instance, Krishnamurthi et al. (1992) exposed that consumers not loyal to any brand (“switchers”) respond more strongly to gains than to losses, which can be related to this research context, given that the brand is unknown and there is no loyalty attached.

On the other hand, Halme and Somervuori (2013) attribute the larger effect of gains over losses to quality tiers, e. g., consumers show a gain seeker behavior with products associated with a higher product quality, which can be the case of sunglasses.

However, this elucidation must be taken cautiously, because these studies had not employed gains and losses in the origin and its price consequences, but rather coded gains and losses in prices, e. g., losses (reference price < price) and gains (reference prices > price).

The final remarks of this research were disclosed in the last chapter.

5 Conclusions

In order to outline the main conclusions of this study, the research question was retrieved: “how do changes in COO (brand origin and country of manufacture) influence consumers’ willingness to pay for a brand?” Hence, this study purpose was to verify the influence of changes in COO (brand origin and country of manufacture) on consumers’ willingness to pay for a brand. Precisely, focused on the product category of sunglasses, this research aimed: (i) to verify which COO component (BO or COM) has the stronger effect on consumers’ willingness to pay for a brand and (ii) to identify possible differences in consumers’ willingness to pay, due to potential COO (BO and COM) asymmetric effects.

These objectives were fulfilled, and their theoretical hypotheses were empirically tested through statistical analysis. The hypotheses results were summarized in Table 33:

Table 33
Hypotheses results

Objective	Hypotheses	Results
General To verify the influence of changes in COO (brand origin and country of manufacture) on consumers’ willingness to pay for a brand.	<i>Hypothesis 1.</i> BO and COM favorability has an effect on consumers’ willingness to pay for a brand.	Supported
	<i>Hypothesis 1a.</i> A brand with a more favorable BO and a more favorable COM has a positive effect on consumers’ willingness to pay.	
	<i>Hypothesis 1b.</i> A brand with a less favorable BO and a less favorable COM has a negative effect on consumers’ willingness to pay.	
Specific To verify which COO component (brand origin or country of manufacture) has the stronger effect on consumers’ willingness to pay for a brand.	<i>Hypothesis 2.</i> COO (BO and COM) fit has an effect on consumers’ willingness to pay for a brand.	Not supported
	<i>Hypothesis 2a.</i> A brand with a more favorable BO and a more favorable COM has a higher consumers’ willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.	
	<i>Hypothesis 2b.</i> A brand with a less favorable BO and a less favorable COM has a lower consumers’ willingness to pay than (i) a brand with a more favorable BO and a less favorable COM and also than (ii) a brand with a less favorable BO and a more favorable COM.	
	<i>Hypothesis 3.</i> A brand with a more favorable BO and a less favorable COM has a higher consumers’ willingness to pay than a brand with a less favorable BO and a more favorable COM.	
Specific To identify possible differences in consumers’ willingness to pay, due to potential COO (BO and COM) asymmetric effects.	<i>Hypothesis 4.</i> A brand that changes to a less favorable BO or/and COM has relatively a higher consumers’ willingness to pay than a brand that changes to a more favorable BO or/and COM.	Not supported

As presented in Table 33, in full support of H1 (H1a and H1b), the experiment demonstrated that Brazilian consumers were willing to pay higher prices for sunglasses after a brand takeover (change in BO) or/and a production shift (outsourcing – change in COM) to a country with a more favorable image (USA). Similarly, their willingness to pay was reduced when they become aware of a brand takeover and/or an outsourcing to a country with a less favorable image (China).

Indeed, consumers not only prefer and allocate a higher value to brands from a COO with a more favorable country image but also, are willing to spend more money to obtain them (Koschate-Fischer et al., 2012). Therefore, in line with signaling theory and COO studies, the COO effect on sunglasses prices was driven by country image, which was composed by dimensions related to branding and manufacturing competences, e. g., connected to brand origin (BO) and country of manufacture (COM).

However, the overall increase or decrease in consumers' willingness to pay (WTP) for sunglasses caused by changes in the origins cues (BO, COM or both) was relatively low, and these information were equally important to consumers, e. g., consumers reacted similarly to a brand takeover, a production shift (outsourcing), or both. This provided no support to hypotheses H2 (H2a and H2b) and H3 (Table 33) and offered different outcomes in comparison to the ones predicted from signaling theory.

This result be associated with a low brand familiarity situation, since consumers rely in both brand origin (BO) and country of manufacture (COM) to make decisions under these circumstances, balancing these cues equally (Wu & Fu, 2007).

Nevertheless, it is more probable that this tiny and comparable effect between business scenarios was a consequence of the reduced COO impact when contrasted with other extrinsic cues (Agrawal & Kamakura, 1999; Ahmed et al., 2004; Chao & Rajendran, 1993; Johansson et al., 1985; Kabadayi & Lerman, 2011; Pharr, 2005; Verlegh & Steenkamp, 1999), particularly the brand (Ahmed et. al, 2004). Drawing on signaling theory, the origin cues (BO and COM) can still be considered signals, but not as important as the brand signal in the product category addressed.

Thus, the brand becomes a critical element in high involvement settings (Ahmed et. al, 2004) and it is more important to consumers evaluations than COO considering the sunglasses product category, as shown by previous studies (Agarwal & Teas, 2004; Piron, 2000).

Ultimately, contrary to H4 and to prospect theory (Table 33), consumers were willing to pay higher prices for sunglasses in gain situations (e. g., change to a COO with more

favorable country image: USA) rather than equivalent loss situations (e. g., change to a COO with more favorable country image: China).

This conclusion can be derived from the fact that consumers did not have to actually pay for the sunglasses, which caused a lower sensitivity to losses in the origin. Likewise, in the gain setting, consumers probably overstated their willingness to pay in an attempt to value a sure outcome. Consequently, prospect theory is still valid, but consumers were not inclined to pursue its principles due to the circumstances.

In addition, but less likely, the larger effects of gains can be a consequence of non-loyal consumers or a gain seeking behavior associated with products that involve a higher quality judgement, such as sunglasses product category.

Next, theoretical implications were discussed.

5.1 Theoretical implications

Theoretically, this study contributed to the enduring debate in COO research about the relevance of COO as an influence on consumers' behavior (Bhaskaran & Sukumaran, 2007; Lu et al., 2016; Usunier, 2006; Usunier, 2011).

With signaling theory as theoretical background, the findings corroborated prior studies supporting the role of COO and country image in consumers decisions, specially price responses (Aichner et al., 2016; Drozdenko & Jensen, 2009; Ha-Brookshire & Yoon, 2012; Hu & Baldin, 2018; Hu & Wang, 2010; Hulland et al., 1996; Johansson & Nebenzahl, 1986; Koschate-Fischer et al., 2012; Lee et al., 2018; Pucci et al., 2017; Saridakis & Baltas, 2016; Siew et al., 2018; Thanasuta et al., 2009).

Most important, they extended these studies by: (i) focusing on willingness to pay (WTP) as the outcome variable, rather than product evaluations and purchase intentions, widely explored in COO field (Chowdhury & Ahmed, 2009; Koschate-Fischer et al., 2012; Lu et al., 2016); (ii) examining simultaneously brand origin (BO) and country of manufacture (COM) effects on WTP and showing how consumers react to positive and negative changes in both COO cues; (iii) reproducing real and recurrent business situations, such as brand takeovers or production shifts, in order to address the COO effect in the globalized business world, which have also been criticized (Maheswaran et al., 2013).

Additionally, even with the slight effect of changes in BO or/and COM on consumers' willingness to pay (WTP) and the equal importance of these cues to consumers, this investigation offered valuable insights to elucidate conflicting results in literature regarding the most significant COO information: BO or COM (Ashill & Sinha, 2004; Coffey & Kabadayi, 2019; Coskun & Burnaz, 2016; Eng et al., 2016; Fetscherin & Toncar, 2010; Han & Tersptra, 1988; Hamzaoui-Essoussi & Merunka, 2006; Hamzaoui-Essoussi & Merunka, 2007; Hamzaoui-Essoussi et. al, 2011; Ho et al., 2018; Loureiro & Kaufmann, 2017; Moradi & Zarei, 2012; Mostafa, 2015; Srinivasan et al., 2004; Tse & Gorn, 1993; Bartikowski et al., 2019).

These inconclusive outcomes can be a result of different product categories, levels of brand familiarity and most important, the power of the brand as a signal to consumers. Importantly, this means that brand origin can become more significant when built along with the brand.

Furthermore, founded on prospect theory, the results were able to identify differences in consumers' willingness to pay, caused by COO (BO or/and COM) asymmetric effects. This added to existing research, which examined either the positive (gain situation) or the negative (loss situation) side, without comparing them (see Drozdenko & Jensen, 2009; Fang & Wang, 2018; Han & Terpstra, 1988; Herz & Diamantopoulos, 2017; Johansson & Nebenzahl, 1986; Johansson et al., 2018; Lee & Lee, 2011; Lee et al., 2014; Liu et al.; 2018; Matarazzo et al., 2018).

The following section displayed the managerial implications of the study.

5.2 Managerial implications

From a managerial point of view, this study held valuable implications in areas such as pricing, brand strategy and communication. First, if both brand origin (BO) and country of manufacture (COM) influence consumers' willingness to pay for a brand, even in a lesser extent, marketing managers can use this information to articulate pricing decisions, as suggested before by Ha-Brookshire and Yoon (2012).

Due to an acquisition or a shift in the production to a country with a more favorable image, managers can implement slightly higher prices, or even a premium price if the origin reinforces brand associations. Indeed, the brand seems more important than COO (BO and COM), but these cues can strengthen brand meanings, leading consumers to spend more money.

On the other hand, when a brand is acquired by a company from a country with a less favorable image or even changes its production facilities to this country, managers can succeed by at least maintaining their prices, since they can delineate efforts to counteract negative country associations with branding strategies to hold a strong brand. This may be particularly effective considering that consumers did not perceived a real loss in BO and COM.

Furthermore, marketing managers can design communication strategies based on the role of BO and COM in consumers' price responses. Overall, they can emphasize COO cues more when they consider it a positive element in the marketing mix and a reason to consumers buy the brand (Zeugner-Roth & Bartsch, 2019). Conversely, they can focus on other product attributes rather than the origin when the associated country presents a less favorable image or no recognized competences (Hamzaoui-Essoussi & Merunka, 2007).

For instance, if a brand is bought by a company from a country with a more favorable image, advertising and package should promote this new origin in order to benefit the brand, and consequently, increase consumers' WTP. But the favorable brand origin (BO) should be considered only an increment on branding strategy in order to support the most important signal, the brand.

Similarly, if a company starts to manufacture in a country with a more favorable image, marketing managers can highlight this information in advertising activities and in packaging, with the "made in" label. However, a change of production facilities to this country can imply in higher costs, which is probably not be compatible with the minor gains in consumers' willingness to pay (WTP).

In contrast, a change to country with a less favorable image caused by a brand purchase or a multinational production can direct managers communication strategies towards other product attributes to not compromise consumers' willingness to pay. Even if these professionals choose to report the origin shift, they can communicate how this decision does not generate a loss in the product or in the brand, which is relatively reasonable given that consumers were not that sensitive to losses in the origin.

The last section debated limitations as well as paths for future research.

5.3 Limitations and future research

There are some limitations inherent to this research. First, it had the focus only on two COO components: brand origin (BO) and country of manufacture (COM). Further research could

expand the findings by decomposing the COO construct in more dimensions, such country of design or engineering (COD), country of components or parts (COP), country of assembly (COA), which are relevant to specific product categories (examples: cell phones, notebooks). Similarly, these COO dimensions could also be adapted and developed for services, to verify how their specific features can determine COO effect.

Second, this study used fictitious brands rather than real brands. Imaginary brands can cause negative consumers' responses toward them due to risks associated with lack of familiarity (Aruan et al., 2018). Therefore, an important step further should be examining the COO effect on consumers' willingness to pay (WTP) with real brands, considering covariates such as brand familiarity.

Furthermore, the current emphasis on a single product category (sunglasses) and on specific countries (USA and China) and consumers (Brazilians), carries restrictions to generalizations of the results. Future research could extend these insights employing other countries and product categories as stimuli, as well as respondents from other nationalities.

For instance, the role of potential moderators of COO (BO and COM) effect, such as product type (hedonic vs utilitarian, public vs private), product involvement (high vs low), product ethnicity (high vs low) and product globalness and localness should be explored. Likewise, comparisons across countries and cultures should also be object of next investigations in order to disclose that COO cues (BO and COM) are capable to affect consumers responses depending on country characteristics.

In addition, despite the necessity of monetary measures in COO research and the promising character of the Van Westendorp (1976) Price Sensitivity Meter (PSM), consumers did not actually have to buy the product. This can not only overestimate WTP measure due to hypothetical bias (Desmet, 2016) but also influence how consumers perceive gains and losses, since they did not have to give up their money to obtain the product. In this sense, it would be worthwhile to replicate the experiment using other measures of willingness to pay, such as DeGroot and Marschak's (1964) procedure (BDM), in which consumers have to pay for the product.

Ultimately, the experimental setting was restricted because explicitly revealed the COO information (BO and COM) to consumers, which does not reflect how they would find this information in most purchase situations. Additionally, the between-subjects design did not allow the same consumers to evaluate both losses and gains, what would make them compare equivalent symmetrical scenarios more directly.

In order to alleviate the first limitation, that can inflate COO effect, future studies should provide COO cues (BO and COM) and other product attributes simultaneously to the consumers. On the other hand, to overcome the second limitation, a within-subject design with a longitudinal data is suggested.

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Appendix A – News articles


[LOGIN](#)
[ASSINE](#)

[CAPA](#)
[ÚLTIMAS](#)
[ECONOMIA](#)
[POLÍTICA](#)
[GERAL](#)
[INTERNACIONAL](#)
[ESPORTES](#)
[CULTURA](#)
[OPINIÃO](#)
[COLUNAS](#)
[CADERNOS](#)

São Paulo, 10/01/2019 às 10:23

Chinese brand Slitt is bought by American Swon Corporation

The acquisition value is estimated at US\$ 4,9 billion

Economia



The Chinese brand of sunglasses Slitt was recently bought by the American company of sunglasses, Swon Corporation. The estimated purchase value is US\$ 4,9 billion, which is one of the largest acquisitions in the sunglasses market so far.

The American company maintains the production of brand Slitt in China, using the already existing factories, facilities and production resources in China. Thus, brand Slitt carries the label “made in China”.

However, with now being part of the American company portfolio, the sunglasses Slitt are introduced to the market as an American brand.

São Paulo, 10/01/2019 às 10:23

Chinese brand Slitt starts to produce their sunglasses in the USA

Partnership allows shifting the production of sunglasses Slitt

Economia



The Chinese brand of sunglasses Slitt has moved its entire production out of China and is now being produced in the USA. Brand Slitt carries the label “made in USA”.

To make this possible, the Chinese brand Slitt established a partnership with the American company Swon Corporation, which also specializes in the production of sunglasses.

Despite the shifting in the production, the sunglasses Slitt are still introduced in the market as a Chinese brand.

São Paulo, 10/01/2019 às 10:23

Chinese brand Slitt is bought by American Swon Corporation and Slitt starts to produce their sunglasses in the USA

The acquisition value is estimated on US\$ 4,9 million

Economia



The Chinese brand of sunglasses Slitt was recently bought by the American company of sunglasses, Swon Corporation. The estimated purchase value is US\$ 4,9 billion, which is one of the largest acquisitions in the sunglasses market so far.

As a consequence, the American company has moved the entire production of brand Slitt of sunglasses out of China and is now being produced in the USA. Thus, from now on, the brand Slitt carries the label “made in USA”.

In addition, with now being part of the American company portfolio, the sunglasses Slitt are introduced to the market as an American brand.

São Paulo, 10/01/2019 às 10:23

American brand Slitt is bought by Chinese Swon Corporation

The acquisition value is estimated at US\$ 4,9 billion

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The Chinese company maintains the production of brand Slitt in the US, using the already existing factories, facilities and production resources in America. Thus, brand Slitt carries the label “made in USA”.

However, with now being part of the Chinese company portfolio, the sunglasses Slitt are introduced to the market as a Chinese brand.

São Paulo, 10/01/2019 às 10:23

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As a consequence, the Chinese company has moved the entire production of brand Slitt of sunglasses out of US and is now being produced in China. Thus, from now on, the brand Slitt carries the label “made in China”.

In addition, with now being part of the Chinese company portfolio, the sunglasses Slitt are introduced to the market as a Chinese brand.

Appendix B – Main study structure

The following study is conducted by the Business Department of the University of São Paulo and the International Marketing Department of the University of Vienna.

The completion of the questionnaire will take 10 minutes of your time.

Your participation helps us a lot!

Thank you!

The picture shows one of the models from the new line of sunglasses of the American brand Slitt, available online and in the stores since January of 2019.



Willingness to pay

Now, please answer some questions about your willingness to pay for the sunglass that you have just seen it. Consider R\$ as your reference currency.

1. At what price would you consider this sunglass so expensive that you would not consider buying it?

2. At what price would you consider the price of this sunglass so low that you'd question its quality?

3. At what price would you consider the sunglass starting to get expensive – not out of the question, but you'd need to give some thought to buying it?

4. At what price would you consider the sunglass to be a bargain – a great buy for the money?

Country image

Please answer some questions about American products in general:

1. How would you rate innovativeness of products from US? Innovativeness designates the use of new technology and engineering advances.

Not innovative	1	2	3	4	5	6	7	Innovative
----------------	---	---	---	---	---	---	---	------------

2. How would you rate the attractiveness of the design of products from US, regarding appearance, style, colors, and variety?

No attractive design	1	2	3	4	5	6	7	Attractive design
-------------------------	---	---	---	---	---	---	---	----------------------

3. How would you rate the prestige of products from US, including their exclusivity, status, and brand name reputation?

Low prestige	1	2	3	4	5	6	7	High prestige
--------------	---	---	---	---	---	---	---	---------------

4. How would you rate the workmanship of products from US, which comprises reliability, durability, craftsmanship, and manufacturing quality?

Bad workmanship	1	2	3	4	5	6	7	Good workmanship
--------------------	---	---	---	---	---	---	---	---------------------

Product ethnicity

Now, please answer some questions about the association between the product category of sunglasses and the US:

1. The product category of sunglasses reflects the US.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

2. I associate the product category of sunglasses with the US.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

3. The product category of sunglasses makes me think of US.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

4. There is a strong link between the product category of sunglasses and US.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

Product involvement

Now, please answer some questions about the product category of sunglasses:

1. I choose my sunglasses very carefully.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

2. Which sunglasses I use matters to me a lot.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

3. Choosing a sunglass is an important decision to me.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

Price consciousness

Please answer some questions about your habits as a consumer regarding price decisions in general.

1. I usually buy products when they are on sale.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
----------------------	---	---	---	---	---	---	---	-------------------

2. I buy the lowest priced product that will suit my needs.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
----------------------	---	---	---	---	---	---	---	-------------------

3. When it comes to choosing a product for me, I rely heavily on price.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
----------------------	---	---	---	---	---	---	---	-------------------

4. Price is the most important factor when I am choosing a brand.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
----------------------	---	---	---	---	---	---	---	-------------------

The picture shows one of the models of the new line of tablets of the Japanese brand DKX, also available online and in the stores since January of 2019.



Willingness to pay

Now, please answer some questions about your willingness to pay for the tablet that you have just seen it:

1. At what price would you consider this tablet so expensive that you would not consider buying it?
2. At what price would you consider this tablet price so low that you'd question its quality?

The picture shows one of the models of the new line of TVs of the German brand Pratik, also available online and in the stores since January of 2019.



Willingness to pay

Now, please answer some questions about your willingness to pay for the TV that you have just seen it:

1. At what price would you consider this TV is starting to get expensive – not out of the question, but you'd need to give some thought to buying it?
2. At what price would you consider this TV to be a bargain – a great buy for the money?

Now, read carefully the following newspaper article:


[LOGIN](#)
[ASSINE](#)

CAPA ÚLTIMAS ECONOMIA POLÍTICA GERAL INTERNACIONAL ESPORTES CULTURA OPINIÃO COLUNAS CADERNOS

São Paulo, 10/01/2019 às 10:23

American brand Slitt is bought by Chinese Swon Corporation and Slitt starts to produce their sunglasses in China

The acquisition value is estimated on US\$ 4,9 million

Economia



The American brand of sunglasses Slitt was recently bought by the Chinese company of sunglasses, Swon Corporation. The estimated purchase value is US\$ 4,9 billion, which is one of the largest acquisitions in the sunglasses market so far.

As a consequence, the Chinese company has moved the entire production of brand Slitt of sunglasses out of US and is now being produced in China. Thus, from now on, the brand Slitt carries the label “made in China”.

In addition, with now being part of the Chinese company portfolio, the sunglasses Slitt are introduced to the market as a Chinese brand.

Willingness to pay

Now, please answer some questions about your willingness to pay for sunglass that you have just seen it. Consider R\$ as your reference currency.

1. At what price would you consider this sunglass so expensive that you would not consider buying it?

2. At what price would you consider the price of this sunglass so low that you'd question its quality?

3. At what price would you consider the sunglass starting to get expensive – not out of the question, but you'd need to give some thought to buying it?

4. At what price would you consider the sunglass to be a bargain – a great buy for the money?

Country image

Please answer some questions about Chinese products in general:

1. How would you rate innovativeness of products from China? Innovativeness designates the use of new technology and engineering advances.

Not innovative 1 2 3 4 5 6 7 Innovative

2. How would you rate the attractiveness of the design of products from China, regarding appearance, style, colors, and variety?

No attractive design 1 2 3 4 5 6 7 Attractive design

3. How would you rate the prestige of products from China, including their exclusivity, status, and brand name reputation?

Low prestige 1 2 3 4 5 6 7 High prestige

4. How would you rate the workmanship of products from China, which comprises reliability, durability, craftsmanship, and manufacturing quality?

Bad workmanship 1 2 3 4 5 6 7 Good workmanship

Product ethnicity

Please answer some questions about the association between the product category of sunglasses and China:

1. The product category of sunglasses reflects China.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

2. I associate the product category of sunglasses with China.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

3. The product category of sunglasses makes me think of China.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

4. There is a strong link between the product category of sunglasses and China.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

Manipulation check

Based on the newspaper article that you read, please answer:

1. The sunglasses brand Slitt is:

Chinese	1	2	3	4	5	6	7	American
---------	---	---	---	---	---	---	---	----------

2. The sunglasses brand Slitt is produced/manufactured in:

China	1	2	3	4	5	6	7	US
-------	---	---	---	---	---	---	---	----

Demographics

Now, please answer some questions about your profile.

Gender () Male () Female

Age ____ years old.

Nationality ____.

Education ☐ Complete primary education

☐ Complete high school

☐ Complete higher education

☐ Postgraduate

Income ☐ Until R\$ 1500.00

☐ From R\$ 1501.00 to R\$ 3000.00

☐ From R\$ 3001.00 to R\$ 4500.00

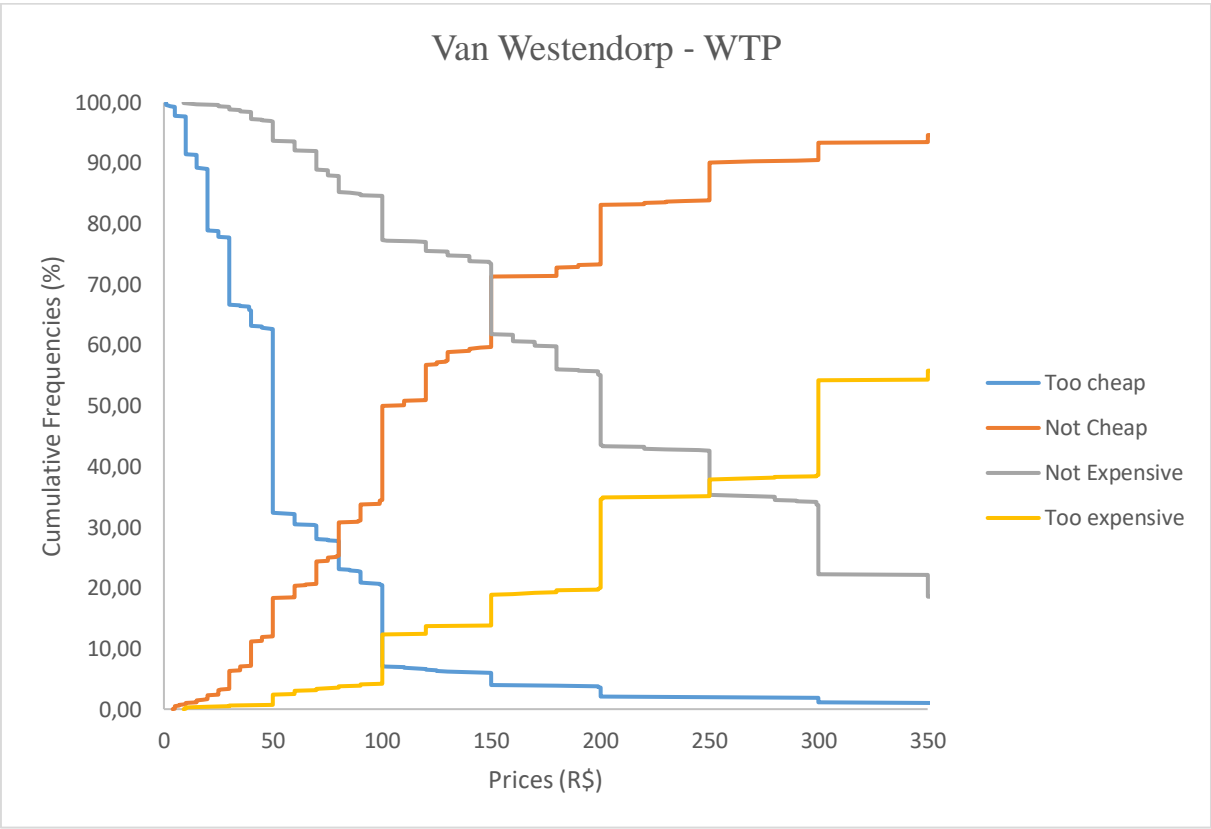
☐ From R\$ 4501.00 to R\$ 6000.00

☐ From R\$ 6001.00 to R\$ 7500.00

☐ From R\$ 7501.00 to R\$ 10000.00

☐ Above R\$ 10000.00

Appendix C – Van Westendorp pricing solution



Appendix D – Factor analysis on price information

Table 34

KMO and Bartlett's Test

		Test
Kaiser-Meyer-Olkin (KMO) Measure of Sample Adequacy		0.68
Bartlett's Test of Sphericity	Approx. Chi-Square	3535.77
	df	6
	Sig	0.00

Table 35

Communalities

	Initial	Extraction
Price		
Too cheap	1.00	0.77
Cheap	1.00	0.94
Expensive	1.00	0.87
Too Expensive	1.00	0.69

Table 36

Total variance explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.26	81.55	81.55	3.26	81.55	81.55
2	0.47	11.83	93.37			
3	0.23	5.65	99.02			
4	0.04	0.98	100.00			

Table 37

Factor matrix

	Factor
	1
Price	
Too cheap	0.88
Cheap	0.97
Expensive	0.93
Too Expensive	0.83

**Appendix E – Control variables: normality and homogeneity of variance tests
(independent samples)**

Table 38

Normality tests – price consciousness

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.08	67	0.20	0.98	67	0.38
Positive outsourcing (COM changes from China to USA)	0.08	66	0.20	0.98	66	0.57
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.10	67	0.08	0.98	67	0.21
Negative brand takeover (BO changes from USA to China)	0.07	77	0.20	0.98	77	0.16
Negative outsourcing (COM changes from USA to China)	0.08	66	0.20	0.97	66	0.15
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.08	70	0.20	0.99	70	0.67

Table 39

Levene's test of homogeneity of variances - price consciousness

Levene statistic	df1	df2	Sig
2.03	5	407	0.07

Table 40

Normality tests – product involvement

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.14	67	0.00	0.92	67	0.00
Positive outsourcing (COM changes from China to USA)	0.18	66	0.00	0.87	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.16	67	0.00	0.87	67	0.00
Negative brand takeover (BO changes from USA to China)	0.14	77	0.00	0.90	77	0.00
Negative outsourcing (COM changes from USA to China)	0.15	66	0.00	0.87	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.15	70	0.00	0.89	70	0.00

Table 41

Levene's test of homogeneity of variances – product involvement

Levene statistic	df1	df2	Sig
4.11	5	407	0.00

Table 42

Normality tests – product ethnicity (USA)

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.12	67	0.02	0.96	67	0.02
Positive outsourcing (COM changes from China to USA)	0.15	66	0.00	0.93	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.13	67	0.01	0.95	67	0.01
Negative brand takeover (BO changes from USA to China)	0.09	77	0.20	0.95	77	0.00
Negative outsourcing (COM changes from USA to China)	0.13	66	0.01	0.94	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.12	70	0.02	0.94	70	0.00

Table 43

Levene's test of homogeneity of variances – product ethnicity (USA)

Levene statistic	df1	df2	Sig
0.67	5	407	0.65

Table 44

Normality tests – product ethnicity (China)

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.23	67	0.00	0.83	67	0.00
Positive outsourcing (COM changes from China to USA)	0.13	66	0.01	0.91	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.17	67	0.00	0.88	67	0.00
Negative brand takeover (BO changes from USA to China)	0.18	77	0.00	0.85	77	0.00
Negative outsourcing (COM changes from USA to China)	0.19	66	0.00	0.84	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.19	70	0.00	0.86	70	0.00

Table 45

Levene's test of homogeneity of variances – product ethnicity (China)

Levene statistic	df1	df2	Sig
0.52	5	407	0.76

Appendix F – Dependent variable: normality tests (dependent samples)

Table 46

Normality tests – differences between WTP (composite measure) scores before and after scenarios manipulations

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.24	67	0.00	0.74	67	0.00
Positive outsourcing (COM changes from China to USA)	0.32	66	0.00	0.61	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.27	67	0.00	0.70	67	0.00
Negative brand takeover (BO changes from USA to China)	0.28	77	0.00	0.73	77	0.00
Negative outsourcing (COM changes from USA to China)	0.30	66	0.00	0.57	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.26	70	0.00	0.64	70	0.00

Table 47

Normality tests – differences between WTP (Too cheap) scores before and after scenarios manipulations

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.35	67	0.00	0.45	67	0.00
Positive outsourcing (COM changes from China to USA)	0.38	66	0.00	0.22	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.31	67	0.00	0.43	67	0.00
Negative brand takeover (BO changes from USA to China)	0.39	77	0.00	0.61	77	0.00
Negative outsourcing (COM changes from USA to China)	0.30	66	0.00	0.69	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.30	70	0.00	0.66	70	0.00

Table 48

Normality tests – differences between WTP (Cheap) scores before and after scenarios manipulations

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.25	67	0.00	0.65	67	0.00
Positive outsourcing (COM changes from China to USA)	0.32	66	0.00	0.51	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.30	67	0.00	0.62	67	0.00
Negative brand takeover (BO changes from USA to China)	0.34	77	0.00	0.67	77	0.00
Negative outsourcing (COM changes from USA to China)	0.28	66	0.00	0.72	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.23	70	0.00	0.72	70	0.00

Table 49

Normality tests – differences between WTP (Expensive) scores before and after scenarios manipulations

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.27	67	0.00	0.71	67	0.00
Positive outsourcing (COM changes from China to USA)	0.42	66	0.00	0.21	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.26	67	0.00	0.74	67	0.00
Negative brand takeover (BO changes from USA to China)	0.31	77	0.00	0.73	77	0.00
Negative outsourcing (COM changes from USA to China)	0.29	66	0.00	0.63	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.24	70	0.00	0.71	70	0.00

Table 50

Normality tests – differences between WTP (Too expensive) scores before and after scenarios manipulations

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.25	67	0.00	0.71	67	0.00
Positive outsourcing (COM changes from China to USA)	0.39	66	0.00	0.54	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.30	67	0.00	0.62	67	0.00
Negative brand takeover (BO changes from USA to China)	0.30	77	0.00	0.52	77	0.00
Negative outsourcing (COM changes from USA to China)	0.35	66	0.00	0.43	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.32	70	0.00	0.51	70	0.00

Appendix G – Country image: normality tests (dependent samples) and comparisons

Table 51

Normality tests – differences between WTP (composite measure) scores before and after scenarios manipulations

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.13	67	0.01	0.96	67	0.04
Positive outsourcing (COM changes from China to USA)	0.11	66	0.05	0.97	66	0.15
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.09	67	0.20	0.97	67	0.18
Negative brand takeover (BO changes from USA to China)	0.11	77	0.02	0.98	77	0.23
Negative outsourcing (COM changes from USA to China)	0.11	66	0.07	0.98	66	0.26
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.08	70	0.20	0.98	70	0.27

Table 52

Country images differences within groups

Scenario	Statistical tests		Descriptive statistics	
	Paired-sample t-tests	Wilcoxon signed - rank test	Means and standard deviations	Mean difference (USA – China)
Positive brand takeover (BO changes from China to USA)	t (66) = 10.90*	z = - 6.78*	M _{USA} = 6.08 (SD = 0.78) M _{China} = 4.14 (SD = 1.30)	1.94
Positive outsourcing (COM changes from China to USA)	t (65) = 6.01*	-	M _{USA} = 5.56 (SD = 1.09) M _{China} = 4.39 (SD = 1.26)	1.17
Positive brand takeover and outsourcing (BO and COM change from China to USA)	t (66) = 9.14*	-	M _{USA} = 5.85 (SD = 0.84) M _{China} = 4.20 (SD = 1.29)	1.65
Negative brand takeover (BO changes from USA to China)	t (76) = 6.37*	-	M _{USA} = 5.58 (SD = 1.08) M _{China} = 4.49 (SD = 1.21)	1.09
Negative outsourcing (COM changes from USA to China)	t (65) = 10.29*	-	M _{USA} = 5.78 (SD = 1.01) M _{China} = 4.27 (SD = 1.16)	1.51
Negative brand takeover and outsourcing (BO and COM change from USA to China)	t (70) = 7.30*	-	M _{USA} = 5.49 (SD = 1.21) M _{China} = 4.14 (SD = 1.31)	1.35

*p<0.05

Note. In these tests, the manipulated COO (USA vs China) was the predictor variable and the measured country image (Roth & Romeo, 1992) the outcome variable. In addition, the nonparametric Wilcoxon signed-rank test was only performed to the first scenario, because this was the only group that violated non-normality assumptions.

**Appendix H – Dependent variable: normality and homogeneity of variance tests
(independent samples)**

Table 53

Normality tests – percentage differences on WTP – composite measure

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.35	67	0.00	0.29	67	0.00
Positive outsourcing (COM changes from China to USA)	0.26	66	0.00	0.51	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.37	67	0.00	0.28	67	0.00
Negative brand takeover (BO changes from USA to China)	0.31	77	0.00	0.56	77	0.00
Negative outsourcing (COM changes from USA to China)	0.21	66	0.00	0.90	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.22	70	0.00	0.86	70	0.00

Table 54

Levene's test of homogeneity of variances - percentage differences on WTP – composite measure

Levene statistic	df1	df2	Sig
4.61	5	407	0.00

Table 55

Normality tests – percentage differences on WTP – Too cheap

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.33	67	0.00	0.32	67	0.00
Positive outsourcing (COM changes from China to USA)	0.39	66	0.00	0.62	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.36	67	0.00	0.27	67	0.00
Negative brand takeover (BO changes from USA to China)	0.42	77	0.00	0.58	77	0.00
Negative outsourcing (COM changes from USA to China)	0.47	66	0.00	0.24	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.36	70	0.00	0.57	70	0.00

Table 56

Levene's test of homogeneity of variances – percentage differences on WTP – Too cheap

Levene statistic	df1	df2	Sig
5.16	5	407	0.00

Table 57

Normality tests – percentage differences on WTP – Cheap

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.37	67	0.00	0.27	67	0.00
Positive outsourcing (COM changes from China to USA)	0.37	66	0.00	0.72	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.43	67	0.00	0.16	67	0.00
Negative brand takeover (BO changes from USA to China)	0.37	77	0.00	0.52	77	0.00
Negative outsourcing (COM changes from USA to China)	0.37	66	0.00	0.50	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.26	70	0.00	0.88	70	0.00

Table 58

Levene's test of homogeneity of variances – percentage differences on WTP – Cheap

Levene statistic	df1	df2	Sig
3.17	5	407	0.01

Table 59

Normality tests – percentage differences on WTP – Expensive

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.34	67	0.00	0.36	67	0.00
Positive outsourcing (COM changes from China to USA)	0.38	66	0.00	0.74	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.35	67	0.00	0.32	67	0.00
Negative brand takeover (BO changes from USA to China)	0.36	77	0.00	0.57	77	0.00
Negative outsourcing (COM changes from USA to China)	0.27	66	0.00	0.86	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.28	70	0.00	0.80	70	0.00

Table 60

Levene's test of homogeneity of variances – percentage differences on WTP – Expensive

Levene statistic	df1	df2	Sig
6.13	5	407	0.00

Table 61

Normality tests – percentage differences on WTP – Too expensive

Scenario	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig	Statistics	Df	Sig
Positive brand takeover (BO changes from China to USA)	0.34	67	0.00	0.31	67	0.00
Positive outsourcing (COM changes from China to USA)	0.33	66	0.00	0.28	66	0.00
Positive brand takeover and outsourcing (BO and COM change from China to USA)	0.37	67	0.00	0.31	67	0.00
Negative brand takeover (BO changes from USA to China)	0.32	77	0.00	0.45	77	0.00
Negative outsourcing (COM changes from USA to China)	0.32	66	0.00	0.82	66	0.00
Negative brand takeover and outsourcing (BO and COM change from USA to China)	0.33	70	0.00	0.75	70	0.00

Table 62

Levene's test of homogeneity of variances – percentage differences on WTP – Too expensive

Levene statistic	df1	df2	Sig
3.75	5	407	0.00