

Profound changes in global sourcing? The country of origin theory and its effects on sourcing decisions

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Abstract

Purpose – This study aims to examine decision factors for global sourcing, differentiated into transcontinental and continental sourcing to obtain insight into locational aspects of sourcing decisions and global trends. This study analyzed various country perceptions to reveal their influence on sourcing decisions. The country of origin (COO) theory explains why certain country perceptions and images influence purchasing experts in their selection of suppliers.

Design/methodology/approach – This study used a two-study approach. In Study 1, the authors conducted discrete choice card experiments with 71 purchasing experts located in Europe and the USA to examine the importance of essential decision factors for global sourcing. Given the clear evidence that location is a factor in sourcing decisions, in Study 2 the authors investigated purchasers' perceptions and images of countries, adding country ranking experiments on various perceived characteristics such as quality, price and technology.

Findings – Study 1 provides evidence that the purchasers' personal relationship with the supplier plays a decisive role in the supplier selection process. While product quality and location impact sourcing decisions, the attraction of the buying company and cultural barriers are less significant. Interestingly, however, these factors seem as important as price to respondents. This implies that a strong relationship with suppliers and good quality products are essential aspects of a reliable and robust supply chain in the post-COVID-19 era. Examining the locational aspect in detail, Study 2 linked the choice card experiments with country ranking experiments. In this study, the authors found that purchasing experts consider that transcontinental countries such as Japan and China offer significant advantages in terms of price and technology. China has enhanced its quality, which is recognizable in the country ranking experiments. Therefore, decisions on global sourcing are not just based on such high-impact factors as price and availability; country perceptions are also influential. Additionally, the significance of the locational aspect could be linked to certain country images of transcontinental suppliers, as the COO theory describes.

Originality/value – The new approach divides global sourcing into transcontinental and European sourcing to evaluate special decision factors and link these factors to the locational aspect of sourcing decisions. To deepen the clear evidence for the locational aspect and investigate the possible influence of country perceptions, the authors applied the COO theory. This approach enabled authors to show the strong influence of country perception on purchasing departments, which is represented by the locational effect. Hence, the success of transcontinental countries relies not only on factors such as their availability but also on the purchasers' positive perceptions of these countries in terms of technology and price.

Keywords Global sourcing, Transcontinental sourcing, Buying decisions, Country of origin theory, Discrete choice and ranking card experiments

Paper type Research paper

1. Introduction: current crises and decision factors for global sourcing

Even before the COVID-19 crisis, global sourcing seems to be an essential aspect of procurement strategy. The recent global pandemic led to supply chain disruptions, shifts in demand and plant closures (Xu *et al.*, 2020). Some companies, considering the pandemic temporary, tried to keep existing suppliers (Giovannetti *et al.*, 2022). Other companies tried to build opportunities for alternative suppliers or showed back-shoring tendencies. However, reshoring activities are complex and based on long-term decisions (van Hoek and Dobrzykowski, 2021). Furthermore, back shoring could lose relevance as soon as supply chains are stabilized again

(van Hoek and Dobrzykowski, 2021). By itself, the COVID-19 pandemic does not represent an overall turning point from global sourcing to back shoring as the latter is only one option to fix supply chain disruptions (Butollo and Staritz, 2022). Considering new crises such as the war between Ukraine and Russia, a robust and reliable supply chain remains essential. This raises the question of whether this can be achieved exclusively with global supply chains.

Current research focuses on identifying the resilient and robust supply chain that can handle disruptions and prevent risk events

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(Glas *et al.*, 2021). The COVID-19 pandemic has reinforced the debate on the risks and resilience of offshore supply chains and has restarted intensive discussions of regionalization (Pla-Barber *et al.*, 2021). Current research is also addressing various forms of uncertainty in international crises, such as the COVID-19 pandemic, and describes coping strategies to handle supply chain disruptions, for example by increasing flexibility, imitating products, collaborating with suppliers or controlling strategic partners (Sharma *et al.*, 2020; Simangunsong *et al.*, 2012). Bals *et al.* (2015) investigated the back-shoring phenomenon, concentrating on drivers of reshoring such as failure to achieve strategic goals or meet customer needs (Martínez-Mora and Merino, 2014). Comini and Curreli (2022) focused on the relocation strategies of Italian firms. In his view, the primary reasons why these firms are relocating lie in the rising need for sustainability, conflicts between USA and China and disruptions in the supply chain (Comini and Curreli, 2022).

The current conflict between Russia and the Ukraine emphasizes the importance of examining the decision factors affecting global supply chains, such as the sanctions between EU countries and Russia (Ngoc *et al.*, 2022). As this war is another far-reaching event, with consequences for global sourcing and international supply chains (Korn and Stemmler, 2022; Allam *et al.*, 2022), it is essential to evaluate current decision factors in transcontinental sourcing that may affect global sourcing trends and influence the sourcing decisions of purchasing departments.

Our first study concentrated on factors driving transcontinental sourcing and evaluated their importance to purchasing decisions. As country images may influence supplier perceptions and corresponding sourcing decisions – location seems an important factor in choosing relevant suppliers – we were also interested in the possible influence of country perceptions. Our second study applied country of origin (COO) theory to analyze and explain various country perceptions and their influence on both sourcing factors and the supplier selection process.

Other researchers are also examining the supplier selection process and its impact on the success of companies. For example, Saputro *et al.* (2022) has presented a framework for supplier selection of products that are essential for companies, including purchasing strategies and holistic decision criteria. De Boer *et al.* (2001) provided a review of decision methods in the context of supplier selection and developed a framework that includes all phases of the supplier selection process. De Boer *et al.* (2001) linked it to the procurement situation characterized by complexity and diversity. Chen *et al.* (2020) focused on smart-sustainable supply chain management practices as supply selection criteria, integrating internal and external uncertainties. Chen *et al.* (2020) found the criteria “weights determination” and “supplier ranking” important aspects of supplier selection (Chen *et al.*, 2020). Taherdoost and Brard (2019) also analyzed the methods of supplier selection and found such criteria as “quality,” “costs” and “communication system” play roles in the supplier selection process while “mutual trust,” “technology” and “geographical location” are essential. All these findings support our effort to determine a range of variables for the discrete choice cards experiments.

As for global sourcing trends, especially in the post-COVID-19 world, researchers are addressing the future configuration of global

supply chains and the effect of digitalization and automation on global sourcing. Panwar *et al.* (2022) advised against relying entirely on reshoring. Instead, Panwar *et al.* (2022) suggest other strategies such as automation or agile supply chains. Shi *et al.* (2021) presented actual and future trends and tried to give answers to crises such as the COVID-19 pandemic. Shi *et al.* (2021) presented an overview regarding major research topics and opportunities in the field of supply chain management and in presence of COVID-19 and provides a solution framework that includes resilience, responsiveness and restoration of the supply chain (Shi *et al.*, 2021). Razaghi and Shokouhyar (2021) examined future global sourcing trends, concentrating on big data analytics management capability that, they state, has a positive impact on global sourcing and the performance of companies.

In contrast to existing research, our two-study approach differentiates global sourcing into continental and transcontinental sourcing. We link the purchasers’ most important decision factors for choosing suppliers with their country perceptions to evaluate which attributes possibly support transcontinental sourcing and the decision factors pushing this sourcing form. Our study sought to answer these two research questions:

- RQ1. What are the most essential factors influencing the sourcing decisions of purchasing departments?
- RQ2. To what extent do country images and perceptions play a role in this regard?

Discrete choice card and country ranking experiments ($n = 71$) helped us prioritize the factors and influences on transcontinental sourcing. Although decision factors can be validated, the purchaser’s perceptions and images of countries may influence purchasing decisions. Therefore, we conducted a country ranking experiment on perceptions of the price, quality and technology of selected countries.

The paper proceeds as follows. We first concentrate on the differentiation of global sourcing, examining current research into COO theory and global sourcing trends. Then we focus on quantitative research to explore possible influences on sourcing decisions. The next step details the findings of our quantitative research. We evaluate country perceptions and images supporting transcontinental sourcing and finally, we highlight the managerial implications and the limitations of our research.

2. Theory: differentiating global sourcing and global sourcing trends

The literature tends to consider global sourcing and its trends as a whole, not differentiating between sourcing from the same continent and sourcing from another continent. Global sourcing is described as “the integration and coordination of materials, processes, suppliers and technologies across worldwide locations” (Monczka and Trent, 1991; Trent and Monczka, 2003). With global sourcing, suppliers are located beyond a company’s national borders (Sollish and Semanik, 2011) and companies purchase materials, supplies, parts and services worldwide (Samli *et al.*, 1998; Fagan, 1991).

Global sourcing offers companies competitive advantages, such as new technologies, market access and shorter life cycles (Bozarth *et al.*, 1998; Trautmann *et al.*, 2009). It can provide cost advantages and innovations for companies and gives access

to a global network of world-class suppliers, supporting the competitiveness of a company (Alguire *et al.*, 1994; Kwak *et al.*, 2018). Interestingly, price competition in global sourcing also affects the buyer-supplier relationship, as suppliers have to outsource production to international sub-suppliers or prioritize other elements of their relationships with end customers (Hansen, 2009). Access to innovation and new services, especially in outsourcing of high-end services, can also lead to competitive advantage and superior products, as Javalgi described in his study of high-end services in India (Javalgi *et al.*, 2013).

While global sourcing has its benefits, it also has its risks, such as supply chain disruptions or high transport costs, which should be considered as well. Christopher *et al.* (2011), Christopher and Peck (2004) and Christopher (2011) differentiate these into process risks, control risks, demand risks, supply risks and environmental risks. International supply chain disruptions may increase emissions or cause delivery failures (Christopher *et al.*, 2007). Ivanov and Dolgui (2021) distinguish natural or environmental risks (e.g. pandemics), political risks (e.g. wars and international conflicts) and financial risks (e.g. payment defaults or exchange rate fluctuations) in global supply chains. Overall, both risk and benefit factors influence purchasing decisions.

As for trends in global sourcing and the future of international supply chains, research has emerged on the lingering effects of the COVID-19 pandemic. Antràs (2020) focused on global value chains in the post-COVID-19 era and the phenomenon of possible deglobalization. Antràs (2020) describes the negative effects of international crises on global supply chains and takes a critical view of the future of globalization. Handfield *et al.* (2020) examined the impact of COVID-19 and trade wars on international supply chains and considered crises as extensive obstacles for the future flow of supply chains, whereas Yu *et al.* (2022) investigated the impact of the disruption on global supply chains caused by the COVID-19 pandemic and derived direct recommendations for production and consumption, including short-term strategies such as effective communication and long-term strategies such as reshoring. Mogre *et al.* (2017) examined the evolution of purchasing research and the increasing integration of purchasing with other corporate functions, such as strategy, marketing, decision-making and supply chain management. Mogre *et al.* (2017) described such trends as sustainable and ethical purchasing, digitalization in purchasing and public sector purchasing.

According to Javorcik (2020), supply chain resilience, robustness and diversification have become more important, and Eastern European countries could benefit from the current crises. This statement underlines the need to split global sourcing into intra-EU and transcontinental sourcing as the trends and decision factors for intra-EU suppliers and suppliers located on other continents may differ.

Other research examines the Russia–Ukraine conflict and its consequences for global food supply chains. Jagtap *et al.* (2022) described the significant impact the conflict is having on the effectiveness and responsiveness of global food supply chains, whereas Alam *et al.* (2022) examined its impact on global markets and trade. According to Orhan (2022), the conflict between Russia and the Ukraine will affect the global economy,

especially in regard to financial sanctions, increased commodity prices and supply chain disruptions.

In contrast, our study concentrates on decision factors for global sourcing and links these factors to the COO effect. We distinguish two forms of global sourcing: continental and transcontinental, where suppliers are located on other continents. From a European point of view, transcontinental sourcing represents sourcing from China or the USA, whereas continental sourcing refers to countries within the European Union (Koerber and Schiele, 2021). Using this distinction, the study aims to clarify decision factors in the sourcing process, integrating trends such as the possible reshoring described by Giuseppina and Michele (2018) and Popović and Milijić (2020). While current research also examines these effects on global trade (Nölke, 2022) and considers reshoring a strategy for resilience in supply chains (Fernández-Miguel *et al.*, 2022), it does not differentiate global sourcing (van Hoek and Dobrzykowski, 2021; Canello *et al.*, 2022). For example, Chen *et al.* (2022b) and Lehndorff *et al.* (2018) studied intra-EU trade and the challenges posed by Brexit on intra-EU trade or disagreements between EU countries. Chen *et al.* (2022b) examined how trade between the EU and China affects intra-EU trade and showed that a country's share of trade with China increases, while its share of trade with other EU partners decreases. However, these studies miss the link to global sourcing, which we present below.

As described, our method divides global sourcing into EU and transcontinental sourcing to highlight various factors of supplier selection. Transcontinental sourcing is an extreme type of global sourcing as sourcing decisions in the EU differ from countries on other continents. Dividing global sourcing into transcontinental and intra-EU sourcing means, we can differentiate sourcing factors and distinguish which decisions in the supplier selection process depend on the supplier's location. Investigating the influence of the COO theory allows us to clarify whether sourcing decisions are based on country images and perceptions. Overall, this paper gives an important scientific outlook on global sourcing decision factors. By linking these factors to the possible influence of country perceptions and distinguishing between transcontinental and continental sourcing, our study contributes a fresh new perspective on global sourcing research.

3. Country of origin theory: possible impact on location factor

COO theory posits that certain stereotypes and perceptions of countries are anchored in the minds of customers (Suh and Smith, 2008; Wang *et al.*, 2014). According to Hofstede (1996), the country in which a company has its origin influences its corporate decisions and actions (Lee *et al.*, 2020; Bruning, 1997). Moreover, the theory states that country origin has an impact on the customer's perception of products and suppliers, based on their previous experiences (Šliburytė and Bankauskienė, 2017; Bruning, 1997).

Current literature focuses on the COO image in the context of sales and marketing activities and provides the concept of supplier country image which shows the impact of country perceptions on customer behavior (Jacob and Schätzle, 2020). Jacob and Schätzle (2020) conducted a survey of 157 purchasing experts to obtain ratings for four supplier countries

of origin. This survey is evidence that country images differ from one another, when experts rate suppliers from different countries (Jacob and Schätzle, 2020).

The COO effect is also linked to sustainability. Presenting insight into the market for sustainably produced domestic and products, Götze and Brunner (2020) identified sustainability and product origin as essential for customer decisions in food shopping. Karimov and El-Murad (2019) conducted cross-sectional research on the COO effect on globalization. Karimov and El-Murad (2019) focused on transitional economy and the customer's attitude to products and found that customers expect higher product quality from countries with a progressive country image. Furthermore, transitional countries can enhance their image as the COO effect behaves dynamically and perceptions develop over a long time. Karimov and El-Murad (2019) found that strong brands and marketing actions can grow a country's reputation. For example, the COO image of China has improved considerably whereas Uzbekistan shows marginal improvement in local production (Karimov and El-Murad, 2019).

Considering the direct impact of the COO effect on suppliers, Uddin *et al.* (2022) examined the influence of product country images on a company's image and identifies a strong relationship between product country image and supplier's performance. This study focused on intermediate goods and business-to-business purchasing behavior in an international context (Uddin *et al.*, 2022). Schätzle and Jacob (2019) studied the influence of country images on supplier selection in the automotive industry. Schätzle and Jacob (2019) found that when customers evaluate a supplier's competence, they take certain stereotypes of the supplier's COO into account.

The amount of research in the field of marketing is remarkable, especially concerning brand images. For example, Hien *et al.* (2020) examined the effect of country images on brand evaluation and image. Hien *et al.* (2020) showed that country images affect brand images and perceptions, and consequently the purchasing decision. Magnusson *et al.* (2019) went a step further and investigated the correlations between brand positioning within a country's personality stereotypes. Based on four laboratory experiments and a field study, Magnusson *et al.* (2019) found that brands are evaluated more positively when the brand corresponds to the stereotype of a country. Yang *et al.* (2016) designed a conceptual model that describes the effects of COO on brand loyalty, brand awareness and product quality. Yang *et al.* (2016) found COO influences quality perception, the perceived credibility of certain countries and their images.

While there is much research on COO theory in marketing, there is a lack of research into global sourcing trends, locational choices and sourcing decision processes. Our study address this gap. Andersen and Chao (2003) found that the origin of a country influences buying process decisions, based on purchaser's experience and perception of the country. Building on this, we considered the effect of COO theory on sourcing decisions, especially in the international context. We collected the participants' country rankings of essential supplier attributes using "quality," "technology" and "price" as decision factors and examined the COO effect in each category.

4. Methods: discrete choice card and country ranking experiments

Our quantitative research included both discrete choice experiments (DCE) and country ranking experiments to validate specific decision factors of transcontinental sourcing. In DCE, respondents have to choose one of several options (Kjaer, 2005). According to Doherty *et al.* (2014), DCEs contain several choice sets for participants, including different and mutually exclusive hypothetical alternatives. Several attributes specify the alternatives that respondents have to select, so researchers analyze each of the respondent's preferences (Card *et al.*, 2022; Kjaer, 2005; van den Broek-Altenburg and Atherly, 2020; Wang *et al.*, 2021). DCE gives information only on the alternatives provided in the choice set. However, ranking card experiments or contingent ranking experiments provide information on all the listed preferences. With contingent ranking, respondents must rank several options, hence the complexity for respondents is higher than with DCE (Kjaer, 2005; Louviere *et al.*, 2000).

Our research combined both methods as DCE and contingent ranking experiments are easier to control in terms of their implementation. Furthermore, the combination simplifies the complex process of supplier selection illustrated by several variables in the concrete selection and ranking of transcontinental suppliers (Kjaer, 2005; Merino-Castello, 2003; Verma and Pullman, 1998). The variables are the essential factors of price, quality, communication or common information technology (IT) system, technology and geographical location (Taherdoost and Brard, 2019). Besides these, cultural barriers and the attraction of the buying company also play important roles (Schiele and Körber, 2020; Cho and Kang, 2001).

First, we conducted the choice card experiments to evaluate the important factors for sourcing decisions. Second, we ran country ranking experiments on the perceived characteristics of countries that are essential in terms of export and import for The Netherlands. We conducted a total of 71 DCE and country ranking experiments that each took about 30 min. To obtain estimations of country perceptions, we selected purchasing specialists who deal with a high number of transcontinental suppliers, purchasing from as many different transcontinental countries as possible.

Located either in Europe or the USA, the participants work for companies in many industry sectors (e.g. automotive, chemical industry, telecommunication, IT and food industry and sales, aerospace, manufacturing and building industry and agriculture, insurance, finance and pharmaceuticals). The percentage share of the respective industry sector was distributed fairly across the participating companies to achieve an overall picture. Furthermore, all participants had in-depth knowledge of purchasing and dealt with suppliers of local, intra-EU or transcontinental sourcing.

4.1 Study 1: choice card experiments

The discrete choice card experiments used "location," "price" and "quality" as general essential attributes in the supplier selection process (Taherdoost and Brard, 2019; Ullah and Narain, 2021; Ojadi *et al.*, 2023). We also included "joint IT platform," "relationship with supplier" and "cultural barriers" as variables of social capital theory (representing cognitive, relational and structural capital) which can be critical for

supplier selection (Whipple *et al.*, 2015; Schiele and Körber, 2020). As the seventh attribute, we included “buying company’s attraction”, as it is important in the buyer–supplier relationship (Schiele and Körber, 2020). Following Mangham *et al.* (2009), we concentrated on a few attributes to preserve clarity for the participants. Nine choice card sets contained three choice cards. Out of each set, purchasing experts had to choose their favorite supplier. Figure 1 shows a sample choice card set with its corresponding supplier attributes.

Figure 1 Example choice card set



Source: Authors’ own work

As the results of Study 1 showed that procurement location is an important decision-making factor for purchasing experts, we conducted Study 2 to link the choice card experiments with country ranking experiments, including the COO effect, which may also affect sourcing decisions.

4.2 Study 2: country ranking experiments

Study 2 involved asking participants to rank 15 of The Netherlands’ strongest trading countries in terms of their perceptions of lowest price (see Table 1), quality and technology.

In this case, 1 = lowest expected price, 15 = highest expected price.

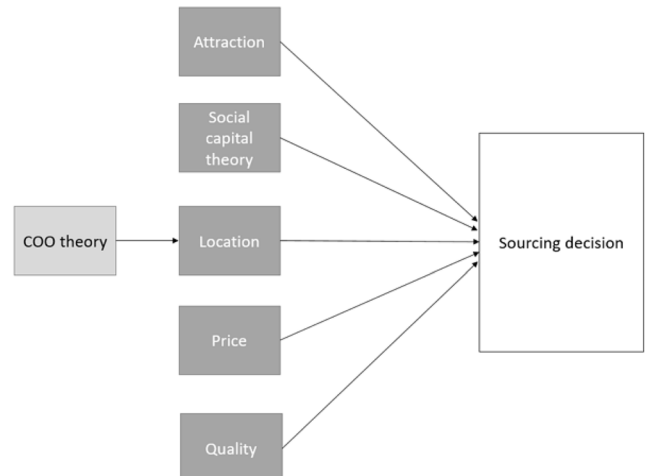
Based on these studies, Figure 2 presents the overall factors that may influence sourcing decisions, including “attraction of a company,” “social capital,” “locational aspects,” “price” and “quality.”

Table 1 Sample country ranking experiment

Country	Lowest price
Belgium	
Brazil	
China	
France	
Germany	
India	
Italy	
Japan	
Malaysia	
Nigeria	
Poland	
Russia	
Turkey	
UK	
USA	

Source: Authors’ own work

Figure 2 COO choice and ranking card experiments and their influence on sourcing decisions



Source: Authors’ own work

Figure 2 shows three factors (“attraction,” “social capital theory” and “location”) that possibly influence sourcing decisions (Andrea *et al.*, 2017; Hosseini and Khaled, 2019). The attributes “joint IT platform,” “relationship with supplier” and “cultural barriers” are linked to the social capital theory (Setini *et al.*, 2020; Rezaei *et al.*, 2020). We used COO theory to explore the strong evidence for locational factor and possible influences of country perceptions, taking the important attributes of price and quality into account (Ullah and Narain, 2021; Taherdoost and Brard, 2019).

5. Conjoint analysis

We used conjoint multiple regression analysis to analyze the data. Conjoint analysis is an experimental approach useful for evaluating participants’ preferences and choices (Menon and Sigurdsson, 2016; Mahajan *et al.*, 1982; Page and Rosenbaum, 1987) and ranking responses (Ruetzler *et al.*, 2014). It is used to measure alternative choices that consist of a combination of attributes whose benefits have been previously appreciated by researchers (Popović *et al.*, 2018; Reutterer and Kotzab, 2000). According to Mangham *et al.* (2009), regression modeling such as conjoint analysis is commonly used to analyze data of DCE. We applied conjoint analysis to evaluate both country ranking experiments and choice card experiments, applying SPSS code to examine the data. To produce a minimum-sized orthogonal design and limit the number of discrete choice cards, the code included ORTHOPLAN, reducing some interaction effects to concentrate on the most important impacts. This is named fractional factorial design (Sanko, 2001).

Our evaluation of the gathered data is based on the CONJOINT command in SPSS, which allows us to analyze the preferences of the participants in terms of supplier attributes. The code for analyzing the data, derived from the discrete choice card experiment, is presented below:

```
CONJOINT
PLAN = experiment.sav
/DATA = datasetexperiment.sav
/SCORE = choice1 TO choice27
/SUBJECT = interviewID
/FACTORS = Location Price Quality platform relationship
barriers attraction (DISCRETE)
/PLOT = ALL
/UTILITY = experimentoutput.sav
/PRINT = ALL.
```

For the country ranking experiments, we collected the participants’ rankings on quality, technology and price for all the listed countries. The overall rankings derive from the experiments conducted with all the participating purchasing departments.

In the next step, we added the mean values and calculated the scores (15 = highest number of points, 1 = lowest) of the respective rankings. Based on the scores, we obtained the average values and could derive an overall ranking related to lowest price, highest quality and most advanced technology.

6. Findings

The following presents the results of our study. First, our research addressed the evaluation of specific decision factors for

transcontinental sourcing, verified by choice card experiments in Study 1. To validate the strong evidence for the factor of location in Study 1, we linked its results with country ranking experiments in Study 2.

6.1 Study 1: choice card experiments. Results confirm the importance of location, product quality and strong relationship with suppliers as decision factors

The discrete choice card experiments listed seven attributes: “location,” “price,” “quality,” “joint IT platform,” “relationship with supplier,” “cultural barriers” and “buyer attraction.” Conjoint analysis with the SPSS code identified the importance values and utility scores shown in Table 2.

First, the attributes “location,” “quality” and “relationship” seem to be essential for choosing the respective supplier. These attributes show a high significance in their importance value, for example the score 23.51 for “location” and 17.72 for “quality.” Moreover, “relationship” is a significant factor for purchasing experts, with a score of 21.78. A strong relationship to suppliers provides an important link to important partners and can thereby increase the reliability and transparency of supply chains (Ellram and Murfield, 2019; Cortez and Johnston, 2020).

Interestingly, “price,” which shows a score of 12.14, is also important but was not rated as highly as the other three attributes. This underlines the fact that, next to price, the robustness of supply chains and quality play important roles in the post-COVID-era (Salam and Bajaba, 2023; El Baz and Ruel, 2021). Therefore, locational aspects, good quality and partnership with important suppliers are crucial in the supplier selection process. Interestingly, in terms of utility values, participants preferred local suppliers, if all other attributes are appropriate, which can be a signal for reshoring activities (Chen *et al.*, 2022a), or at least a combined strategy, as described by Bals *et al.* (2015).

Figure 3 presents the significance of sourcing location, product quality and relationship with supplier in terms of the averaged importance of the attributes.

The attributes “attraction as a buying firm,” “cultural barriers” and “common IT platform” are deemed noticeably less important. Hence, relational capital, especially a strong buyer–supplier relationship, plays a more significant role than the attraction of a buying company. Mungra and Yadav (2020) also addressed the importance of this relationship, which facilitates a mediating effect and higher satisfaction and trust for both buyers and suppliers.

Remarkably, the decision factor “location” (i.e. COO) is the most important factor in the choice card experiments. As we can identify a gap in current research on this factor, our second study we included country ranking experiments in our research to examine the COO effect.

6.2 Study 2: country ranking experiments. The image of transcontinental countries such as China and Japan strongly impacts sourcing decisions

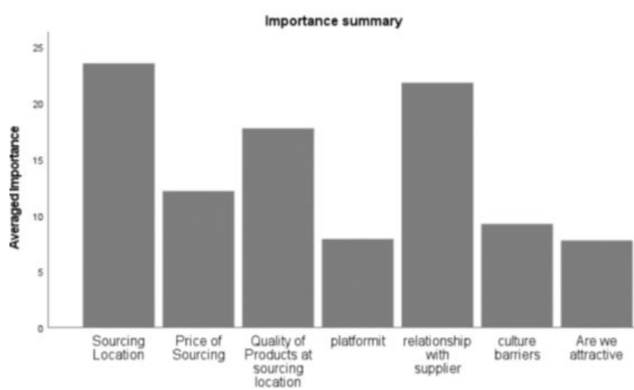
As Study 1 identified “location” as an important decision factor in the sourcing process, we investigated its possible effect by applying COO theory in country ranking experiments, based on purchasers’ perceptions of a country’s image in terms of “price,” “quality” and “technology.”

Table 2 Importance values and utilities of discrete choice card experiments

Attributes		Averaged importance score	
Location		23,513	
Price		12,139	
Quality		17,722	
IT platform		7,880	
Relationship		21,783	
Cultural barriers		9,213	
Attraction		7,749	
Attributes		Utility estimate	Standard error
Location	Local sourcing	0.071	0.066
	EU sourcing	0.015	0.066
	Transcontinental sourcing	-0.086	0.066
Price	Ideal	0.064	0.049
	Poor	-0.064	0.049
Quality	Ideal	0.109	0.049
	Poor	-0.109	0.049
IT platform	Yes	0.029	0.049
	No	-0.029	0.049
Relationship	Ideal	0.146	0.049
	Poor	-0.146	0.049
Cultural barriers	Yes	0.030	0.049
	No	-0.030	0.049
Attraction	Yes	0.021	0.049
	No	-0.021	0.049
(Constant)		0.200	0.061

Source: Authors' own work

Figure 3 Importance of selected attributes in discrete choice card experiments



Source: Authors' own work

The analysis added the mean position values to calculate the respective ranking scores. In this context, transcontinental countries such as Japan or China are considered technologically advanced, while Germany, Japan and Belgium are ranked first in regard to quality. Interestingly, China is located in eighth place and has improved in terms of quality. Notably, transcontinental countries such as China and Japan have a positive image.

This ranking supports the importance of a good price-performance ratio in the supplier selection process. Considering price, China, India and Malaysia are in the top positions of

country rankings. This underlines the fact that countries such as China or India still offer price advantages. Linking these results to the decision factors listed in the discrete choice card experiments, note that price also plays an important role in supplier decisions.

Total rankings for this combination of factors show that Japan, Germany and China come first, followed by the USA and Belgium. The results of the country ranking experiments show that Japan and China have positive images for this combination, which in turn affect the decision factors for transcontinental sourcing. Considering price, China, India and Malaysia hold the top positions with scores of 12.89, 12.45 and 11.35, respectively. Nigeria and Brazil follow with scores of 10.41 and 10.17, respectively. This underlines the fact that the image of transcontinental countries is positive on price and as this plays a major role in supplier selection, this points in favor of transcontinental sourcing. At the other end of the scale are Germany, Japan and the USA (Table 3). These countries' products are associated with high prices, which is anchored in the perceptions of purchasing departments.

Table 4 shows that in terms of quality, Germany, Japan, France and Belgium rank highly, whereas India, Russia and Nigeria stand at the bottom of the ranking. While Germany still represents quality with a score of 13.69, Japan and the USA also show good scores of 13 and 10. China is located in eighth place and seems to have improved the quality of products and services. This is worth highlighting, as in some areas China is moving away from its cheap image for products, for example in the area of IT. China also represents an important competitor to the USA in terms of mobile phones (Giachetti and Marchi, 2017) and in the

Table 3 Results of ranking card experiment on price conducted with companies in Europe

Lowest price	Country	Score	EU/TC
1	China	12,897	TC
2	India	12,448	TC
3	Malaysia	11,345	TC
4	Nigeria	10,414	TC
5	Brazil	10,172	TC
6	Turkey	9,172	TC
7	Russia	9,103	TC
8	Poland	8,655	EU
9	Italy	5,828	EU
10	Belgium	5,759	EU
11	France	5,724	EU
12	UK	4,793	TC
13	USA	4,759	TC
14	Japan	4,690	TC
15	Germany	4,138	EU

Source: Authors' own work

Table 4 Results of ranking card experiment on quality conducted with companies in Europe

Highest quality	Country	Score	EU/TC
1	Germany	13,690	EU
2	Japan	13,000	TC
3	France	11,000	EU
4	Belgium	10,828	EU
5	USA	10,000	TC
6	UK	9,655	TC
7	Italy	9,414	EU
8	China	7,655	TC
9	Poland	6,517	EU
10	Turkey	6,379	TC
11	Brazil	5,793	TC
12	Malaysia	5,103	TC
13	India	4,828	TC
14	Russia	4,276	TC
15	Nigeria	1,759	TC

Source: Authors' own work

automotive industry. Especially in the area of electric, connected and autonomous vehicles, Chinese companies are repositioning themselves (Teece, 2019). Hence, this ranking supports the importance of a good price-performance ratio in country perceptions. Note that quality also had a high importance value as a decision factor in the discrete choice card experiments.

Table 5 demonstrates the perception of advanced technology in Japan (13.45), Germany (13.00) and the USA (11.69). Here, it is also evident that China offers technological advantages and progress (10.55), whereas Brazil, Malaysia and Nigeria are ranked last.

In this context, transcontinental countries such as Japan or China are considered technologically advanced, which may influence respective purchasing decisions. While Germany still has a high value, innovative transcontinental countries are gaining.

Table 5 Results of ranking card experiment on technology conducted with companies in Europe

Technology	Country	Score	EU/TC
1	Japan	13,448	TC
2	Germany	13,000	EU
3	USA	11,690	TC
4	China	10,552	TC
5	France	10,448	EU
6	UK	9,586	TC
7	Belgium	9,103	EU
8	Italy	8,621	EU
9	Turkey	5,759	TC
10	Poland	5,621	EU
11	Russia	5,517	TC
12	India	5,379	TC
13	Brazil	5,069	TC
14	Malaysia	4,552	TC
15	Nigeria	1,586	TC

Source: Authors' own work

Total rankings for price, quality and technology show Japan, China and Germany ranked first, followed by France and the USA, while Russia and Nigeria rank last. Table 6 displays the concrete values.

Overall, the results of the ranking card experiments reveal that transcontinental countries such as Japan and China seem to offer advantages for price, technology or quality, which in turn affects supplier selection and locational choices and could favor transcontinental sourcing. Since the measured attributes in Study 1 also show a high value of price or quality, it can be stated that positive image plays a role in purchasing decisions. The characteristics associated with some countries of origin seem to influence supplier selection and enhance certain factors which we found in the discrete choice card experiments.

Interestingly, the country ranking experiments we conducted with 39 companies located in the USA provide similar results for

Table 6 Overall country images based on country ranking experiments with companies in Europe

Country image	Country	Score	EU/TC
1	Japan	31,138	TC
2	China	31,103	TC
3	Germany	30,828	EU
4	France	27,172	EU
5	USA	26,448	TC
6	Belgium	25,690	EU
7	UK	24,034	TC
8	Italy	23,862	EU
9	India	22,655	TC
10	Turkey	21,310	TC
11	Brazil	21,034	TC
12	Malaysia	21,000	TC
13	Poland	20,793	EU
14	Russia	18,897	TC
15	Nigeria	13,759	TC

Source: Authors' own work

the perception of countries in terms of price, quality and technology, including the same positive perceptions of certain transcontinental countries such as Japan or China. In addition, the total country images display many similarities in rankings (e.g. Japan, Germany and China). [Appendix](#) presents the detailed country rankings conducted with American purchasing experts.

In conclusion, the high importance of transcontinental sourcing and countries is not only based on cheaper products and availability of certain materials but is also influenced by the positive country image with regard to technology and/or price–quality ratio. Country images influence purchasing departments in their choice of suppliers across countries, not exclusively within Europe.

7. Decision factors and the influence of country images on purchasing experts

Our choice and country ranking card experiments validated the importance of special purchasing decision factors and linked them to the respective country images and perceptions. The choice card experiments found that location, quality and relationship play important roles for purchasers choosing the right supplier. As assumed, price is an essential factor, whereas common IT platforms, attraction as a buyer and cultural barriers have less influence on companies' choices even if these factors are still relevant to purchasing decisions. Country images and perceptions are meaningful, since transcontinental countries such as Japan or China rank high in price and technology, and China has improved in terms of quality.

Clearly, country perceptions and images play major roles in sourcing decisions and represent a new explanation for the choice of transcontinental suppliers. This explains the success of countries such as Japan and China, based on their positive images with regard to price and technology.

Referring to our research questions, we evaluated the important decision factors, such as sourcing location, quality and relationship with suppliers that influence purchasing experts. Sourcing location scored the highest importance value in the discrete choice card experiments. To link these results with country perceptions and images, we included the country ranking experiment, which helped us to evaluate the influence of the COO effect. The country ranking experiments show that country images play an important role in supplier selection and support the importance of transcontinental suppliers from China or Japan. Sourcing decisions, based on important factors such as price, quality or technology, are also driven by country perceptions, which again highlight the performance of countries such as Japan or China.

7.1 Managerial implications: considering special attributes as decision – and country images as influencing factors

Our research has shown that in supplier selection, specific attributes such as relationship with supplier, quality, price and the locational aspect all play important roles. However, country images also affect purchasers' decisions, as transcontinental countries are ranked high in terms of price and technology. According to our experience with country ranking experiments, it is useful to examine these positive or negative influences in the context of supplier selection.

In terms of the implications for managers, purchasing experts should consider these influences in their sourcing decisions and add further objective criteria to avoid certain stereotypes with regard to country perceptions.

Despite of the success of transcontinental sourcing based on positive country images (e.g. Japan and China), managers should consider the allied risks, such as supply chain disruptions and failures, in the supplier selection process and adapt risk management accordingly. Purchasing departments need to develop multi-sourcing strategies, to minimize the risks of delivery failures and supply chain disruptions. And, instead of concentrating exclusively on price, managers should also evaluate the price–performance ratio, quality and the relationship with the respective suppliers to develop a robust and resilient supply chain (Ali *et al.*, 2022). Other important aspects such as innovative capability, technology and supplier reliability will play an increasingly important role. Although the positive or negative country perceptions show that the influence of transcontinental countries remains high, the exclusive perception of price has changed, influenced by crises such as the COVID-19 pandemic and the Ukraine–Russia war.

Our research thus aids the selection of essential suppliers and supports practitioners in choosing their sourcing strategies, integrating the effects of country perceptions.

7.2 Limitations and further research

Our research concentrated on decision factors for transcontinental sourcing (Study 1) and the influence of country images and perceptions (Study 2). We limited both studies to important individual factors, such as price, relationship, technology and quality. It would be interesting to include other factors, such as sustainability, that might also influence sourcing decisions and link these factors to country perceptions.

Because we studied companies located in Europe and the USA that are sourcing with as many transcontinental countries as possible and we differentiated between continental and transcontinental sourcing, this may have limited the sample size. The study could be extended to include other countries and their respective perspectives. In addition, the differentiation between countries of Asia and the countries of Africa may impact on sourcing decisions and could also be addressed in further research.

Our research has revealed the positive attributes of transcontinental suppliers and their country images. However, corresponding country perceptions may change over time and it would be worth investigating whether a trend reversal in country images is taking place. Overall, in the current Ukraine–Russia crisis, it is meaningful to explore other possible influencing factors on transcontinental and global sourcing, including purchasers' country images and perceptions.

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Appendix

Table A1 Results of ranking card experiment on price conducted with companies in the USA

Lowest price	Country	Score	Local/EU/TC
1	China	12,538	TC
2	India	11,026	TC
3	Malaysia	10,000	TC
4	Brazil	10,179	TC
5	Nigeria	8,718	TC
6	Belgium	8,128	EU/TC
7	France	7,462	EU/TC
8	Japan	7,462	TC
9	Turkey	6,846	TC
10	Italy	6,846	EU/TC
11	Germany	6,795	EU/TC
12	Russia	6,308	TC
13	Poland	6,282	EU/TC
14	USA	6,154	Local
15	UK	5,256	TC

Source: Authors' own work

Table A2 Results of ranking card experiment on quality conducted with companies in the USA

Highest quality	Country	Score	Local/EU/TC
1	Germany	12,487	EU/TC
2	USA	11,487	Local
3	Belgium	11,487	EU/TC
4	France	11,128	EU/TC
5	Italy	10,385	EU/TC
6	Japan	10,410	TC
7	UK	10,103	TC
8	Brazil	7,128	TC
9	India	6,282	TC
10	Poland	5,846	EU/TC
11	Malaysia	5,462	TC
12	China	4,974	TC
13	Russia	4,744	TC
14	Turkey	4,436	TC
15	Nigeria	3,641	TC

Source: Authors' own work

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Table A3 Results of ranking card experiment on technology conducted with companies in the USA

Technology	Country	Score	Local/EU/TC
1	USA	13,205	Local
2	Japan	13,000	TC
3	China	11,385	TC
4	Germany	11,308	EU/TC
5	UK	10,410	TC
6	Belgium	10,410	EU/TC
7	France	9,436	EU/TC
8	Italy	8,179	EU/TC
9	India	6,051	TC
10	Brazil	5,667	TC
11	Russia	5,462	TC
12	Poland	5,410	EU/TC
13	Malaysia	4,308	TC
14	Turkey	3,513	TC
15	Nigeria	2,256	TC

Source: Authors' own work

Table A4 Overall country images, based on country ranking experiments with companies in the USA

Country image	Country	Score	Local/EU/TC
1	Japan	30,872	TC
2	USA	30,846	Local
3	Germany	30,590	EU/TC
4	Belgium	30,026	EU/TC
5	France	28,026	EU/TC
6	China	28,897	TC
7	UK	25,769	TC
8	Italy	25,410	EU/TC
9	India	23,359	TC
10	Brazil	22,974	TC
11	Malaysia	19,769	TC
12	Poland	17,538	EU/TC
13	Russia	16,513	TC
14	Turkey	14,795	TC
15	Nigeria	14,615	TC

Source: Authors' own work

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