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Effects of National Institutions on Corporate Brand Ability Associations During the Pandemic

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Abstract

During the COVID-19 pandemic, consumer behavior and brand preferences changed. However, surprisingly little is known about how or why corporate brand associations differ and change across countries during such black swan events, especially for multinationals with a specific expertise and ability, for example, to offer vaccines. The authors use institutional theory to fill this gap. They contribute to international business research by analyzing the roles of national institutions in consumers' corporate brand ability associations (CBAA) in 20 countries over time. They find generally different roles of regulative, normative, and cultural-cognitive institutions in consumers' CBAA. Moreover, those roles changed and varied for Pfizer, as a multinational corporation that offered the first vaccine in Western countries, and its competitors before and during the pandemic. Institutional theory strongly complements signaling theory in cross-national studies on CBAA. This study shows, for the first time, which institutions drive CBAA cross-nationally and why the role of each institution changes during a black swan event, such as COVID-19. It has direct implications for managers interested in cross-national consumer responses.

Keywords National institutions · Corporate brand · Ability associations · COVID-19 · Cross-national research

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1 Introduction

The coronavirus (COVID-19) pandemic has affected people's lives and consumers' behavior in many ways. Some corporate brands lost importance, and others gained attention, e.g., through offers that suddenly became necessary (Das et al., 2021; Jabeen et al., 2022). Firms, such as Pfizer, have signaled their expertise and ability to produce and deliver specific offers, such as the first potent vaccine against the virus in Western countries (FDA, 2020; Pfizer, 2020).[1] The resulting so-defined corporate brand ability associations (CBAA), stored in the memory of target groups, are beneficial in many ways (Brown & Dacin, 1997): improving performance, employee actions, or consumer preferences (Berens et al., 2005; Matarazzo et al., 2020; Tsai et al., 2015). However, whether consumers' CBAA differs across countries or changes for firms with specific abilities or competitors during a black swan event is unclear. Such events are improbable, unpredictable, but highly impactful disruptions, which appear less random in hindsight than they factually were (MacKay & Chia, 2013; Taleb, 2007, pp. xvii–xviii). This gap is not surprising, as most corporate brand studies focus on few countries, quiet times, and one point in time (e.g., Matarazzo et al., 2020; Walsh & Bartikowski, 2013). We assume that national institutions matter for consumers' CBAA in general and more before than during the pandemic. We contribute to literature by developing institutional-theoretical reasons for the determining role of national institutions and hierarchically testing their explained variance.

Scholars have broadly studied consumer behavior during the pandemic (e.g., nationally showing opposite effects of increasing brand trust or hate in the pandemic, Jabeen et al., 2022; Jian et al., 2020).[2] Fewer international studies exist (see Table 1). Seven studies focus on brands by comparing 2–3 countries. Some show how brands have won or lost during the pandemic (e.g., through perceived pandemic fit, attachment, or anxieties, Ahmad et al., 2023; Özsomer et al., 2022; Ozuem et al., 2021; Verlegh et al., 2021). Others study vaccinations, delivery sentiments, or advertising (Chan & Saqib, 2021; Meena & Kumar, 2022; Park et al., 2022). Ahmad

[1] The coronavirus disease 2019 (COVID-19) pandemic is a global pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus was first identified in an outbreak in the Chinese city of Wuhan in December 2019. Symptoms range from undetectable to deadly but commonly include fever, dry cough, and fatigue. Attempts to contain the virus failed, allowing its gradual spread worldwide. In March 2020, the World Health Organization (WHO) declared the outbreak a pandemic. In December 2020, the first COVID-19 vaccine received emergency use authorization from the US Food and Drug Administration (FDA, 2020). In May 2023, the WHO announced the end of the COVID-19 global health emergency (Lenharo, 2023). However, the immense health impact persisted as billions of people infected worldwide were expected to develop Long-COVID (LC) or post-COVID conditions (i.e., post-acute and long-term health effects of a COVID-19 infection such as breathlessness, muscle pain, or brain fog, e.g., Davis et al., 2023; Yang & Tebbutt, 2023). Researchers have found evidence that vaccinations may reduce the severity and duration of LC symptoms (e.g., Al-Aly, 2023; Taylor, 2023). Ongoing research on COVID-19 vaccines is attempting to limit severe infection from virus variants (e.g., Grant et al., 2023).

[2] Following Gaur and Kumar (2018), we conducted a literature review of 29 major journals (following Harzing's journal quality list) for the keywords COVID-19, pandemic, brand, consumer behavior, institutions, and using cross-citations.

Table 1 Literature review of international studies on consumer behavior during COVID-19

	Empirical studies on brands	Empirical studies on further consumer behavioral topics
Comparing Countries	Ahmad et al. (2023)[a]; Chan and Saqib (2020); Meena and Kumar, (2022)[c]; Özsomer et al. (2022); Ozuem et al., (2021); Park et al. (2022)[c]; Verlegh et al. (2021)	Cho et al. (2022)[a,c]; Danatzis and Möller-Herm, (2023)[b]; Davvetas et al. (2022)[b]; Dzandu (2023)[b]; Hofmann et al. (2021); Islam et al. (2021); Li et al. (2021); Lunardo et al. (2022); Mecit et al. (2022); Pantano et al.(2021)[a,c]; Prentice et al. (2021)[b]; Sakib et al. (2023)[b]; Wang et al. (2023)
Across Countries	Dineva et al. (2023)[c]; **This study**[a,b]	Ahmadi et al. (2022)[a,c]; Dheer et al., (2021)[a,c]; Ding and Xu (2022); Liu et al. (2022)[b,c]; Mäntymäki et al. (2022); Nawaz et al. (2023); Nilashi et al. (2022)[c]; Orlandi et al., (2022)[b,c]; Yazdanparast and Alhenawi (2022)

Note: [a]Studying culture; [b]studying further institutions (e.g., regulations, norms); [c]secondary data

et al. (2023) and Meena and Kumar (2022) show country differences but without rationales for them. Neither does the only study in many countries (consumer conflict and brands, Dineva et al., 2023). Thus, most studies show contradictory consequences for brands, compare few countries at one point in time, and do not theorize the roles of national institutions. Seven further studies on consumer behavior in a few countries assume such roles (e.g., national culture for pandemic spread, Cho et al., 2022; Pantano et al., 2021, government actions for trust, Davvetas et al., 2022; Dzandu, 2023; Prentice et al., 2021, norms for compliance, Danatzis & Möller-Herm, 2023; Sakib et al., 2023). Across nations, four studies examine national institutions (e.g., culture for pandemic spread, Ahmadi et al., 2022; Dheer et al., 2021, government actions for trust, Liu et al., 2022, or religiosity for vaccination, Orlandi et al., 2022). However, we know little regarding national institutions' impacts on consumer CBAA during the pandemic.

In summary, one gap in our knowledge is the absence of theoretical reasons developed to explain cross-national differences in CBAA in general, as will be shown in Sect. 2.2, and during the pandemic. These are important for research and innovative multinational corporations (MNCs), especially during black swan events (He & Harris, 2020; Matarazzo et al., 2020; Tsai et al., 2015). Despite COVID-19 studies, scholars and practitioners know little about the respective changing effects of national institutions on CBAA or corporate brands across nations. Because of its importance, scholars have called for such research (e.g., Ahmadi et al., 2022; Jabeen et al., 2022; Mukherjee et al., 2021).

We address the research gaps by analyzing two research questions. *First*, do national institutions affect consumers' CBAA across countries, and if so, how? *Second*, how has the COVID-19 pandemic changed this influence of national institutions on consumers' CBAA for a pandemic-relevant manufacturer and its competitors? We offer two contributions.

First, insights into the effects of national institutions on CBAA across countries foster new, important knowledge from the consumer perspective. Institutions are known to be relevant for consumer perceptions (e.g., of reputation, image, Leonidou et al., 2022; Swoboda et al., 2016). Corporate ability represents a specific kind of firm expertise and is seen as a highly purchase-relevant signal (Brown & Dacin, 1997; Walsh & Bartikowski, 2013). However, signaling theory does not explain country differences in consumers' CBBA. We provide novel rationales by employing institutional theory to complement signaling theory. Regulative, normative, and cultural-cognitive institutions are prevalent in IB research and guide MNCs' social credibility and acceptance (i.e., external legitimacy, Kostova et al., 2020; Scott, 2014, pp. 55–74). We contribute to IB and CBAA research by developing respective theoretical mechanisms and testing them.

Second, we contribute to IB research by theorizing the changing role of national institutions in consumers' CBAA during a black swan event. Scholars have studied institutional changes (e.g., regulations, culture on entry modes, performance, Beugelsdijk et al., 2018; Puck et al., 2009). In contrast, we study changes in consumers' consciousness and thus changed roles of objectively mostly stable country-level institutions on individual-level associations. Black swan events change individual behavior (Donthu & Gustafsson, 2020) and likely the relevance of institutions

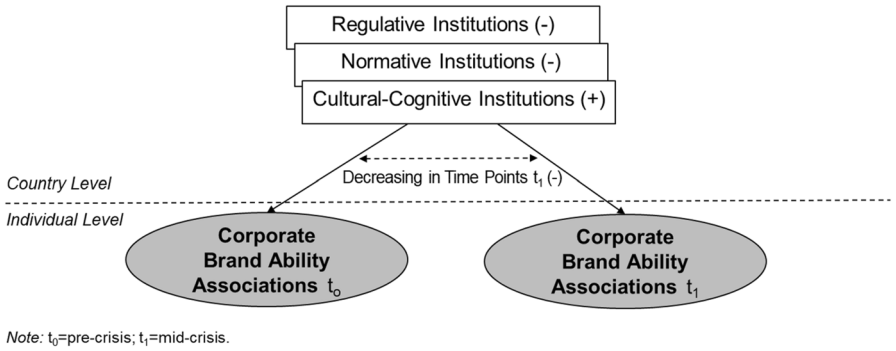


Fig. 1 Conceptual framework

from the consumer perspective. Those events have mostly been linked with negative consequences (e.g., individual distrust of regulations, supply chain risks, Davvetas et al., 2022; Lin, 2020), while we newly theorize a more favorable response to MNCs' important signals and weaker influences of institutions on CBBA (e.g., Nielsen et al., 2023; Wenzel et al., 2021). Insights into whether regulative, normative, or cultural-cognitive cross-national differences have become less important from a consumer viewpoint are valuable to managers who coordinate consumer interests globally, as CBAA formed in times of crisis is beneficial in the long term (He & Harris, 2020). Explained variance in multilevel structural equation modeling (MSEM) reveal this empirically.

2 Theory and Hypotheses

We propose a framework in which objectively mostly stable national institutions determine consumers' CBAA (see Fig. 1). We conceptualize the prevalent institutional pillars in IB research (Kostova et al., 2020) and their relative effects at two points in time, 2019 (t_0, pre-crisis) and 2021 (t_1, mid-crisis).

2.1 Conceptual Differentiation

CBAA represents consumers' evaluation of a firm's expertise and ability to produce and deliver high-quality and innovative offerings (based on external information or memory, Berens et al., 2007; Brown & Dacin, 1997; Gürhan-Canli & Batra, 2004). Scholars have consistently referred to the conceptualization by Brown and Dacin (1997). However, research has mostly revolved around three types of important corporate brand associations: CBAA, corporate social responsibility (CSR), and corporate reputation (CR). We must therefore briefly differentiate them conceptually.

CSR reflects evaluations of how well a firm meets its stakeholders' expectations and societal obligations by engaging in voluntary activities (Berens et al., 2007; Brown & Dacin, 1997). It has been studied together with CBAA (e.g., Bartikowski

& Berens, 2021; Khan & Kamal, 2021). However, the latter focuses on quality and innovation, which more strongly and more directly shape consumer responses toward a firm (Contini et al., 2019; Gürhan-Canli & Batra, 2004; Walsh & Bartikowski, 2013). CBAA can compensate for CSR effects but is not compensated by CSR (Berens et al., 2007).

Perceived CR represents broad consumer evaluations of firms' customer orientation, responsibility, product range quality, good employer status, and financial strength (in a customer-based CR scale, Walsh & Beatty, 2007; for alternatives, see Sarstedt et al., 2013). Those dimensions are integrated into an overall value or holistic level of esteem that stakeholders have for a firm (e.g., Deephouse et al., 2016), and studies seldom examine individual CR dimensions. Thus, CBAA is more specific and may be a mediator but not part of CR (Contini et al., 2019; Khan & Kamal, 2021).

2.2 Past Cross-National Research on CBAA

We conceptually focus on CBAA, i.e., the ability of a firm to deliver specific offers from the consumer perspective (Brown & Dacin, 1997). Conceptually, these associations develop as consumers perceive a firm's focus on its expertise, innovativeness and superior processing, its industry leadership, or through prior experience with a company, word-of-mouth, or media communication (Berens et al., 2007; Brexendorf & Keller, 2017; Brown & Dacin, 1997). Empirically, various aspects were shown to drive high levels of CBBA. Scholars address corporate brand knowledge, firms' publicity or ability communication, and the (quality of) offered products, for example (e.g., Berens et al., 2005; Einwiller et al., 2006; Kim et al., 2019; Teng, 2020). In the context of black swan events, firms with specific abilities especially provide offerings that may directly alleviate the event's impacts. During the COVID-19 pandemic or the Ebola fever epidemic, this may have been the introduction of a vaccine to reduce the risk of a (severe) contraction of the disease (e.g., Altmann & Boyton, 2022). Regarding natural catastrophes, Walmart used its specific abilities in logistics to promptly provide free food and supplies after hurricane Katrina in 2005 (e.g., Oh & Oetzel, 2022).

However, prior international consumer studies only compare 2–4 countries to show that CBAA affects attitudes or behavior, such as purchase intentions or loyalty (see Web Appendix A).[3] Not all show country differences, and while five studies assume that national culture is a possible reason for the country differences, only two hypothesize but cannot truly test it (Baghi & Gabrielli, 2019; Contini et al., 2019; Madden et al., 2012; Marquina & Morales, 2012; Moon et al., 2015; Walsh & Bartikowski, 2013). Further institutions are not discussed. However, they often see corporate ability as an important firm signal and decisive information cue for consumers (Brown & Dacin, 1997; Contini et al., 2019).

[3] The Web Appendix is available here: https://shorturl.at/opCEW.

2.3 Signaling Theory

According to *signaling theory*, signals transfer credible information to reduce information asymmetries between transaction parties (Spence, 1973). The firm's signal strength depends on the extent to which it is *perceived* by individuals, is *weighed* as *important*, or *matches expectations* (Connelly et al., 2011). If weak signals such as weaker (vs. stronger) CBAA are not *perceived*, consumers fail to notice and are unable to reduce their information asymmetry or make decisions based on respective associations (e.g., Erdem et al., 2006; Tsai et al., 2015). The associations might also not be *important* for decision-making, for example, if consumers can base their decision on alternative information than that regarding the MNC (such as universally enforced quality standards or established conventions, e.g., Connelly et al., 2011). Finally, if CBAA does not *match* consumers' *expectations* in a decision situation, it may not be accessed as helpful information for decision-making (e.g., Matarazzo et al., 2020; Walsh & Bartikowski, 2013).

Studies mention the role of the environment for a signal's strength, but the theory does not specify such environments (e.g., Erdem et al., 2006; Vasudeva et al., 2018). Thus, internationally, signaling theory needs to be complemented by institutional theory, especially to determine cross-national differences in institutional signaling environments (Deephouse et al., 2016; Leonidou et al., 2022; Swoboda et al., 2016). Institutional theory provides conceptualizations of country differences and thereby accounts for the signaling environment of MNCs (e.g., Connelly et al., 2011; Griffith et al., 2023; Vasudeva et al., 2018).

2.4 Institutional Theory

We ground our conceptualization in organizational institutionalism, as it is the original basis in IB research that views institutions as social constructs (Kostova et al., 2020). Accordingly, institutions are "symbolic frameworks that provide guidelines for behavior, and lend stability, regularity, and meaning to social life" (Orr & Scott, 2008). They include the patterns that individuals share in a society, and MNCs must act according to the institutions in place to overcome the liability of foreignness and be legitimized, for example (Beckert, 2010; Scott, 2014, pp. 71–74). The regulative, normative, and cultural-cognitive pillars define what is legal, perceived as desirable, and valuable in a country (Scott, 2014, pp. 57–58). Both the interactions of individuals in a host country's society and between MNCs and this society are influenced by these pillars, as both are part of a country's institutional framework (Kostova et al., 2020; Yang et al., 2021). We study institutional differences between consumers' home countries (in contrast to MNCs' home country institutions or institutional distances that are less relevant or common in international consumer studies, e.g., Swoboda et al., 2017). Respective differences in foreign countries affect the signaling mechanisms by which firms' corporate brand ability cues are cross-nationally *perceived* by consumers, *weighed* as *important*, or *match their expectations* of MNCs' abilities in memory. For example, rules and normative expectations

may hamper consumers' perception, as the required stronger adaptation of MNCs likely makes distinguishable CBAA more difficult (e.g., Ang et al., 2015; Khan et al., 2015). Shared cultural-cognitive values may influence how meaningful and important specific CBAA are for consumers in a society (e.g., Contini et al., 2019).

These mechanisms are affected by black swan events (e.g., Oh & Oetzel, 2022). We theorize that national institutions still affect firms' signaling mechanisms and thereby consumers' CBAA, but more weakly during than before the COVID-19 pandemic as a black swan event, for at least two reasons.

First, COVID-19 changed prevailing conditions and goals in a society, such as saving lives. The relevance of national institutions for consumer associations may differ to quiet times (Das et al., 2021; Oh & Oetzel, 2022). Changed expectations for MNCs to conform to suddenly less applicable societal institutions are a possible reason (i.e., institutional voids, as established institutions cannot facilitate consumers' activities anymore, Khanna & Palepu, 1997). This may hold especially for MNCs with a unique ability to offer key products in the pandemic, such as vaccines. Established norms, for example regarding medical trials and in general, lost importance to consumers due to the importance of mitigating the pandemic impact in a timely manner (e.g., Krammer, 2020).

Second, COVID-19 changed consumers' associations of MNCs with specific abilities due to their actions. Increased perceived individual uncertainty or control loss support corporate brands' function of confidence building and respective CBAA (Beck et al., 2020; Campbell et al., 2020). Moreover, MNCs with specific abilities may contribute to countries' institutional development. COVID-19 vaccine manufacturers and distributors such as Pfizer or Moderna might be perceived favorably due to their actions and thus may be less dependent on the institutions and related consumer expectations in place (e.g., Donthu & Gustafsson, 2020).

Both mechanisms especially benefit firms with specific abilities, in contrast to competitors without comparable expertise. Next, our theoretical rationales for the effects of each institution on CBAA in general are derived, followed by rationales for changes during the pandemic.

2.5 Hypothesis on Regulative Institutions

Regulative institutions constitute the rules and laws in a country, monitor conformity, and sanction violations (Scott, 2014, pp. 59–64). They delineate what is legally permitted, rewarded, or punished and are often conceptualized in terms of political stability, governmental effectiveness, or rule of law, referring to the second most common World Governance Indicators (WGI) vs. the more often used Global Competitiveness Report (GCR; Kostova et al., 2020). We focus on WGI because it includes civil and human rights aspects that are important in a pandemic (e.g., Dheer et al., 2021; Liu et al., 2022).

Studies broadly show regulative institutions' role in firm performance, strategy, or responsibility (e.g., Ang et al., 2015; Chao & Kumar, 2010; Zhang et al., 2021). In contrast, consumer studies are limited to regulative moderations of CR or CSR effects or mediations of perceived institutions (e.g., Chen et al., 2020; Leonidou

et al., 2022; Yang et al., 2021; Zimmer & Swoboda, 2023). Accordingly, the relevant effects on CBAA have not been studied thus far.

We theorize that increased regulative institutions reduce CBAA because of two mechanisms. *First*, *higher national regulations* in a country force MNCs to adhere to local rules in their engagements (Ang et al., 2015). They ensure that MNCs disclose their activities, which individuals translate as legitimate, into associations (Beckert, 2010). However, even with specific abilities, it can be difficult for MNCs to differentiate themselves competitively (Kirca et al., 2011; Martin et al., 2011). In contrast, *weaker regulation* can facilitate the signaling of specific abilities (Khan et al., 2015). Decreasing the liabilities of foreignness is likely, as are increasing beneficial associations as a global brand (Denk et al., 2012; Özsomer, 2012; Swoboda & Sinning, 2020). Moreover, individuals themselves conform to regulations (Scott, 2014, p. 62). They expect MNCs to act in a compliant manner and have higher levels of knowledge in *more regulated countries*, where they are exposed to rules (Ang et al., 2015; Chao & Kumar, 2010). Such expectations, embedded in regulations, are challenging for MNCs (e.g., Deephouse et al., 2016). This is likely less distinctive in *less institutionally regulated* countries.

Second, in societies with stable and democratic environments, consumers trust in and rely on their government for protection; in contrasting societies, their need for security increases (e.g., Steenkamp & Geyskens, 2006). Additionally, *weaker political structures* are accompanied by nonfunctional consumer redress mechanisms (institutional voids, Khanna & Palepu, 1997). An absence of regulations to ensure the correct behavior of MNCs makes trustful ability cues important (Puffer et al., 2010). Individuals value how MNCs with special abilities and actions contribute to their country's progress, shape standards, and contribute to regulative development (Khan et al., 2015; Miller et al., 2021). In contrast, in *higher-regulated countries*, it is easier to organize interest groups that may pose challenges to MNCs.

Based on these theoretical considerations, we propose the following:

H1a: *Increasing regulative institutions have a negative effect on consumers' CBAA across nations*.

Few studies on COVID-19 address changed governmental rules and their changed perceptions by individuals, with consequences for trust or panic behavior (e.g., Dzandu, 2023; Prentice et al., 2021). We argue along our two theoretical mechanisms: changed relevance of regulations for consumers, thus changing legitimization pressures or expectations, and changed associations of MNCs with specific abilities due to their confidence or contribution. We theorize that the pandemic reduced the negative effect of regulative institutions, especially for strong CBAA, for two major reasons.

First, MNCs with unique corporate abilities have gained attention amid COVID-19. Consumers consider those MNCs more legitimate, also in more *highly regulated societies* or in competition, and adapt their expectations (Deephouse et al., 2016). Expectations are affected by, e.g., medical approval laws or procedures, and supplemented by evaluations that suggest that approved vaccines, for example, are rare, unique, or legitimate (Prentice et al., 2021). Both add to the evaluation of the stability or rules of a government that gain importance in consumers' everyday lives and

reduce the role of traditional regulative institutions. This may render CBAA more relevant in *highly* as well as *weakly regulated societies*.

Second, in the pandemic, MNCs' specific abilities to offer relevant products help fill certain regulative voids and may contribute to regulative institutional development (Miller et al., 2021). The association of such MNCs differs from that of their competitors, as the former restore consumers' sense of control. Consumers associate their respective abilities with strong brands that reduce their felt uncertainties during the pandemic (Das et al., 2021; Verlegh et al., 2021). This may hold for both *highly and weakly regulated societies*, thus reducing the negative effect of high regulative institutions on CBAA.

We argue the following:

H1b: *The negative effect of increasing regulative institutions on consumers' CBAA across nations is stronger before than during the pandemic*.

2.6 Hypothesis on Normative Institutions

Normative institutions refer to norms, conventions, or codes of conduct (Scott, 2014, pp. 64–66). They can act as imposing constraints or reinforce social behavior toward other members of a society in highly normative countries. Research has predominantly conceptualized normative institutions based on the Global Competitiveness Report (GCR, Chao & Kumar, 2010; Kostova et al., 2020; Yao et al., 2020). We also do this, as the GCR includes relevant aspects of firm behavior that guide the cognitive processes of individuals and expectations toward MNCs, also during COVID-19 (Beckert, 2010; Whelan & Hingston, 2022). MNCs thus aim to be legitimized and meet societal expectations.

Studies consider the role of normative institutions in market entry, exchange partners, or performance (e.g., Ang et al., 2015; Zhang et al., 2021). Consumer studies have analyzed differences in normative institutions as part of the country context and determinants of brand evaluations (e.g., Gaganis et al., 2021; Khan et al., 2015; Yang et al., 2021), but not of CBAA.

We theorize that increased normative institutions reduce CBAA for two reasons. *First*, in societies with *more normative institutions*, firms conform to the established norms to gain legitimacy, which is difficult since societal norms are rarely clear or externalized (e.g., Kostova et al., 2020; Martin et al., 2011). MNCs therefore need local experience to conform to behavioral conventions, for example. In contrast, if *fewer norms* exist, consumer expectations toward MNCs' behaviors are less pronounced. This decreases MNCs' risk of falling short of expectations and potential perceptions of their outsidership (Denk et al., 2012; Gaganis et al., 2021). Individuals may be more open to firms with specific abilities or innovations (Chen et al., 2009), while more specified norms are more likely to impede innovative behavior (Bruton et al., 2010). As public opinion regarding desirable codes of conduct is less precisely defined, MNCs' legitimation is facilitated (Chao & Kumar, 2010).

Second, in societies with *more normative institutions*, individuals have confidence in those norms or conventions regarding their judgments (e.g., Steenkamp & Geyskens, 2006). They may expect that firms follow norms to legitimize their

societal position and are thus less likely to form CBAA based on them. In *opposite societies*, this sense of certainty is reduced. More uncertain environments make specific CBAA more important (e.g., for consumers' confidence, Beck et al., 2020; Khan et al., 2015). These abilities may enhance consumers' confidence in MNCs and elicit a halo effect, linking qualitatively valuable and innovative offers to morally correct behaviors (Kirca et al., 2011).

We hypothesize the following:

H2a: *Increasing normative institutions have a negative effect on consumers' CBAA across nations*.

The changed effects of normative institutions are seldom analyzed, in general or linked to black swan events. For example, COVID-19 studies discuss the effect of norms on consumer behavior (e.g., Orlandi et al., 2022; Sakib et al., 2023). We expect a reduced effect of normative institutions.

One reason comprises the prevailing conditions and goals in societies during the pandemic, which changed the perception of established norms and reduced societal pressures on MNCs with specific abilities. Even in *high-normative societies*, unique offers encourage external legitimacy (Gürhan-Canli & Batra, 2004; Martin et al., 2011). While individuals conform to societal norms, experience with a pandemic is limited, and expectations regarding MNCs with specific abilities to adapt are reduced (Beckert, 2010; Campbell et al., 2020). As consumers grew hopeful with MNCs offering, e.g., a vaccine to fight the pandemic, they likely put more emphasis on the firm's organizational legitimacy (Yang et al., 2021). Firms' innovation ability and identity may have caused powerful associations, rendering previous normative expectations less important and CBAA more important in both *more and less normative societies*.

Another reason regards how the disruption affected individuals' signal perceptions or associations of MNCs with specific abilities. As the pandemic increased insecurity (Das et al., 2021), firms, especially those with specific abilities, reduced uncertainty in a society even beyond the confidence building of brands in uncertain times (Beck et al., 2020; Puffer et al., 2010; Yao et al., 2020). Firms with specific abilities linked to the concerns of black swan events may have helped restore consumers' routines and security by shaping societal expectations, beliefs, and norms in *more and less normative societies* (Campbell et al., 2020; Gürhan-Canli & Batra, 2004; Kirca et al., 2011; Miller et al., 2021).

We hypothesize the following:

H2b: *The negative effect of increasing normative institutions on consumers' CBAA across nations is stronger before than during the pandemic*.

2.7 Hypothesis on Cultural-Cognitive Institutions

Cultural-cognitive institutions involve national culture, i.e., the shared beliefs, roles, and values that form and give meaning to everyday life (Scott, 2014, pp. 59–67). While different cultural approaches have their merits, we follow that of Schwartz (1994). This approach is theory-based, defines values psychologically, is

cross-nationally stable, and explains most country-level variance in corporate brand research (De Mooij, 2017; Swoboda & Batton, 2019). It is also more comprehensive and less research context-dependent than other approaches (e.g., Berry et al., 2010). Its dimensions of embeddedness, hierarchy, and mastery (versus autonomy, egalitarianism, and harmony) are interdependent.

Scholars have broadly analyzed the role of culture in corporations and brands. Studies using consumers as the unit of analysis mostly compare a few countries and assume cultural moderations of CBAA or CSR effects (Moon et al., 2015; Walsh & Bartikowski, 2013; Zimmer & Swoboda, 2023). Few studies have analyzed culture as a continuous determinant of CR (e.g., Deephouse et al., 2016; Swoboda & Batton, 2019). Its effects on CBAA are unexplored. We theoretically focus on *embeddedness* for several reasons: Embeddedness reflects the structures between individuals and groups in a society (Schwartz, 2014, p. 551) and represents an important factor for the spread of COVID-19, for example (Cho et al., 2022; Dheer et al., 2021). Embeddedness depicts important symbols of cultures, is theoretically the most important cultural dimension, empirically explains most variance, and corresponds to the most often examined cultural dimension in corporate brand research (Gupta et al., 2018; Swoboda & Batton, 2019). The remaining dimensions are tested in stability checks.

We theorize that increased embeddedness strengthens CBAA. Generally, individuals from *more embedded societies* appreciate unity, common goals, and their society's well-being. They exhibit more information-seeking behavior and have broader brand knowledge (Schwartz, 1994, p. 104). Individuals appreciate cooperative endeavors that benefit their entire society and thus consider MNCs as legitimized opportunities for collaboration, unity, and the achievement of shared aims. When MNCs often incorporate practices that benefit stakeholders, such associations increase (Swoboda & Batton, 2019). In contrast, individuals from *less embedded societies* have independent ideas, value the right to pursue their own intellectual directions or feelings, and exhibit more individual behavior (Schwartz, 2014, p. 551; De Mooij, 2017). They exhibit more variety-seeking behavior, disregard ability signals, and have fewer associations, perceiving MNCs to restrict their ability to control their activities (Deephouse et al., 2016; Erdem et al., 2006).

As high-quality offerings enhance societal development (Gupta et al., 2018; Schwartz, 2014, p. 551), they likely contribute to CBAA in *more embedded societies*. In addition to relying on traditions, embedded societies are open to innovations and global brands if they enable individuals to ensure family security and build social relationships (De Mooij, 2017). Global corporate brands are associated with confidence, e.g., high functional benefits improve group interest and psychological confidence in building social relationships (Gupta et al., 2018; Swoboda & Sinning, 2021). This is different in *less embedded societies*.

We argue:

H3a: *Increasing embeddedness has a positive effect on consumers' CBAA across nations*.

Changed effects of cultural-cognitive institutions over time are seldom addressed in the literature. COVID-19 studies have observed the role of culture in virus spreading and consumer behavior (Cho et al., 2022; Pantano et al., 2021); cross-nationally,

only two studies using secondary data exist (Ahmadi et al., 2022; Dheer et al., 2021). We expect a weaker influence on consumers' CBAA.

COVID-19 affected the value of social welfare among societies with higher embeddedness. However, in addition to being concerned with the well-being of their society, consumers' self-concerns increased (Das et al., 2021). MNCs with specific abilities, such as offering vaccines, were more likely to meet the expectations of consumers from both cultures with *higher and lower embeddedness*. Individuals became more likely to be preoccupied with health concerns, either for their community or themselves (Cho et al., 2022). Offers that immediately combatted the pandemic both supported societies' well-being and restored individual freedoms (Dheer et al., 2021). Reduced risks of outsidership or higher legitimacy in both cultures could more easily be achieved (Denk et al., 2012).

While the pandemic created uncertainty and anxiety among consumers from cultures with higher and lower embeddedness, such cultures differed in the aspects of life where individuals felt uncertainty the most (Das et al., 2021; Pantano et al., 2021). Consumers in highly embedded cultures likely sought to defend against the perceived threat to their culture's well-being. In less embedded countries, consumers were presumably concerned about regaining a sense of control over their individual freedom (Pantano et al., 2021). Strong brands with specific abilities provided a sense of safety and reduced the pandemic's impact on individuals' lives (Park et al., 2022; Verlegh et al., 2021). It is reasonable that consumers from *higher and lower embedded societies* formed more beneficial CBAA (Verlegh et al., 2021).

We propose the following:

H3b: *The positive effect of increasing embeddedness on consumers' CBAA across nations is stronger before than during the pandemic*.

3 Empirical Study

3.1 Sample

Our data were obtained via long-term cooperation with a German MNC globally active in the health industry. The MNC annually conducts panel surveys regarding its own evaluation and that of four different major competitors in many countries, with up to 1,000 respondents per country. The countries and competitors in each country are chosen based on their importance to the MNC. We developed the surveys and received the data for scientific purposes. During the COVID-19 pandemic, we asked for competitor data for 2019 and 2021, which were available in 22 and 26 countries, respectively. We selected the countries included in the surveys for which data on Pfizer, as one competitor, was available.[4] Twenty countries were available,

[4] We focus our main study on Pfizer, as the company's vaccine was the first COVID-19 vaccine to receive emergency use authorization from the Food and Drug Administration. The vaccine was developed, manufactured, and delivered in collaboration with the German biotechnology company BioNTech. Pfizer generated a total revenue of 81 billion USD in 2021 and held a market share of 12.5% in the healthcare market (Pfizer, 2022).

while in two (six) countries, no data on Pfizer existed (e.g., Hungary, India, Vietnam). We also considered three further competitors surveyed in each country who did not provide a pandemic-relevant product after confirming their activity in the health industry. This procedure created a control group that we address in our stability checks.

We and a marketing research agency performed qualitative and quantitative pretests. The CBAA scale by Berens et al. (2005) and the questionnaire design were pretested with two consumer focus groups and quantitatively tested in six important countries for the German MNC (N = 900 each, quota sample). These pretests yielded enhanced construct equivalence after smaller semantic adjustments and omitting one item in the CBAA scale due to a lack of independence.

For the main study, we used a repeated cross-sectional survey design, which is common in studies related to healthcare or social sciences, for example. Different individuals are examined using an identical research method at two points in time to allow the analysis of changes and trends in behavior at the aggregate level (e.g., Farndale et al., 2017; Stockemer, 2019, pp. 32–33). The data were collected using a cross-national panel (66% and 64% average participation rates in 2019 and 2021). The agency controlled the data and panel quality. Text-appealing strategies were used, and minor rewards were offered (Pedersen & Nielsen, 2016). Respondents in each country were randomly selected based on quota sampling and age and sex distribution data from national registration offices. For various reasons (e.g., cross-national comparability, experience with MNCs, Özsomer, 2012), urban respondents between 18 and 65 years old with higher levels of education and above-average incomes were chosen. They were initially asked about their awareness of and experience with the relevant MNCs in their country. To reduce possible biases, such as top-of-mind selection, the two firms that the respondent had at least general experience with were randomly selected for evaluation (mostly the German MNC and one competitor). This procedure led to 10,686 and 12,021 evaluations in both years. After eliminating Mahalanobis distance-based outliers (N = 159, N = 187), 10,527 (11,834) respondents remained in the 2019 (2021) sample (see Table 2; Kline, 2015, pp. 72–73). As tests indicated nonnormally distributed data, we used a robust maximum likelihood estimator (Hox et al., 2018, p. 66).

3.2 Measurement

Individual-level items were measured on a five-point Likert-type scale (1 = "strongly disagree" to 5 = "strongly agree", see Table 3). CBAA was measured using four items based on the scale established by Berens et al., 2005; Bartikowski & Berens, 2021; Khan & Kamal, 2021). A commercial translation agency applied parallel blind translation-back-translation. Minor item adjustments, such as cultural rephrasing, were made to maximize construct equivalence (Watkins, 2010).

At the country level, we used prevailing measures from IB research and included alternative measures in our stability checks. *Regulatory institutions* were measured using the established six dimensions of WGI (Ang et al., 2015; Kostova et al., 2020). Data for 2019 and 2021 were obtained from the World

Table 2 Sample

2019				2021			
Argentina	517	Greece	612	Argentina	546	Greece	657
Australia	542	Japan	648	Australia	531	Japan	586
Austria	523	Mexico	587	Austria	518	Mexico	603
Belgium	499	Poland	637	Belgium	633	Poland	677
Brazil	510	Russia	469	Brazil	546	Russia	502
Canada	582	Slovakia	454	Canada	710	Slovakia	594
China	535	South Africa	516	China	520	South Africa	628
Czech Republic	387	Ukraine	355	Czech Republic	609	Ukraine	557
France	506	UK	604	France	552	UK	629
Germany	476	USA	568	Germany	629	USA	607
Total respondents			10,527	**Total respondents**			11,834

Note: Pfizer's vaccine introduced or prepared to be introduced (China, Russia)

Bank (2022). Because we assume institutions to be objectively stable in the short term, we calculated the mean value over both years (following Brockman et al., 2013; Scott, 2014, pp. 159–160) and show results for 2019 and 2021 in stability checks. Three alternatives are tested in the stability checks. *Normative institutions* were measured using the established six dimensions from the GCR, following Kostova et al., (2020; Chao & Kumar, 2010). They were retrieved from the World Economic Forum, 2019, as data for 2021 was not available. Two alternatives are tested in the stability checks. Finally, we measured the *cultural dimension* of *embeddedness,* referring to the most recent data provided by Professor Schwartz (2008), as well as all opposite and further dimensions in our stability checks. The data are appropriate due to the approach's theoretical foundation and as national cultural change occurs over generations rather than a few years (e.g., Schwartz, 1994, p. 96, Schwartz, 2014, p. 550).

We controlled for sex (0 = male; 1 = female), age, and perceived corporate brand globalness at the individual level ("To me, this is a global company brand"). While sex and age were shown to affect CBAA, globalness is an important predictor for global corporate brands (Özsomer, 2012; Swoboda & Sinning, 2020; Tsai et al., 2015). At the country level, we controlled the number of respondents in each country to prevent unequal numbers from affecting our results (Hox et al., 2018, p. 215).

As consumers are nested within countries, we tested requirements for MSEM. Intraclass correlation coefficients show that 15.3% (11.9%) of the differences in CBAA in 2019 (2021) are attributed to country differences. MSEM is highly appropriate (Hox et al., 2018, pp. 4–6). Reliability and validity tests and correlations yielded satisfactory results (see Tables 4, 5). Multilevel reliability was confirmed by multilevel alpha, composite, and maximal reliability (over the threshold of 0.8, Table 5). Since we study one dependent variable, neither common method variance nor possible endogeneity are an issue; institutions are not closely theoretically related to consumers' CBAA (Lindell & Whitney, 2001).

Table 3 Reliability and validity

		2019							2021						
	Item	FL	KMO	ItTC	α	CR	AVE	λ	FL	KMO	ItTC	α	CR	AVE	λ
CBAA	The [company] offers high-quality products and services.	0.887	0.838	0.854	0.898	0.908	0.713	0.892	0.854	0.835	0.835	0.887	0.907	0.710	0.859
	The […] develops innovative products and services.	0.873		0.870				0.875	0.842		0.858				0.845
	The […] improves people's quality of life through its products.	0.816		0.893				0.812	0.814		0.874				0.810
	The […] employs talented people in comparison with competitors.	0.762		0.858				0.758	0.780		0.851				0.776

Note: α = Cronbach's alpha (≥ 0.8); AVE = average variance extracted (> 0.5); CR = composite reliability (≥ 0.6); ItTC = item-to-total correlation (≥ 0.5); FL = factor loadings (EFA; > 0.5); KMO = Kaiser–Meyer–Olkin criterion (≥ 0.6); λ = factor loadings (CFA; > 0.5); CBAA = corporate brand ability associations

Measurement invariance tests ensured that parameters were measured equally across groups. Full scalar invariance was achieved cross-nationally (see Web Appendix B). Multilevel measurement invariance was tested by comparing each country (Jak et al., 2013). All factor loadings proved equal across levels; cluster bias is not a problem in this study.

3.3 Method

We use MSEM in Mplus 8.6 because it accounts for nested data structure by considering cross-level effects between variables at the individual and country levels and allows the modeling of latent constructs. The relative importance of higher-level variables is revealed by the amount of higher-level variance accounted for (showing the importance of each institution, Hox et al., 2018, pp. 57–59). We computed means as outcome models because they analyze mean value differences in the outcome variables on the individual level through country-level variables. The level-one equation for CBAA is as follows:

$$\mathrm{CBAA_{ij}} = \beta_{0j} + \beta_{\mathrm{controls}}\mathrm{controls_{ij}} + \mathrm{r_{ij}} \quad (1)$$

Decomposition of CBAA into the country average (β_{0j}) plus individual deviation from this average (r_{ij}) was performed, where i denotes consumers, j indicates countries, $CBAA_{ij}$ marks consumer i's CBAA, and $controls_{ij}$ includes individual-level control variables. At the country level, differences in CBAA mean values are explained by the independent variables of the institutional dimensions. The level-two equation is as follows:

$$\beta_{0j} = y_{00} + y_{01}\left(\mathrm{CIV_j}\right) + u_{0j} \quad (2)$$

CIV_j represents the regulative, normative, and cultural-cognitive institutions at the country level. u_{0j} serves as an error term, i.e., parts of the countries' CBAA β_{0j} that cannot be explained through each country-level variable.

Separate models were computed for the institutions (all institutions being too complex for only 20 clusters, Hox et al., 2018, p. 18). The changes between time points were tested by statistically comparing the path coefficients of structural models following the multigroup analysis approach by Keil et al., (2000), Heidenreichet al., (2015). We calculated a single-level moderation analysis in SPSS with the year of analysis as a moderator (0–1 variable) for stability checks.

3.4 Results

We present interesting additional descriptive findings first, followed by the hypothesis tests.

There were interesting results regarding the cross-national changes in Pfizer's CBAA and awareness (measured as "1 = I do not know the MNC" to "5 = I know the MNC very well") before and during the pandemic, based on mean value comparisons and frequencies of the top 2 boxes (values 4 and 5 on our scale, see Table 6).

Table 4 Correlations

		2019								2021							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CBAA	(1)	1								1							
Sex	(2)	0.009ns	1							0.006ns	1						
Age	(3)	− 0.028*	0.009ns	1						0.038**	0.010ns	1					
PBG	(4)	0.359***	− 0.010ns	0.176***	1					0.427***	− 0.012*	0.084***	1				
CPC	(5)					1								1			
REG	(6)					0.028***	1							0.026***	1		
NOR	(7)					0.004***	0.265***	1						− 0.001ns	0.255***	1	
EMB	(8)					− 0.004***	− 0.140***	− 0.085***	1					− 0.003***	− 0.141***	− 0.008***	1

Note: CBAA = corporate brand ability associations; CPC = consumers per cluster; EMB = embeddedness; NOR = normative institutions; PBG = perceived corporate brand globalness; REG = regulative institutions

*$p < .05$; **$p < .01$; ***$p < .001$; ns = not significant

Table 5 Multilevel reliability

		2019	2021
Alpha	α_W	0.892	0.887
	α_B	0.974	0.976
Composite Reliability	ω_W	0.893	0.887
	ω_B	0.989	0.980
Maximal Reliability	H_W	0.903	0.892
	H_B	1.000	0.992

Note: α = alpha (≥.8); ω = composite reliability (≥.8); H = maximal reliability (≥.8); W = within (individual) level; B = between (country) level

The mean values of Pfizer's CBAA rose significantly by + 0.18 (most items + 0.20 to + 0.23), and those of awareness rose by + 0.17. While these increases seem moderate, the top 2 boxes show that in just two years, Pfizer's CBAA increased by up to + 10.7% and its awareness by + 5.3%. Both observations outperformed those of the competitors, as addressed in the stability checks.

The results for the hypothesis tests are shown in Table 7. National institutions were theorized to affect consumers' CBAA. We find that the degree of regulative institutions negatively affects consumers' CBAA at both points in time ($b_0 = -0.381$, $p_0 < 0.001$; $b_1 = -0.200$, $p_1 = < 0.001$). Similarly, the degree of normative institutions has negative effects ($b_0 = -0.550$, $p_0 < 0.001$; $b_1 = -0.230$, $p_1 = < 0.01$). *H1a* and *H2a* are supported. The degree of embeddedness strengthens consumers' CBAA at both time points, supporting *H3a* ($b_0 = 1.070$, $p_0 < 0.001$; $b_1 = 0.480$, $p_1 < 0.001$). Regulative and cultural-cognitive institutions account for the highest share of explained country-level variance in both years (62.9% and 65.0%, 68.6% and 52.5%). Normative institutions explain 46.0% and 32.5% of the country-level variance. The results for the competitors—addressed in the stability checks—support the hypotheses.

We further expected the effect of institutions on consumers' CBAA to decrease during the pandemic. Our results show that the negative effect of regulative institutions significantly decreases in 2021 compared to 2019 ($b = -0.181$, $p_{Diff.} < 0.05$), supporting *H1b*. In support of *H2b*, the negative effect of the degree of normative institutions significantly decreases ($b = -0.320$, $p_{Diff.} < 0.05$). Finally, *H3b* is supported as the effect of embeddedness decreases over time ($b = -0.590$, $p_{Diff.} < 0.01$). As mentioned, regulative and cultural-cognitive institutions have the highest explained country-level variance in both years. The explained variance for culture decreases by -16.1% and for normative institutions by − 13.5%, while it remains mostly stable for regulative institutions. The results for competitors are discussed next.

Among the covariates, perceived brand globalness is significant in both years. Pfizer's CBAA benefits from this stronger perception. Sex and age are insignificant in 2019 and significant in 2021. Women (vs. men) and older (vs. younger) people valued CBAA during the pandemic. Women are more health-conscious, and older people are more at risk for a severe course of the disease (e.g., Hesham et al., 2021). The country-level control is insignificant.

Table 6 Descriptives

Item	2019		2021		Difference MV	t-value	p	Difference Top2-boxes (%)
	MV/Std.	Top2-boxes (%)	MV/Std.	Top2-boxes (%)				
CBAA	3.59/.89	39.8	3.77/.90	48.6	+.18	− 14.644	***	+8.8
The company […] offers high-quality products and services.	3.68/1.01	56.6	3.73/1.02	58.7	+.05	− 3.612	***	+2.1
[…] develops innovative products and services.	3.64/.99	54.1	3.84/1.00	62.6	+.20	− 14.706	***	+8.5
[…] improves people's quality of life through its products.	3.50/1.05	49.1	3.73/1.07	59.8	+.23	− 16.359	***	+10.7
[…] employs talented people in comparison with competitors.	3.53/.99	48.9	3.76/1.04	59.3	+.23	− 16.403	***	+10.4
Corporate Brand Awareness	2.84/1.15	26.2	3.01/1.14	31.5	+.17	− 11.243	***	+5.3

Note: MV = mean value; Std. = standard deviation; Top2 Boxes = percentage of respondents on 4 = agree/well known and 5 = strongly agree/very well known; CBAA = corporate brand ability associations

*$p < .05$; **$p < .01$; ***$p < .001$; ns = not significant

3.5 Stability Checks

To test the stability of our results, we calculated a single-level moderation analysis in SPSS (see Web Appendix C). The results underline changes between the years reported. Moreover, random split-half tests were used. They show stable effects of all institutions and respective changes of effects on CBAA in split samples for both years (see Web Appendix D).

Alternative models were tested with further measures and further time points of national institutions with both mean values and distinct values for 2019 and 2021. *First*, we used the GCR (six items), the World Competitiveness Yearbook (WCY, seven items), and the Economic Freedom Index (EFI, ten items) as alternative measures for regulative institutions, which we assume to be less relevant in the pandemic for associations of MNCs with specific abilities (Kostova et al., 2020; see Web Appendix E). The tests support our hypothesized negative CBAA link and decreases in the effect of regulative institutions over time, at least at a minor significance level (GCR_{REG}: $b_0 = -0.279$, $p_0 < 0.01$ vs. $b_1 = -0.115$, $p_1 < 0.05$, $p_{DIFF} < 0.10$; WCY_{REG}: $b_0 = -0.178$, $p_0 < 0.01$ vs. $b_1 = -0.053$, $p_1 > 0.10$, $p_{DIFF} > 0.10$; EFI: $b_0 = -0.024$, $p_0 < 0.01$ vs. $b_1 = -0.010$, $p_1 < 0.10$, $p_{Diff} < 0.10$). However, the alternative measures explain less country-level variance. *Second*, we tested less-often applied measures of WCY (four items, as one dimension was not available for both years) and the Global Competitiveness Index (GCI) as alternatives for normative institutions (Kostova et al., 2020). The tests are stable as well (WCY_{NOR}: $b_0 = -0.152$, $p_0 < 0.01$ vs. $b_1 = -0.055$, $p_1 < 0.10$, $p_{Diff} < 0.10$; GCI: $b_0 = -0.031$, $p_0 < 0.01$ vs. $b_1 = -0.011$, $p_1 > 0.05$, $p_{Diff} < 0.10$), with less explained country-level variance. *Third*, the effects of the opposing dimensions of embeddedness were tested, i.e., affective autonomy (AAU) and intellectual autonomy (IAU, see Web Appendix E). The results support the effects of embeddedness (both dimensions have negative effects: AAU: $b_0 = -0.561$, $p_0 < 0.001$ vs. $b_1 = -0.263$, $p_1 < 0.01$, $p_{Diff} < 0.05$; IAU: $b_0 = -0.917$, $p_0 < 0.001$ vs. $b_1 = -0.479$, $p_1 < 0.001$, $p_{Diff} < 0.05$). AAU explains less country-level variance than IAU, which tends to support our cognitive theorizing. *Fourth*, we tested the two further dimensions of Schwartz (1994). The effects of hierarchy are significant and decrease significantly over time ($b_0 = -0.469$, $p_0 < 0.01$ vs. $b_1 = -0.285$, $p_1 < 0.001$, $p_{Diff} < 0.05$). Only 27–30% of the country-level variance is explained, much lower than that explained by embeddedness. Mastery shows significant effects, but its decreases over time emerge only by tendency, and the explained country-level variance is marginal (5–10%, $b_0 = -0.094$, $p_0 < 0.01$ vs. $b_1 = -0.077$, $p_1 < 0.001$, $p_{Diff} > 0.05$). This supports our choice of embeddedness for the hypothesis derivation.

Moreover, we carried out the same tests as in the main study on Pfizer's competitors (see Web Appendix F). The descriptive mean values changed between both time points by only − 0.04 to + 0.11 (significant due to a larger sample). The increase in the top 2 boxes is weaker than that for Pfizer (ability − 1.1% to + 5.0%; awareness + 2.4%). However, the observations for the competitors are positive as well. The effects of all institutions are lower than in the case of Pfizer, but almost all are significant. Thus, H1-3a and our theoretical rationales are supported beyond one firm. Comparing the years, the effect changes are lower for competitors—significant for

Table 7 Results

		2019				
		Null model	Baseline model	Regulative institutions	Normative institutions	Embeddedness
		$b_o p$	$b_o p$	$b_o p$	$b_o p$	$b_o p$
Cross-level effects						
Regulative institutions	→CBAA			− 0.381 (− 0816)		
Normative Institutions	→CBAA				− 0.550 (− 0.679)	
Embeddedness	→CBAA					1.070 (0.832)***
Controls						
Sex	→CBAA		0.026ns	0.026ns	0.026ns	0.026ns
Age	→CBAA		0.007ns	0.007ns	0.007ns	0.007ns
Perceived Brand Globalness	→CBAA		0.272***	0.272***	0.272***	0.272***
Consumers per Cluster	→CBAA		− 0.298ns	0.233ns	− 0.098ns	0.029ns
Residual Variance (Individual Level)		0.700	0.604	0.604	0.604	0.604
Residual Variance (Country Level)		0.125	0.124	0.046	0.067	0.039
Explained Variance (Individual Level)			13.1%	0.0%	0.0%	0.0%
Explained Variance (Country Level)				62.9%	46.0%	68.6%
AIC		91,884.234	90,536.294	90,518.987	90,526.077	90,515.672
BIC (adjusted)		91,953.660	90,622.054	90,608.831	90,615.921	90,605.517

Table 7 (continued)

		2021					Difference 2019–2021
		Null model	Baseline model	Regulative institutions	Normative institutions	Embeddedness	$b_{0-1}p$
		b_1p	b_1p	b_1p	b_1p	b_1p	
Cross-level effects							
Regulative institutions	→CBAA			− 0.200 (− 0.826)			− 0.181*
Normative Institutions	→CBAA				− 0.230 (− 0.525)**		− 0.320*
Embeddedness	→CBAA					0.480 (0.691)***	− 0.590**
Controls							
Sex	→CBAA		0.046*	0.046*	0.046*	0.046*	+0.020ns
Age	→CBAA		0.038***	0.038***	0.038***	0.038***	+0.031ns
Perceived Brand Globalness	→CBAA		0.329***	0.329***	0.329***	0.329***	+0.057*
Consumers per Cluster	→CBAA		0.094ns	0.789**	0.094ns	0.265ns	
Residual Variance (Individual Level)		0.698	0.563	0.563	0.563	0.563	
Residual Variance (Country Level)		0.049	0.040	0.014	0.027	0.019	
Explained Variance (Individual Level)			19.3%	0.0%	0.0%	0.0%	
Explained Variance (Country Level)				65.0%	32.5%	52.5%	
AIC		108,851.584	106,659.064	106,645.203	106,655.377	106,649.255	
BIC (adjusted)		108,922.998	106,747.282	106,737.621	106,747.795	106,741.674	

Note: CBAA = corporate brand ability associations

*$p < .05$; **$p < .01$; ***$p < .001$; ns = not significant; b = unstandardized coefficients; Standardized effects are shown in brackets

regulative institutions (b = − 0.100, $p_{Diff.} < 0.01$) and embeddedness (b = − 0.297, $p_{Diff.} < 0.01$), but not for normative institutions. We discuss this interesting insight.

Finally, we controlled for the extent to which the timing of vaccine introduction in the countries affected our results, but no further important insights emerged (see Web Appendix G).

4 Discussion

Scholars have recommended that IB research on corporate brands and especially pandemic consequences should extend beyond single-country studies (Ahmadi et al., 2022; Matarazzo et al., 2020; Mukherjee et al., 2021). We acted upon these recommendations and examined institutional effects on cross-national consumer associations of firms' ability to produce and deliver high-quality and innovative offerings and their changes by referring to institutional theory (Brown & Dacin, 1997). This is an important issue because CBAA is important for MNCs, affects consumer loyalty or firm performance, and is subject to changes due to a black swan event (e.g., Moon et al., 2015; Tsai et al., 2015). We found that CBAA is affected differently (in strength and sign) by regulative, normative, and cultural-cognitive institutions and that such effects changed during the pandemic. Next, we provide a broader contribution from our study for black swan events in general.

4.1 Contribution to Theory

Regarding our *first research question*, we have examined cross-national differences in the influence of the pillars of the prevalent organizational institutionalism on CBAA. We contribute to IB research, particularly that on regulative and cultural-cognitive institutions, as regulations and embeddedness explain most of the variance in CBAA in 2019 and 2021.

Increasing *regulations* reduce MNC consumers' CBAA across nations: people in countries with lower regulations value firms' quality and innovation abilities more. This finding is contrary to what might be assumed based on general interest in the positive aspects of regulative institutions (Puffer et al., 2010). However, it is consistent with recent efforts to examine the more complex relationships among regulations and firm profitability or strategy (Chao & Kumar, 2010; Kirca et al., 2011). Research may further focus on the effects of each of the holistically analyzed WGI dimensions. Individual dimensions are known to decrease CR effects, for example (Swoboda et al., 2016). We also contribute to research on *normative institutions* by revealing that increasing norms decrease perceptions of MNCs' abilities. Research has shown negative effects of norms (Gaganis et al., 2021; Yang et al., 2021) but has not linked this informal institution to CBAA. We find that norms explain less country-level variance. We also contribute to research on *national culture*, which is assumed to be relevant in studies on CBAA or COVID-19 (e.g., Ahmadi et al., 2022; Moon et al., 2015). Our findings show that increasing embeddedness of societies is linked to a greater esteem for MNCs' abilities to offer specific products,

consistent with our hypothesis that people in these cultures are comfortable with innovations that secure their society's well-being (De Mooij, 2017). Alternative cultural dimensions explain less country-level variance. This underscores the need for future research on the relationships of regulative and cultural-cognitive institutions (Kostova et al., 2020; Mukherjee et al., 2021).

Moreover, we contribute to IB and CBAA research by proposing new theoretical mechanisms for the effect of institutions on CBAA across nations from a consumer perspective: liabilities of foreignness and stakeholder interactions (Ang et al., 2015; Denk et al., 2012); expectations in countries (Chao & Kumar, 2010; Gaganis et al., 2021); institutional voids and uncertainty (Khan et al., 2015; Khanna & Palepu, 1997); and innovative MNCs' contribution to institutions with their actions (Miller et al., 2021). Future research could investigate each mechanism. This is particularly interesting as our findings are stable for competitors without specific abilities and for the time points before and during a black swan event.

Regarding our *second research question* on the changing effects of institutions before and during the pandemic, we contribute to IB research and that on black swan events such as COVID-19 by offering initial insights into the increase in CBAA and the decreased role of institutions in consumers' CBAA during such an event. This emerges for MNCs with unique abilities and actions, but the role of national institutions also decreases for consumers' CBAA of competitors.

We contribute to IB research on national institutions by observing reduced effects of regulative, normative, and cultural-cognitive institutions on CBAA. The diminishing effects of regulative and normative institutions on CBAA are significantly reduced during a black swan event, making CBAA stronger across nations. People in countries with lower levels of regulations or norms still valued Pfizer's abilities, but people in countries with higher respective institutions valued such abilities more during the pandemic. The amplifying effects of embeddedness for CBAA decreased, suggesting that people in less embedded societies valued Pfizer's ability to offer a vaccine more than before the pandemic. Weaker country-level variances are advantageous because they increase independence from national institutions, particularly for MNCs with specific abilities, but also competitors during a black swan event. This extends predominantly negative views on the consequences of black swan events for MNCs (e.g., Donthu & Gustafsson, 2020; Lin, 2020; Wenzel et al., 2021).

We contribute to the black swan event literature by developing two theoretical mechanisms for changes in individuals' consciousness and the changing effects of mostly objectively stable institutions during such an event (e.g., Nielsen et al., 2023, in contrast to research on changing institutions or their development, e.g., Beckert, 2010; Puck et al., 2009). *First*, black swan events change prevailing goals in individual behavior and the relevance of institutions (Das et al., 2021; Oh & Oetzel, 2022), resulting in changed liabilities of foreignness effects, consumer interactions with MNCs with unique offerings, or expectations (e.g., Denk et al., 2012). This finding links to research on individual legitimacy assessments. *Second*, black swan events change consumers' associations with MNCs with specific offerings, such as confidence building in light of institutional voids or MNCs' contributions to national institutions (Beck et al., 2020; Deephouse et al., 2016; Miller et al., 2021). Our descriptive observation of a sharp increase in the corporate ability evaluations of an

MNC that provided a directly pandemic-relevant product is interesting. These evaluations increased less among competitors who did not produce comparable COVID-19-relevant offers. This result indicates a strong role of the confidence-building mechanism in the case of our focal company. Future research may explore which mechanism works to what extent.

Finally, we contribute to research on CBAA. We examined the cross-national role of institutions in CBAA for the first time, extending assumptions in country comparison studies (e.g., Baghi & Gabrielli, 2019; Matarazzo et al., 2020). Our theorizing at the country level suggests that the relevant comparison group for studying changes in CBAA may be organizations and other societal sectors within a country, not only competitors. Our theoretical mechanisms apply to competitors as well. They likely benefit from Pfizer's favorable ability, which should be analyzed further. The weaker reduction in the effects of regulations and embeddedness indicates that CBAA spills over to other firms in its industry. This may be logical considering past research (e.g., on contagion effects or cross-industry information, Shi et al., 2022) but needs more elaboration.

In summary, we observe COVID-19 as a black swan event and a particular MNC, which limits the generalizability of some of our findings to similar events (i.e., health hazards of global scope with severe consequences; Cortez & Johnston, 2020; MacKay & Chia, 2013). However, we believe that our fundamental implications are transferable to other black swan events where firms with specific abilities may contribute to alleviating the event's impact; spillover effects within an industry may benefit related competitors (Shi et al., 2022). Nevertheless, research should aim to replicate our study.

4.2 Practical Relevance

Our study contributes to management practice. Managers need to recognize that consumers' CBAA is driven not only by firm characteristics but also by firms' optimal fit with their environment (Moon et al., 2015). Despite the prime role in ability formation, producing high-quality and innovative products may not be enough to guarantee favorable CBAA in a society abroad, as the public tends to have higher or changing expectations of firms. For example, for host countries with lower embeddedness, managers should expect to address the expectations of local stakeholder groups more thoroughly.

For managers centrally coordinating MNCs' customer interests worldwide, knowledge of the most favorable countries, from a consumer viewpoint, can be a source of competitive advantage. However, MNCs with specific abilities face tradeoffs; increasing cross-national regulative institutions diminish CBAA, while embeddedness reinforces it. A country portfolio with both institutions provides valuable practical advice for a country or groups of countries (see Fig. 2). The strongest (weakest) CBAA emerges in countries with low (high) levels of regulative institutions and high (low) levels of embeddedness (Fields I and IV). Tradeoff decisions are required in countries in Fields II and III.

MNCs may benefit from unique abilities during black swan events such as COVID-19 (facilitating MNCs' resilience, e.g., Guedhami et al., 2023). A lower or generally decreased influence of national institutions on consumers' CBAA enables a heavier focus on internal or other adjustment drivers for managing CBAA. Importantly, MNCs can benefit from the consumer preferences formed in times of crisis in the long term, as such preferences are more valuable than those formed in quiet times (He & Harris, 2020). For example, they may use beneficial CBAA to address consumers with other product brands beyond a vaccine or may aim to transfer advantageous corporate associations to new products over time (e.g., Swoboda & Sinning, 2021). However, such MNCs should be aware that competitors may also gain advantages.

5 Limitations

This study has certain limitations that suggest future research directions.

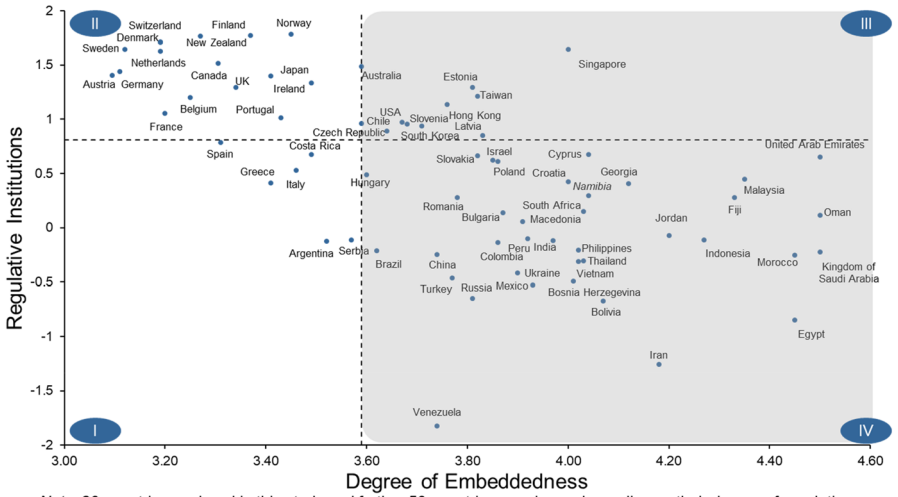
5.1 Sample

Although we carefully used a specific *sample,* database expansion would allow for further conclusions, e.g., analyzing additional industries or (smaller) firms. This study includes few emerging countries; with a balanced sample, stronger effects of institutions on CBAA can be expected. Our cross-national design improves external validity, but studies may place emphasis on internal validity. Using data on identical individuals in both waves in a longitudinal rather than repeated cross-sectional design would be beneficial to understand individual opinions or behavior. Scholars should use longitudinal data before and after a crisis and examine the pandemic's long-term effects (Das et al., 2021).

The additional *competitor sample* was selected based on the competitive environment in each country, i.e., we matched competitors in a country at both time points, not cross-nationally, to ensure sample comparability (e.g., Lee & Green, 1991; Panagopoulos et al., 2023). Our results allow for general implications for MNCs in a strategic group that did not provide crisis-relevant offers across time points; we cannot make assertions on specific competitors or identical samples across nations.

5.2 Measurement and Method

Regarding the *measures and method,* we chose a common conceptualization of CBAA. Researchers may study further conceptualizations of brand associations that mostly represent a more holistic view (e.g., Buil et al., 2013). Qualitative research allows emic, country-specific measures to be developed, which may enhance construct equivalence assessment. Due to the high number of countries surveyed and the resulting need for item comparability, we use a modified imposed etic scale (Yang et al., 2019). In addition to our reasoned choice of institutions, other ones



Note: 20 countries analyzed in this study and further 50 countries are shown depending on their degree of regulative institutions and embeddedness. Dashed lines show the median of the moderators based on the sample in the study. Grey area highlights where corporate brand ability perceptions are easiest achieved.

Fig. 2 Country portfolio

would enable further insights as well as institutional distances (Kostova et al., 2020; Swoboda et al., 2017). Other cultural approaches also offer a promising field of research, e.g., Hofstede's updated measures or elements of national culture (e.g., Sasaki & Yoshikawa, 2014). Finally, we controlled for important variables but could not include firm or other societal factors beyond COVID-19.

5.3 Conceptual Model

In addition to our *conceptual modeling* of the effects of national institutions on CBAA, a moderation of the institutions on the effects of CBAA on outcomes, such as consumer loyalty, would be interesting (Matarazzo et al., 2020; Moon et al., 2015). This is theoretically questionable for pharmaceutical offers and methodologically challenging, as are studies on further antecedents or effects of MNCs' CBAA, since CBAA may determine loyalty directly or indirectly by strengthening product brand images, for example (Swoboda & Sinning, 2021). Such image transfers could not be captured in this study.

6 Conclusions

While the COVID-19 pandemic changed consumers' brand preferences and behavior, little is known about how or why corporate brand associations differ and change across countries during such black swan events. We have therefore analyzed the roles of national institutions in consumers' corporate brand ability associations

(CBAA) for a pandemic-relevant MNC, assessing consumer evaluations in 20 countries over time and applying multilevel structural equation modeling and multigroup analysis. We find that regulative institutions, followed by cultural embeddedness, most strongly explain the cross-national general differences in CBAA. This influence decreased during the COVID-19 pandemic, for a crisis-relevant manufacturer more strongly than for competitors. We thereby offer a theoretical complement to past research, which has shown differences in corporate associations as signals, by applying institutional theory as a complement to signaling theory. We look forward to further research linking national institutions and corporate associations and their changes during black swan events.

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Data availability The data cannot be made available for confidentiality reasons.

Declarations

Conflict of Interest None.

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