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Stock-outs management in times of crisis: the moderating role of trust

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Abstract

This article explores the moderating influence of trust on attitudes toward stock-outs. Following the global pandemic, consumers experienced escalating stock-outs of essential commodities, while managers confronted shortages of industrial products. The impact of crisis-induced stock-outs was particularly pronounced in New Caledonia, a French territory in the South Pacific. Qualitative research, composed of netnography and face-to-face interviews, conducted in New Caledonia reveals distinct patterns in the deployment of trust by consumers and managers. Managers strategically rely on active trust to mitigate the risks associated with stock-outs. In contrast, consumers encountering stock-outs exhibit a heightened distrust towards distributors, leading them to actively avoid the affected market. The findings underscore the critical role of trust preservation during times of crisis, as asserted by Gustafsson (2021).

Introduction

From an organizational perspective, trust is essential in the purchasing process (Handfield, 2002) and for the resilience of organizations in times of crises (Mishra, 1996). Trust is an active process that requires preservation factors in the organization (Gustafsson, 2021).

The occurrence of stock shortages disrupts the economic paradigm regulated by the “*invisible hand*”, a concept central to Adam Smith’s seminal work “*The Wealth of Nations*” (1776). Smith advocated for a minimal regulatory role of the State to address market failures. However, the emergence of health and geopolitical crises has precipitated macroeconomic upheavals that challenge the foundational principles of the law of supply and demand on a broader scale. At the microeconomic level, both managers and consumers find themselves compelled to adapt and revise their strategies within the evolving environment. Projected into a changing environment, unseen in Europe since the end of the Second World War,

consumers and managers need to adapt. In a recent interview with Le Monde newspaper¹, the President of the International Monetary Fund (IMF) explained how successive crises have dismantled supply chains. The consulting company Accenture² estimates that, by the year 2023, out-of-stocks are anticipated to result in a substantial loss of 920 billion euros, equivalent to nearly 8% of the eurozone's Gross Domestic Product—a record figure. Within this context, trust emerges as a pivotal variable in the purchasing process (Handfield, 2002). While recent research has primarily focused on consumer reactions to crisis, there is a notable gap in understanding the reactions to stock-outs and the intricate role played by trust, needing further exploration.

New Caledonia, a French island situated in the South Pacific, operates as a French territory subject to French regulation but with its own government. Confronted with limited resources inherent to islands (MacArthur and Wilson, 1967; Hampton and Christensen, 2007), insular economies such as New Caledonia are particularly reliant on global supply chains (Calderwood and Freathy, 2011). The economic framework of New Caledonia is characterized by a substantial dependence on imports (Ris, Trannoy and Wasmer, 2017). The advent of the pandemic, which led to closed borders, significantly impacted international trade and food systems, thereby exacerbating stockouts amidst a global crisis (Farrell et al., 2020). New Caledonia is therefore a relevant context for investigating the role of trust to cope with the challenges of stock shortages.

To explore this dynamic, a netnography was conducted, complemented by two distinct series of qualitative interviews involving two population segments in New Caledonia: consumers (N=20) and managers (N=10).

1 Literature review

1.1 Trust

From a consumer perspective, brand trust is a central variable in relationship marketing (Morgan and Hunt, 1994). Relationship marketing approaches demonstrate the importance of

¹ Le Monde https://www.lemonde.fr/economie/article/2023/11/12/pour-la-directrice-du-fmi-kristalina-georgieva-nous-avons-trop-longtemps-insiste-sur-les-benefices-de-la-mondialisation_6199727_3234.html; published on 12 November at 23:00, [amended at 07:40](#)

² Accenture: The cost of supply chain disruptions to European economies could amount to as much as €920 billion of GDP by 2023, according to a report by Accenture" published on 25 May 2022, downloaded on 12 November 23, <https://www.https://newsroom.accenture.fr/fr/news/2022/le-cout-des-ruptures-des-chaines-d-appvisionnement-pour-les-economies-europeennes-pourrait-s-elever-jusqu-a-920-milliards-d-euros-du-pib-d-ici-a-2023-selon-un-rapport-d-accenture>

trust as an essential antecedent to consumer commitment (Chaudhuri and Holbrook, 2001; Morgan and Hunt, 1994; Gurviez and Korchia, 2002). Brand trust transcends mere consumer satisfaction (Aaker, 1995; Lassar et al., 1995). Trust gives the brand a personal and human dimension, extending beyond functional attributes (Aaker, 1991; De Chernatony and McDonald, 2003; Fournier, 1998). Brand trust can be defined as the consumer's belief that the brand will be able to fulfill its expected function in the future (Chaudhuri and Holbrook, 2001). It captures the brand's ability to meet consumer's expectations (Delgado-Ballester and Munuera Aleman, 2005). Notably, trust emerges as a significant variable explaining brand value (Aaker, 1995; Ambler, 1997).

From an organizational perspective, trust is essential in the purchasing process (Fournier, 1998; Gurviez and Korchia 2002, Chaudhuri and Holbrook, 2001; Handfield, 2002). Characterized as a cognitive variable, trust is founded on a rational process involving available information and the customer's experience (McAllister, 1995). Gurviez and Korchia (2002) delineate trust into three dimensions: competence (or credibility), honesty (or sincerity), and benevolence. Particularly pertinent for organizations contending with crises, trust is recognized as an indispensable dimension (Mishra, 1996). It constitutes an active process necessitating the implementation of preservation factors within organizational structures (Gustafsson, 2021). Noteworthy is the fragility of trust as a common good, susceptible to erosion during crises (Möllering, 2013). Divergent perspectives exist regarding the relationship between trust and distrust, with some researchers positing them as opposing ends of a single variable (Bigley and Pearce, 1998), while others propose that they are linked yet distinct variables (Lewicki, McAllister, and Bies, 1998). The restoration of trust within an organization is described as a sequential process involving catharsis and catalysis (Owen et al., 2022). Furthermore, the development of trust emerges as a critical variable for effectively managing periods of crisis (Roud and Gausdal, 2019).

1.2 Stock-outs

From a business perspective, the occurrence of stock-outs has been empirically linked to substantial sales losses for retailers (Verhoef and Sloot, 2006). Despite the implementation of stock management systems, the prevention of stock-outs remains an ongoing challenge in the retail sector (Kim and Lennon, 2011).

From a consumer perspective, stock-outs are a source of negative reactions (Breugelmans et al. 2006; Fritzsims, 2000; Kim and Lennon, 2011; Peinkofer et al. 2016; Sloot, Verhoef, and Franses, 2005; Verbeke et al. 1998). Stock-outs are associated with a crisis situation (Kirk

and Rifkin, 2020) and can lead to customer dissatisfaction and negative word-of-mouth for the brand (Zinn and Liu, 2001). In response to stock-out situations, various strategies are deployed (Emmelhainz et al., 1991). Consumers, when confronted with stock-outs, strive to protect their lifestyle and purchasing power, often necessitating adjustments to their consumption habits (Pizzi and Scarpi, 2013). In the face of occasional stock-outs, consumers may adapt by modifying their habits and proactively stockpiling essential products (Guthrie, Fosso-Wamba and Arnaud, 2021).

2 Research methodology

We adopted an exploratory research methodology, employing two distinct methods: netnography and qualitative interviews. To enhance the rigor of our investigation, we conducted three separate studies, ensuring triangulation of methods. Two distinct populations—managers and consumers in New Caledonia—were interviewed in order to identify areas of convergence and divergence in the influence of trust.

2.1 Discovery phase: Study 1 (N1) Netnography

The initial phase of our study consisted of a netnography, commonly referred to as ethnography on the Internet, as described by Kozinets (2002). We collected a corpus of online conversations that would be challenging to access through offline means. Specifically, we opted for New Caledonian consumer groups on Facebook, chosen for their thematic alignment and substantial, engaged community base. The selected groups included the “Do you know where?” group (9,412 members), the “Radio Cocotier³” page (115,000 likes), the “Ticket de caisse en colère⁴” group (20,910 members), and the “Nouméa Expats” group (24,398 members). The collected corpus comprised 18 distinct threads involving 382 contributors, spanning the temporal scope from 2020 to 2023.

2.2 Exploratory phase: Study 2 (P2), interviews with New Caledonian managers

We conducted a series of face-to-face interviews with managers (N=10) in New Caledonia during the summer of 2023. To ensure a systematic approach, an interview guide was formulated, structuring the interviews around three overarching themes: (1) procurement of raw materials and components (pertinent to professionals), (2) responses to a stock-out scenario within their company, and (3) strategies employed to navigate such situations. This interview format was designed to elicit insights into the emotional, cognitive, and conative

³ Coconut radio

⁴ Angry sales slip

dimensions of managerial attitudes. Individual semi-structured interviews were administered, with durations ranging from 25 minutes to 1 hour. Participant selection occurred within the researchers' network, employing a snowball sampling technique, where initial interviewees were requested to recommend suitable individuals within their own professional network for subsequent interviews.

2.3 Exploratory phase: Study 3 (C3), interviews with New Caledonian consumers

We conducted a series of face-to-face interviews with consumers (N=20) in New Caledonia during the summer of 2023. The interview guide was structured around three themes: (1) product purchased in New Caledonia, (2) reactions to stock-outs, and (3) actions taken to cope with the situation. These interviews varied in duration, ranging between 30 minutes and 1 hour. Similar to the professional interviews, participants were selected from the researchers' network, utilizing the snowball sampling method.

The verbatim corpus obtained from the interviews was transcribed and processed using NVivo software. Two types of analyses were undertaken: lexical and thematic. Lexical analysis⁵ involved a study of the vocabulary used during the interviews. Thematic analysis, following the method outlined by Mucchielli (1996), aimed to identify the main themes addressed by the participants.

3 Results

This section presents the thematic analysis of the conducted studies: Netnography (N1), interviews with managers (P2), and with consumers (C3).

3.1 Netnography (N1)

Regarding immediate emotions, a sense of distrust towards distributors becomes apparent, with consumers attributing blame to them for deliberately causing stock-outs: *“There are no shortages; it's all done on purpose so that we buy other brands of products that aren't selling”* (contributor 241, posted on 27/11/2022)

Simultaneously, consumers acknowledge the inherent dependency on imports, stating: *“It happens very often because we are dependent on arrivals* (contributor 170, posted on 21/10/2022). In response to these sentiments, consumers employ three specific strategies: (1) utilizing their social networks to gather information about deliveries, (2) seeking alternatives outside of the market, and (3) stockpiling when the desired product becomes available.

⁵ Lexical analysis will be exposed in the full paper if the article is selected for the conference.

3.2 Managers (P2)

In terms of emotional responses, managers express frustration in response to stock-outs, as articulated by one participant: *"It's... too volatile, I can't control it"* (P,9). In terms of cognitive responses, managers exhibit a comprehensive understanding of the logistics involved: *"There are at least 40 days at sea, plus customs clearance, so stock-outs are a daily occurrence"* (P,4). Furthermore, managers exhibit an awareness of the importance of cultivating relationships built on trust with suppliers as a proactive strategy to alleviate the occurrence of stock-outs.

3.3 Consumers (C3)

New Caledonian consumers have grown accustomed to experiencing stock-outs, despite the resulting frustration. In response, they often employ humor to downplay the situation, humorously referring to it as: *"the New Caledonian package!"* (C,18)

This adaptability is facilitated by the existence of a robust and resilient social network, enabling swift updates on product availability: *"we quickly know if a product is back in stock"* (C,20) . Leveraging this network, consumers actively seek information about deliveries and explore opportunities, as highlighted by Dumas and de Barnier (2023). Additionally, consumers cleverly navigate the scarcity by resorting to off-market alternatives, particularly through Consumer-to-Consumer (C to C) interactions.

A notable distinction between managers and consumers lies in their approach to trust. Managers employ active trust as a proactive measure to prevent stock-outs and foster collaborative problem-solving. In contrast, consumers manifest a prevailing distrust towards distributors, a result consistently observed in both the netnography and consumer interviews.

Table 1: Thematic analysis of attitudes (emotions, cognitions and conation) and associated verbatim examples

	<i>Netnography NI</i>	<i>Managers (P2, N=10)</i>	<i>Consumers (C3, N=20)</i>
	<i>Emotions</i>		
<i>Distrust</i>	<i>"Fake shortage, they're taking us for idiots". (Contr.309, posted on 8/07/2022) "A boat is coming!!! take out a loan before you go out and buy it."(Contr.195, posted on 7/01/2023)</i>		
<i>Frustration</i>		<i>"It's panic" (P,2), "You're going through it" (P,3; P,4) "It's ... too volatile, I can't control it" (P,9) "We wait, sometimes 1 year " (P,10)</i>	<i>"It's frustrating but it's not that important!" (C, 7) "We have to go to several shops to find something...It's annoying..." (C,18)</i>

	Cognitions		
Understanding	"It happens very often because we're dependent on new arrivals" (Contr.170, posted on 21/10/2022)	"There are at least 40 days at sea, plus customs clearance, so there are stock-outs every day" (P,4) "In New Caledonia, we have difficulties, there aren't many possible substitutions" (P,5)	
Down play	"New Caledonia teaches us to go back to basics, to minimalism" (Contr.377, posted on 30/05/2023)	"You have to be a bit creative!" (P, 2)	"We'll deal with it, we just have to wait a little..." (C, 20) "A little annoying! but it doesn't stop me from living" (C,10)
	Conative dimensions (coping strategies)		
Building on trust		"maintain a relationship of trust with suppliers" (P,3) "a bond of trust between the producer and the consumer which is ...essential" (P,9)	
Social support	"Do you know where to find K**** mayonnaise? " (Contr.5, posted on 19/02/2020)		"sometimes we do group orders: I've already ordered clothes in a group with a friend" (C, 14) "we know straight away with facebook: when such product comes back" (C, 20)
Finding alternatives	"I've learnt to make everything homemade and according to what I find " (Contr.377, posted on 30/05/2023) "Here you do with what you find, don't go mad!"(Contr.360, posted on 30/05/2023)	"We are constantly looking to adapt our range and our offer according to availabilities" (P,4) "We are changing and working with our suppliers" (P,6)	"I killed a deer and make my own sausage" (C, 8) "I change my plan..." (C,18) "I do the math, add the taxes and the Dhl, and I'm done"(C,3) "I'm going to look for the product in Australia" (C,1)
Stock-up	"People are going to stock up! " (Contr.195, posted on 7/01/2023)	"We have always kept more safety stock than in Europe, i.e. 2 to 3 months' stock" (P, 2) "We're going to take more stock so we can sleep soundly" (P,5) "Generate cash to finance inventory" (P,7)	"When there are new ones in the shop, I buy more" (C, 10)

Discussion:

This qualitative exploratory research underlines the pivotal role of trust as a moderating factor influencing attitudes toward stock-outs in times of crisis. The findings align with existing research on active trust, emphasizing the criticality of trust preservation during periods of crisis (Gustafsson, 2021). New Caledonian managers strategically rely on an active trust cultivated in their relationships with suppliers to secure necessary supplies and devise solutions. This strategic reliance on trust and solidarity is encapsulated in the New Caledonian motto: "Land of words, land of sharing."

Conversely, New Caledonian consumers exhibit a prevalent sense of distrust towards distributors. This distrust results in a tendency to avoid traditional markets, prompting a shift toward direct Consumer-to-Consumer (C to C) consumption. Additionally, consumers leverage their social networks as valuable resources to seek alternative solutions in response to the perceived unreliability of distributors.

Our research bears limitations inherent to its exploratory nature, and further quantitative confirmatory studies are needed to validate the obtained results. Additionally, the generalizability of our findings necessitates confirmation across diverse populations. A notable cultural aspect is encapsulated in the local saying often conveyed to those from abroad: “*You have the watch; we have the time!*” This local saying highlights the connections between attitude and culture. Exploring the role of culture, drawing on the cultural dimensions’ theory (Hofstede, 1984), presents a promising avenue for future research.

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