Navigating Risks: Exploring the Perception of Risk Awareness on Strategic and Operational Procurement – A Descriptive Approach

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Abstract

Strategic and operational procurement are important parts of the procurement landscape within large global enterprises. Strategic procurement is related to long-term strategies such as supplier selection and contract negotiation. Operational procurement is related to day-to-day purchasing operations of the procurement process, such as cost overruns, quality issues or delays. This study analyses the perceived risk awareness of global supply chain risks during a specific crisis context. For this quantitative research study, a comprehensive survey was conducted to explore the perception of strategic and operational procurement professionals over the categorized risks and establish potential gaps. The research concludes that to capture all the perceived risks, the synergetic approach combining strategic and operational procurement practices is beneficial for mitigating risks effectively.

Key words: global enterprises, operational procurement, risk categorization, risk perception, strategic procurement
J.E.L. classification: F23, F60, L20, M12, M16, O14

1. Introduction

During today's unstable post-pandemic time and amid geopolitical tensions, procurement businesses face a volatile environment (Um and Han, 2020). Global supply chains require enhanced resilience and risk mitigation strategies (Chenini et al, 2020; XXX). This volatile background presents significant challenges for enterprises operating in a post-pandemic world and with geopolitical instabilities (Choudhary et al, 2022). Therefore, procurement businesses had to reconsider risk categorization and monitoring as priorities. In the past two years, the Ukraine war triggered multiple disruptions starting with raw material price increases, market instability and inflation, resulting in recession and unprecedented price levels (Ngoc, N.M. et al., 2022).

Global enterprises must prioritize risk mitigation strategies to address potential disruptions. In the current landscape of procurement, professionals focus on risk management and supply chain resilience (Ozdemir, D. et al., 2022; Um and Han, 2020). The pandemic has revealed the susceptibilities of present-day global supply chains, however, pandemics represent only one kind of risk among numerous others capable of undermining the operations of supply chains (Nikookar, E. and Yanadori, Y., 2022).

Strategic procurement demonstrates increased risk awareness, focusing on long-term threats and opportunities. Meanwhile, operational procurement tends to prioritize short-term impacts and immediate needs, avoiding disruption within its own production facilities. The interconnected nature of global supply chains requires a comprehensive approach to risk management, integrating the strengths of both strategic and operational procurement functions. Strategic procurement's long-term perspective enables organizations to anticipate and prepare for potential risks, contributing to enhanced supply chain resilience (Um and Han, 2020; Wieland and Durach, 2021). On the other hand, operational procurement's focus on short-term impacts allows for timely responses to immediate challenges.

During a specific crisis context, the risk hierarchization depends on several complex factors and tends to be prioritized subject to specific senses of urgency and role objectives (Roscoe, S. et al, 2022). During the pandemic and later the Ukraine war, several research focused on the main risks associated with the global supply chains during a crisis (Ozdemir, D. et al., 2022; Ngoc, N.M. et al., 2022). Despite this, there has been less emphasis on the different risk levels perceived by the different procurement roles within a global enterprise. This study is intended to address this gap and to bring attention to the risk awareness levels perceived by the procurement professionals namely strategic versus operational procurement roles.

2. Literature review

To formulate the queries of this research, the author evaluated the existing research and studies to define the perceived risk awareness of the procurement professionals associated with the global supply chain during a crisis. Several studies (Ahmed, W. et al., 2020; Dijmarescu, 2024; Lu, T., Tomlin, B., 2023) highlight the essential role of procurement professionals in mitigating the risks. During the aftermath of the pandemic and amidst political conflicts (Roscoe, S. et al, 2022; Ngoc, N.M. et al., 2022), an increased emphasis on risk awareness has become essential for businesses to identify and address potential threats, consequently, to ensure long-term resilience (Ahmed, W. et al., 2020; Um and Han, 2020). Other authors like (Wilhelm, M and Villena, V.H., 2021), consider that the culture of risk consciousness relates to an organizational strategy where both employees and management actively acknowledge and manage potential risks in their decision-making and daily activities (Choudhary et al, 2022). Goal-driven risk management helps in proactively identifying potential risks (Kjernsmo and Petersen, 2019), developing robust mitigation strategies and ensuring business continuity as presented by (Chenini et al, 2020). In a logical way, the first queries to be formulated bring attention to the roles of procurement in relation with risk awareness.

Q1 What would be the common objectives of the procurement professionals acting in strategic or operational roles, concerning risk awareness?

Strategic procurement is responsible for identifying and managing risks at a macro level, such as supply chain disruptions, geopolitical uncertainties or market dynamics (Choudhary et al, 2022; Um and Han, 2020). According to study authors Kjernsmo and Petersen (2019), by collaborating with operational procurement, strategic procurement can ensure that risk management strategies and processes are effectively implemented at the operative level. The risk awareness is one factor from very complex coordination and logically, both roles have common objectives to ensure risk awareness for early actions and appropriate countermeasures.

The procurement strategies are aligned for realizing the company's strategy (Can Saglam et al., 2022), with direct contribution of the strategic and operational procurement (Kjernsmo and Petersen, 2019). Strategic procurement relies on sustainable sourcing, contract and supplier relationship management, as considered by (Rafati and Poels, 2015). Operational procurement runs the purchasing processes and routines for obtaining the best spend from each transaction and ensuring the business continuity. Consequently the logical statement is that procurement roles are having common objectives to ensure risk mitigation based on perceived risk awareness.

In a large global enterprise, the collaboration between strategic procurement and operational procurement is crucial for achieving overall targets and mitigating risks (Wieland and Durach, 2021). The aforementioned procurement functions play distinct and interdependent roles in the procurement process and their mutual collaboration with supply chain is essential for driving value, managing risks and ensuring the smooth functioning (Baah et al., 2021; Can Saglam et al., 2022). To understand the perceived risk and the different levels of risk awareness the next queries is formulated as follows:

Risk awareness is the extent to which a person, role position or organization is aware of potential or actual hazards. A definition of risk awareness according to Wanner (2023) is cited as follows: "Risk awareness is having an understanding of what risks exist, what impact they can have, and how to deal with them, but also constantly keeping an open eye for new risks".

Risk awareness in procurement is part of risk management for assessing and evaluating (Ahmed, W. et al., 2020; Wieland and Durach, 2021) . Process consists in a collection of internal input information (data analytics, cross-functional reports, KPIs, supplier scorecards, risk dashboard and other procurement platforms) or external input information such as market intelligence, financial international reports, transparency of multi-tier supply chain (Wilhelm, M and Villena, V.H., 2021), supplier relationship and supplier reliable communication, according to (Butt et al, 2020; Can Saglam et al., 2022). Risk awareness can be enhanced actively further, according to some authors (Roscoe, S. et al, 2022), there are different levels of perceived risks and these steps are part of the awareness-increasing process but the reference is the internal communication and mutual trust (Baah et al., 2021). Risk awareness in procurement should constantly adapt to new circumstances mentioned by (Choudhary et al, 2022; Wanner, 2023) and be updated to be able to act in a risk-aware manner and the trust buyer-supplier plays an important role (Butt et al, 2020). In a logical argumentation, the level of the risk perception of the procurement professional acting in strategic or operational roles may differ or capture partially the specific topics. The first query is an important deductive step for further descriptive analysis – the research focus to the following Q2 query.

Q2 What would be the level of the risk perception of the procurement professionals acting in strategic or operational roles?

Risk awareness is a somewhat abstract topic, several authors (Rafati and Poels, 2015) highlighted that procurement professionals have an influence on the procurement ecosystems when risks are managed and consequently risk decisions are made. Especially in strategic processes where risk awareness is essential (sourcing, supplier selection and evaluation) by creating new business cases, often complex and working in a high-level environment of technology, stakeholders and laws, so a strong risk awareness sense is very helpful in identifying risks (Gong et al., 2019; Kjernsmo and Petersen, 2019). A healthy risk awareness is also crucial when it comes to identifying emergent risks (Duhamel et al, 2013), such as geopolitical or climate changes (Ngoc, N.M. et al., 2022) or from the supplier side. In this respect were considered the following risks: financial, personnel resources, capacity bottlenecks, product conformance and supplier quality assurance (Rafati and Poels, 2015), raw material shortages or multi-tier lack of supply availability (Wilhelm, M and Villena, V.H., 2021). For further sustainability, some risks are emerging (Can Saglam et al., 2022) and have not been previously known or even noticed and therefore proactive risk detection is necessary. The different levels of perceived risk awareness are positively contributing as long as are internally shared and communicated and all the procurement roles are constructively collaborating. In his article Wanner (2023) expressed that the internal shared risk awareness can help in identifying and managing potential disruptions in the supply chain. By understanding the risks associated with procurement processes, both strategic and operational departments have proactively to communicate and align on specific directions of action. For further research, it was considered a set of defined risks, listed below, and the data collected had been analyzed to understand the gap of the risk perception.

3. Research methodology

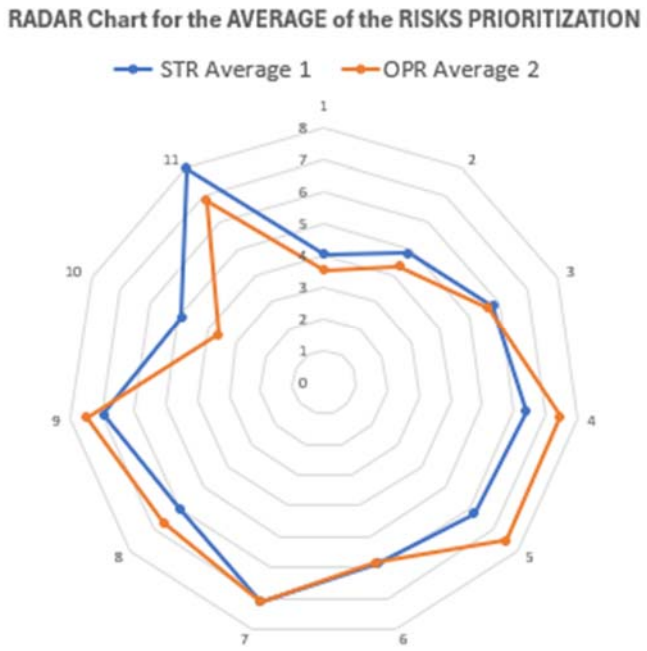
To achieve the research objectives and in the attempt to answer the formulated queries, the author considered the quantitative analysis and the descriptive approach. Using a survey built on a questionnaire listing eleven main risks and sent to a total of 115 procurement professionals, the data was collected from 87 respondents, with the following percentages for strategic (46,6%) and operational (53.4%) procurement roles.

The listed risks had been considered the input variables as follows: R1 = Geopolitical Risks, R2 = Raw Material International Market, R3= Supplier Insolvency, R4= Other (Environmental, Force majeure risks), R5= Supplier specific risks - capacity bottleneck, R6= Supplier specific risks - Quality management system, R7= Product conformance, R8= Supplier - production specific risks, R9= Supplier specific risks - personnel shortage, R10= Logistics - Supplier transportation risks, R11= Global logistics – used by the global enterprise.

The respondents were invited to hierarchize the risks based on their experiences during the past crises (pandemic, Ukraine war) and the answers reflected their perceived level of priority. The descriptive analysis has considered two groups: 1. STR= Strategic procurement roles and 2. OPR = Operational procurement roles. The hit ratio of all respondents (N=87) listed top down has shown higher awareness and concern (lower scores) for R1 (Geopolitical risk) due to high attention on the start of the Ukraine war and less concern (highest scores) for the R11 (Global logistics) organized by the global enterprise transport forwarders, but higher concern for the R10 (Logistics organized by the supplier transportation).

The Risk averages (R1 to R11) had been described graphically by a radar chart as in Figure1:

Figure no. 1. Perception of Risk Awareness on Strategic and Operational Procurement based on survey responses



Source: own author's research

For further descriptive approach was calculated the averages (Mean) and standard deviations (SD) for each of the eleven risks considered and for both group samples: STR and OPR.

The Mean is calculated by adding up all the scores in the set and dividing the sum by the total count of the numbers:

Mean STR = Σ(xi)/ Total STR and Mean OPR = Σ(xi)/ Total OPR

The Standard deviation (SD) is a measure of the amount of variation of a random variable in relation with its mean: SD STR= SQRT(Σ(xi – Mean STR)2 /N STR) and SD OPR= SQRT(Σ(xi – Mean OPR)2 /N OPR).

The unpaired T-Test (independent T-Test) is a statistical element to compare the averages/ means of two independent or unrelated groups to determine if there is a significant difference between the two considered group samples STR and OPR. The returned probability value (p-value) is compared with 0,05 as the significance level is set at 5% as presented in Table 1.

Additionally, it was performed the F-test, a statistical test used to compare the variance of two samples – the Mean respectively the SD, for the considered two groups of populations Strategic (STR) and Operational (OPR), under the true null hypothesis and alternative hypothesis, namely:

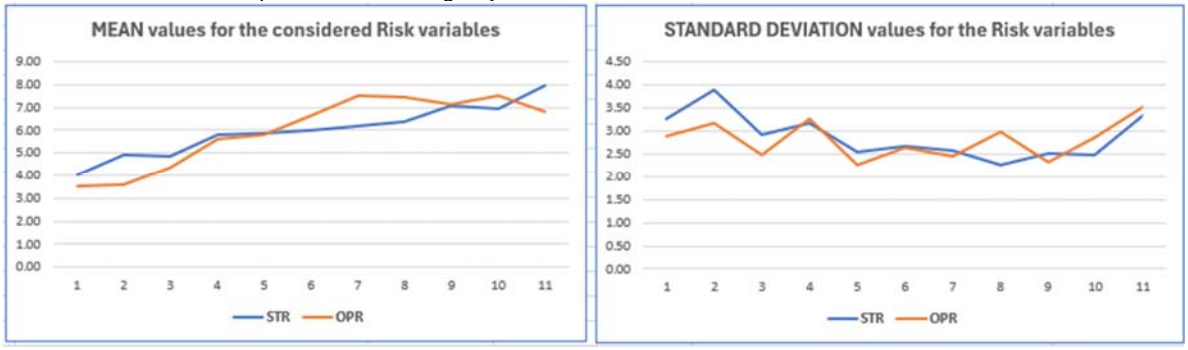
- Null hypothesis: There is no difference in the variance of the calculated mean between two populations (strategic versus operational) if P one-tail/two-tails >0,05
- Alternative hypothesis: The strategic group of respondents has a higher variance of their calculated mean compared with the Operational group if P one-tail/two-tails <0,05

4. Findings and discussions

The research analysis focuses on two groups of procurement roles strategic and operational and risk mitigation is one of the overall company procurement objectives. The expressed risk categorization is part of the perceived risk awareness and as a logical consequence, there are different perceptions and concerns based on the procurement roles. The study has certain limits, the job role profiles are different, the respondent's answers could be subjective and based on specific use cases and risk awareness could differ on several other topics that this study did not consider (age experience in procurement, supplier relationship, digital analytics usage, internal risk platforms if existing and more).

For the considered 11 Risks categorization on the X-axis, the input variables are analyzed and their MEAN and SD are presented graphically in Figure 2:

Figure no. 2. Mean and respectively Standard Deviation for the 11x Risks categorization on the X-axis – Visualization for the considered groups STR and OPR



Source: own author's research

Further to T-Test and p-value are calculated within the Table 1 and F-test and P one-tail/ two-tails are calculated for the Mean variance respective the SD variance:

The calculated T-Test showcase that the p-values are higher than 0,05, there is only one value related to R7 for which the p-value is less than 0,05. Explanation consists on the fact that there is a good internal alignment of the risk and the gap of the perceived risks is very limited for a variable only. There is a high level concern and attention where both roles are considering related to R1 (Geopoltical uncertainties) and R2 (Raw material shortage) in the context of the year 2022.

There is obvious that high level attention drawn by a specific risk Rx during a specific crises situation, from a complex range of the risks, could diminish attention and risk awareness for another risk Ry, leading to uncompliant delivery.

Table no. 1. T- Test and F-test for the Mean and SD variances

Roles	**Risk Variables**	**Mean**	**T-Test P values**	**F-Test** Mean-variance	**F-Test** SD variance
STR OPR	R1	3.78	0.46		
	R2	4.26	0.10		
	R3	4.60	0.41		
	R4	5.70	0.81		
	R5	5.85	0.94		
	R6	6.31	0.26		
	R7	6.86	0.02		
	R8	6.91	0.12		
	R9	7.12	0.97		
	R10	7.23	0.34		
	R11	7.39	0.12		
			P one-tail	0.171	0.287
			P two-tails	0.343	0.575

Source: own author's research

Further interpretations of the F-test as presented in Table 2 show that both sets of variables (Mean and SD) for the two groups considered STR and OPR are presented P one-tail / P two-tail larger than 0.05 – which rejects the Alternative hypothesis:

The strategic group of respondents has no a higher variance of their calculated mean compared with the Operational group- the considered groups are aligned and perceived risk awareness and test does not present large or unusual gaps.

Additionally, as test correctness, it is shown that P Two-tails is double of P one-tail.

It is important to express the limitations of this theoretical approach, this study starts with the assumption that there is a Gaussian normal distribution of the level of perceived risk awareness. There is a limited input information gathering and a limited number of respondents.

5. Conclusions

In conclusion, the collaboration between strategic procurement and operational procurement is essential in a global enterprise to achieve overall targets and mitigate risks. Risk awareness is a complex factor (Wanner, 2023), by which depends on several aspects of risk management according to several authors (Ahmed, W. et al., 2020; Dijmarescu, 2024). By aligning procurement activities and managing risks effectively, strategic and operational procurement functions can work together to drive value and ensure resilience (Um and Han, 2020). Implementing strategic initiatives at the operational level and sharing data and insights, the internal collaboration is essential to bridge potential gaps and efficiency of the supply chain.

The study highlights the importance of understanding the differing risk perceptions and approaches between strategic and operational procurement. Kjernsmo and Petersen (2019) emphasize similarly the need for organizations to leverage the strengths of both procurement functions to effectively navigate and mitigate risks in a holistic manner. These findings provide valuable insights for decision-makers and procurement professionals, indicating that a balanced integration of strategic and operational procurement practices can significantly enhance risk management strategies within global enterprises. This research underscores the critical role of both strategic and operational procurement in addressing risk challenges, particularly in times of crisis and advocates for a collaborative and integrated approach across all procurement levels to optimize risk mitigation efforts.

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