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AN ABSENCE OF PROCUREMENT RISK MANAGEMENT

Each year, DILF and researchers from the Department of Entrepreneurship and Relationship Management at SDU in Kolding conduct several mini surveys focusing on different supply chain management issues. Respondents to these mini surveys are voluntary senior managers from various Danish companies represented as the Danish Supply Chain Panel. This article presents the results of a mini survey dealing with procurement risk management.

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1. INTRODUCTION

A well-known saying is "a chain is no stronger than its weakest link". The COVID-19 pandemic has in full demonstrated how vulnerable global supply chains are. An increased vulnerability may stem from factors such as globalization of supply chains, an increased offshoring, an outsourcing of manufacturing and professional services, widespread adoption of lean practice with a focus on efficiency through minimizing stock levels, reduction of supplier bases, and consolidation of suppliers. Companies have experienced weak links they were not aware of, and thus they are being exposed to unforeseen risks.

Despite risk management having been adapted to a business context for several decades, its entrance into the supply chain context is relatively new (Christopher, 2016). Risk is concerned with the potential for unwanted negative consequences from events. Managing risks is not only relevant for manufacturing companies but also for service-

oriented companies, although their risk focus might be different (Truong & Hara, 2018). Risks in a supply chain can, according to Christopher & Peck (2004), be divided into five sources: 1) process risks, 2) control risks, 3) demand risks, 4) supply risks, and 5) environmental risks.

Processes are sequences of activities performed with inputs to deliver outputs. Processes utilize resources that can break down, be overburdened or be bottlenecks which can cause risks and failures. Control risk is concerned with rules, systems, and procedures to govern processes and might be exposure to risks by misapplication, such as making unrealistic promises to customers that the supply chain cannot comply with or contradicting KPI's. Demand risk is concerned with the potential failure in the flow or distribution of the product, information, and cash originating from markets and customers. Supply risk relates to failures in timing and/or the quality of products, services, and information upstream to the company. Finally, environmental risks concern failures that lay outside the company influence such as unpredictable events like natural disasters, cybercrime, and accidents, and more predictable events as new legislation impacting products or governmental promoted trade-restrictions (Stentoft et al., 2018).

Supply chain risk management can be approached in four steps: 1) Identification, 2) prevention, 3) mitigation, and 4) recovery. Identification is concerned with an ex-ante awareness of critical parts of the supply chain where mapping tools can be appropriate techniques to use as well as customer and supplier segmentation and vulnerability and capability analyses. Prevention is concerned with initiatives planned ex-ante that reduces the likelihood of failures occurring. "What if"-scenarios can be developed together with stress tests of the supply chain. Mitigation is ex-ante definitions of actions and procedures that must be executed if failures occur, despite the prevention measures

DANSK RESUMÉ

DILF og forskere fra SDU gennemfører hvert år adskillige surveys, besvaret af Det Danske Supply Chain Panel, med fokus på forskellige problemstillinger inden for supply chain management.

Denne artikel præsenterer resultaterne af et survey omhandlende risikostyring af indkøb. Resultaterne indikerer, at der stadig er noget arbejde, som skal udføres, med hensyn til risikostyring af indkøb, hvor selv den nuværende COVID-19-pandemi ikke ser ud til at have fungeret som et wake-up call.

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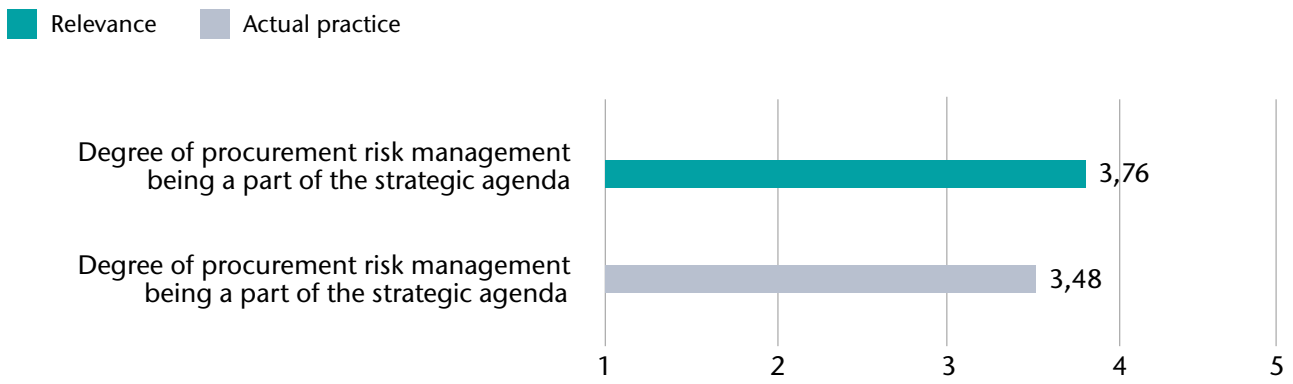
FIGURE 1. PROCUREMENT RISK MANAGEMENT AT THE STRATEGIC AGENDA



installed. Finally, recovery is an ex-post activity and focuses on how the company can come back to the state or even to a better state than before the failure occurred.

A recent mini survey from the Danish Supply Chain Panel revealed a vital gap between the perceived relevance of supply chain risk management and the actual practice (Stentoft & Mikkelsen, 2020). Thus, there are good reasons to delve deeper into the perceptions and practices of procurement risks among the members of the Danish Supply Chain Panel.

2. PROCUREMENT RISK MANAGEMENT AND SUPPLY CHAIN MAPPING

To delve deeper into the perceptions and practices of procurement risks, the panel members were first asked to evaluate to what degree procurement risk management is part of their companies' strategic agenda on a five-point Likert scale (1 = to a very low degree and 5 = to a very high degree). From Figure 1, it can be seen that the actual practice of having procurement risk management at the strategic agenda obtains an average of 3,48 whereas its relevance obtains an average of 3,76. This result indicates room for improvement to better integrate risk management in procurement strategies. One may wonder why the relevance is not even higher in the light of the current situation, with its significant supply chain disruption.

The respondents have also been asked about the presence of readiness plans for recovery after a potential disruption. Surprisingly, this practice only receives an average of 3,05 on a five-point

FIGURE 2. READINESS PLAN FOR A RECOVERY AFTER A POTENTIAL UPSTREAM DISRUPTION HAS OCCURRED

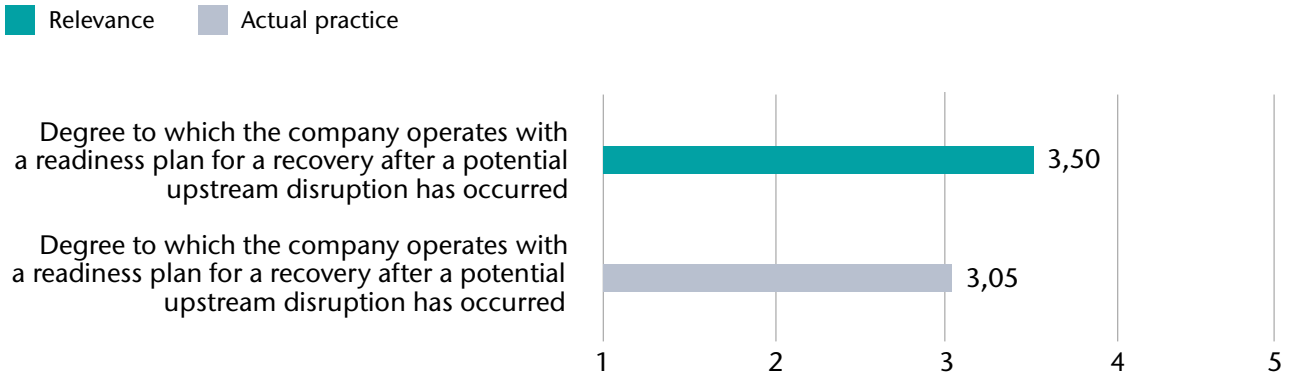


FIGURE 3. SUPPLY CHAIN MAPPING AND RISK IDENTIFICATION

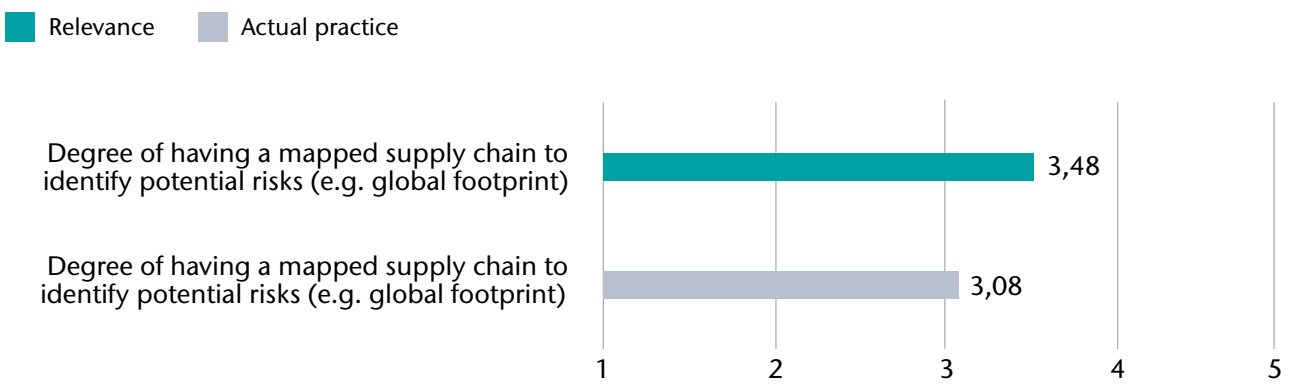
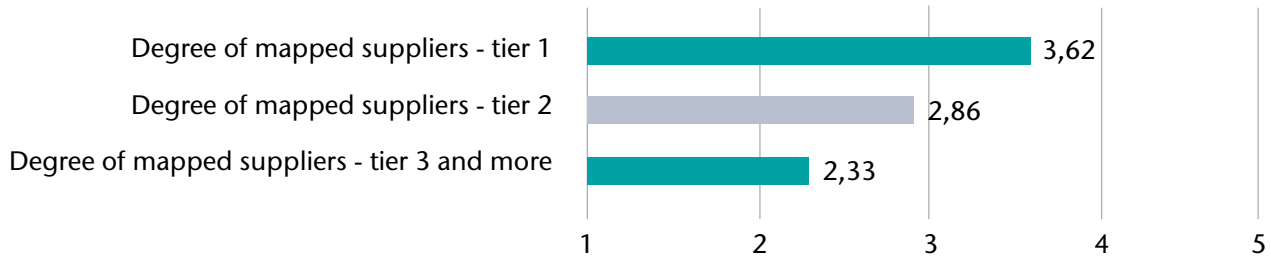


FIGURE 4. DEGREE OF MAPPING TIERS OF SUPPLIERS



Likert scale but reaches an average of 3,50 for its relevance. This result indicates that there still exists work to be done to include supply chain resilience plans among the companies that are a part of this survey. One explanation may be that companies, before the current disruption, were occupied with day to day operations and getting things done. Hence, disruption and risk management were not on the 'strategic agenda', and therefore no recovery plans were developed. As the old saying goes: "If it isn't broke, why fix it?" It would be very interesting to follow up on this a year or two from now to see if the current pandemic has had any impact on the presence of risk management on the strategic agenda.

As mentioned in the introduction, the first step in risk management is the identification of potential

FIGURE 5. RISK ELEMENTS BEING PRESENT IN THE UPSTREAM SUPPLY CHAIN

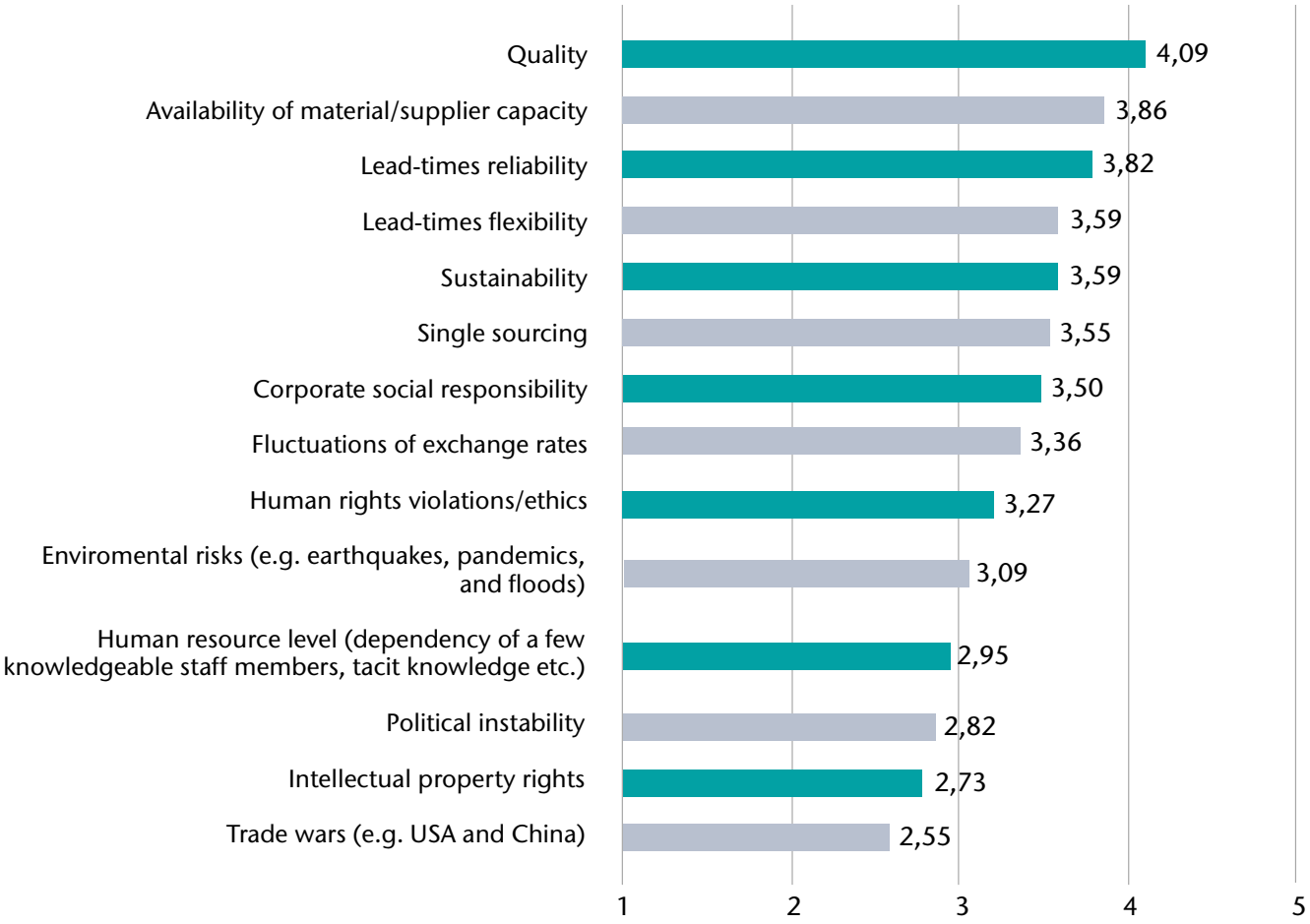
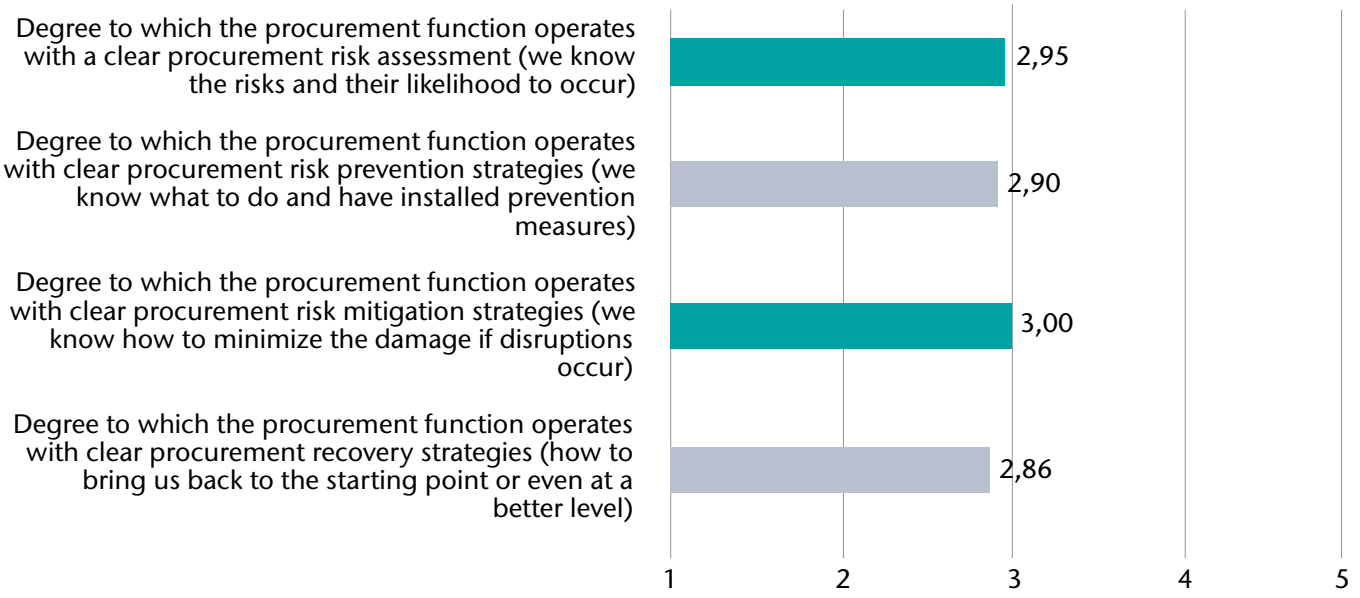


FIGURE 6. RISK STRATEGIES IN THE PROCUREMENT FUNCTIONS



failures. Figure 3 shows the respondents' answers to questions about the practice and relevance of having mapped the supply chain to identify risks. The actual practice obtains an average of 3,08 while the perceived relevance obtains an average of 3,48. Again, these results indicate room for improvement. Finally, it is quite interesting that the relevance is not perceived higher, given that the companies are currently living through a severe disruption.

A reason for not mapping the upstream supply chain may be that, although it sounds easy, it requires some work. Not least, it requires insight about not only suppliers but also of the critical technologies and capabilities in the supply chain (Fine, 1998). Again, one could suspect that the high activity level before the current disruption may have driven attention in other directions than upstream supply chain resilience.

When mapping activities take place, we have been interested in clarifying the scope of such mapping, i.e. number of tiers upstream. Figure 4 shows that mapping first-tier suppliers obtain an average of 3,62 indicating that this practice is present. However, mapping second- and third-tier suppliers obtain averages below 3. Missing such practice might expose the companies to unnecessary risks, since sources of risks might be fostered in lower upstream tiers of suppliers. The challenge here is that although companies cannot see the risk, they will be hit by it, and they will be held accountable by customers.

3. SUPPLY CHAIN RISK ELEMENTS

The panel members have been asked to evaluate a predefined list of risk elements in their upstream supply chain. As shown in Figure 5, quality issues are the highest scoring risk element with an average of 4,09 on a five-point Likert scale. Then comes the availability of material/supplier capacity, lead-times reliability, and lead-times flexibility. These results indicate that the highest perceived risk elements are all operational instead of being more strategic with focus on sustainability and single sourcing which obtain the fifth and sixth highest average.

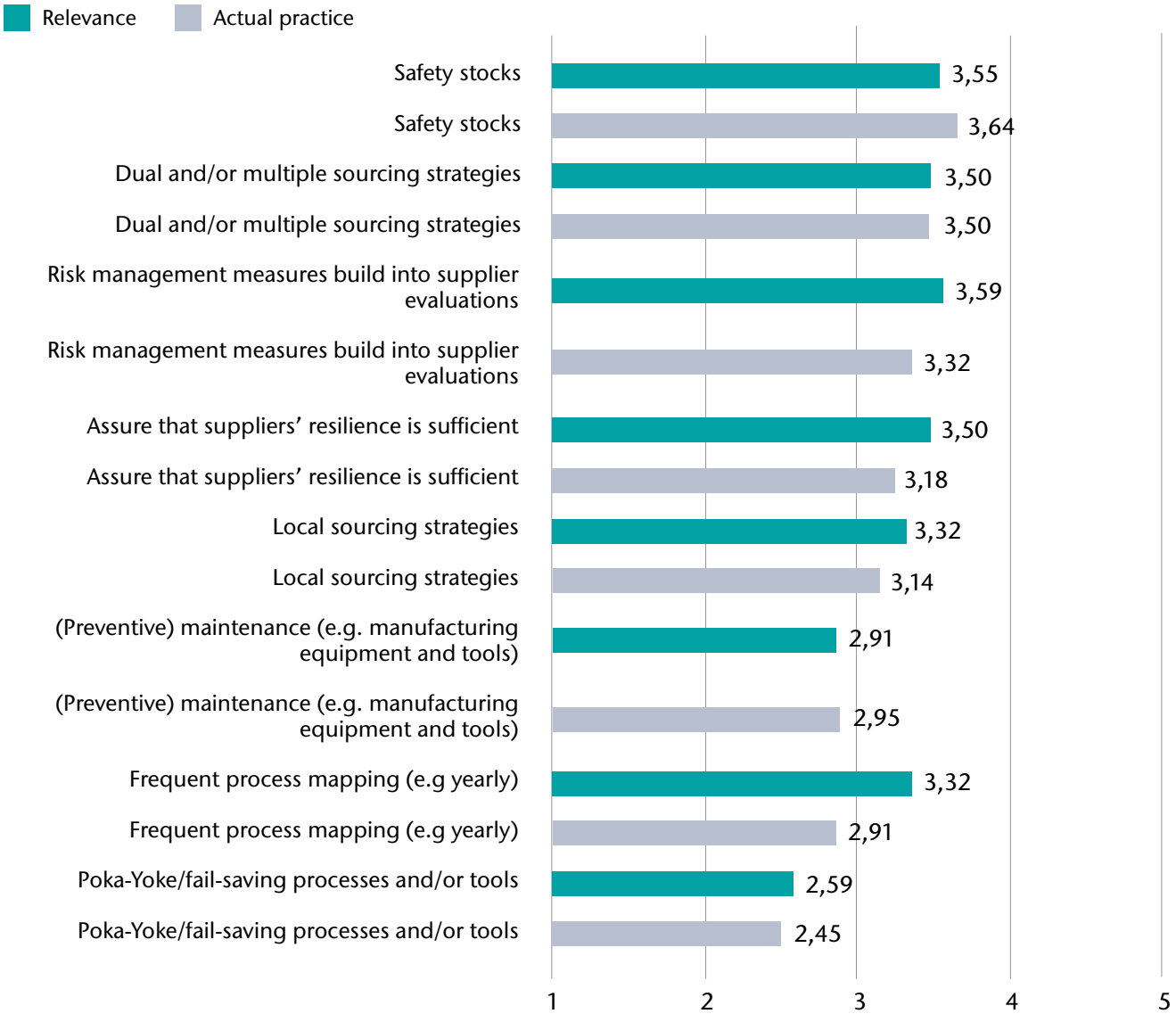
It may be argued that this is a single point observation, as respondents may have answered in the shadow of the current pandemic situation. Hence, they answer what they experience right now and right here as major concerns and problems in

their respective supply chains. Having operations running may currently be the major or the only focus for companies right now.

4. RISK ASSESSMENT, PREVENTION, MITIGATION, AND RECOVERY IN THE PROCUREMENT FUNCTION

The panel members were further asked to evaluate their practice according to the four-step approach of risk management strategies in the procurement function (figure 6). The practice is here at a surprisingly low level with an average of 3,00 for mitigation practice, while risk assessment, prevention, and recovery all obtain averages below 3,00. We have not asked about reasons for this low practice. But, for the level of clear procurement assessment strategies, we interpret a link to the likewise relatively low level of mapping identified in Figure 3. Hence, a low level of actual mapping is followed by a low level of insight and identification of potential failures and their likelihood and potential impact. The rest of the list naturally follows. Thus, if we do not know the risks, how may we then install preventive measures, develop mitigation strategies, and not least plans and actions to recover from a potential failure? In the light of the current disruption due to the pandemic situation, it seems that supply chain risk

FIGURE 7. RISK PREVENTION STRATEGIES



management faces a lack of strategic prioritization and resources.

Finally, the respondents were asked to indicate which, and to which degree, preventive measures are relevant and to which degree preventive measures are adopted to minimize the likelihood of various risks occuring. The list appears from Figure 7 and is organized in falling order based on the actual practice of preventive measures in the upstream supply chain.

As seen from Figure 7, it is especially classical preventive measures such as safety stocks (3,64) and dual/multiple sourcing (3,50) that are in actual practice. However, also risk management measures build into supplier evaluations (3,32) have to more than some degree been implemented. This is followed by assuring that suppliers' resilience is sufficient (3,18). One of the major themes both in academic and practitioner-oriented literature discussing the Covid-19 impact on supply chains has been the focus on relocating the supply base to more local sourcing. Hence, it is interesting to see that local sourcing strategies in this survey do not turn more out than it does, neither relevance (3,32) nor actual practice (3,14). However, maybe this will come and will be interesting to follow.

The largest gap in Figure 7 is frequent process mapping. This comes as no surprise, as it is in line with the discussion on the issue above.

5. CONCLUSION

This article has set out to report on the results of a mini survey on procurement risk management carried out among the Danish Supply Chain Panel. The analysis revealed several interesting but also surprising findings. First, it is striking how little procurement risk management is on the strategic agenda among the respondents' companies and how little focus there is on operating with a readiness plan for recovery in case supply chain disruptions occur. Risk identification through supply chain mapping is only carried out to some degree, and if so, it is mainly concerned with first-tier suppliers. The major perceived risk elements in the supply chains are reported to be quality issues, availability of material/supplier capacity, lead-times reliability and -flexibility, sustainability, and single sourcing with averages above 3,50.

Finally, the results reveal little emphasis on risk strategies of the four steps of identification, prevention, mitigation, and recovery with averages of 3,00 or lower. Overall, these results indicate that there still is some work to be done regarding procurement risk management – even the current COVID-19 pandemic does not seem to have fully functioned as a wake-up call. We hope this article can kickstart such important work to make the supply chain more robust and resilient in the future. It is strongly needed as the current disruption has shown./

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