A NEED FOR STRENGTHENING
THE SUPPLY CHAIN CAPABILITIES

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 supply chain knowledge and competencies.

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INTRODUCTION

The business environment continues to change rapidly. The conditions can be summarized by the acronym VUCA. First, the business environment is volatile with frequent and unexpected changes. Second, it is becoming more uncertain where future conditions are difficult to predict (e.g. the full consequences of Brexit; new presidency in the USA and the magnitude of a trade war between China and the USA which can leave European companies with a dilemma in choosing sides). Third, the business environment has for many companies also become complex with increasing inter-dependencies and inter-connections due to a globalized economy with sourcing from one continent, manufacturing in another, and sale at a third continent. Further, the continued fine slicing of the supply chain also adds to this complexity.

Finally, the business environment has also become ambiguous where signals are difficult to decode, read, and interpret. As the business conditions continuously are under change, it is imperative that supply chain competencies and skills must be updated to assure preparedness for future challenges. A recent questionnaire among Danish supply chain practitioners revealed that a major barrier for acquiring new supply chain management (SCM) knowledge is lack of time/too high workload (Stentoft, 2020). As SCM becomes more digital, data-driven, and strategically impor-
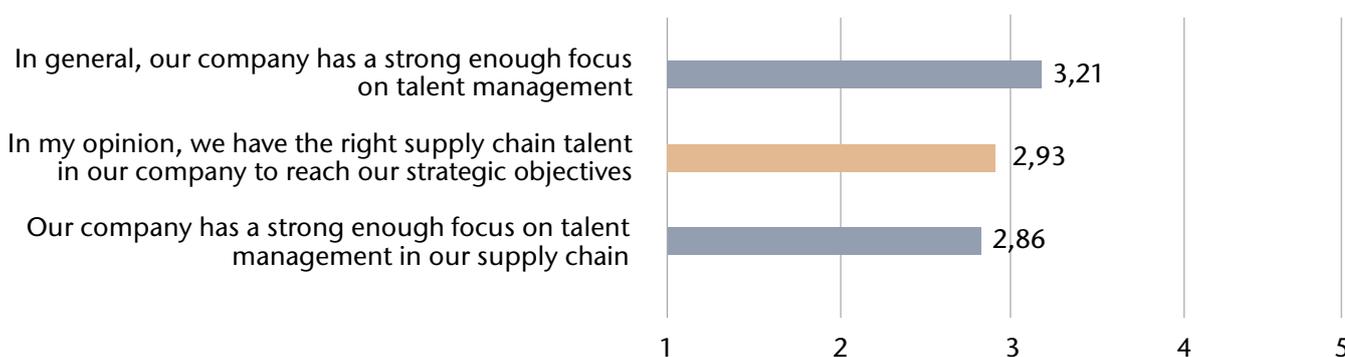
DANSK RESUMÉ

Denne artikel præsenterer resultaterne af en mini-undersøgelse, der beskæftiger sig med tilegnelsen af SCM-viden og kompetencer. Vi kigger blandt andet nærmere på de danske virksomheders fokus på talent management inden for supply chain management, hvad de finder de vigtigste supply chain-kompetencer, samt hvordan de tilegner sig SCM-viden.

Artiklen er en del af en lang række DDSCP-undersøgelser, der har fokus på forskellige områder inden for SCM.

/Redaktionen

tant, organizations need to step up to assure SCM professionals. Demanded skills are fluent in technology, data, and relationship building (Brown, 2020). SCM professionals must excel with both I- and T-shaped skills (Hansen & Oetinger, 2001). I-shaped skills are deep in a single domain symbolized with the letter "I" (e.g. specialist in forecasts, data analytics, or route planning). The I-shape profile is strong in zooming in to analyze processes and data points. In contrast, T-shaped skills are concerned with one who breaks out of the traditional corporate hierarchy to share know-

FIGURE 1. TALENT MANAGEMENT FOCUS

In general, our company has a strong enough focus on talent management	3,21
In my opinion, we have the right supply chain talent in our company to reach our strategic objectives	2,93
Our company has a strong enough focus on talent management in our supply chain	2,86

ledge freely across the organization (the horizontal part of the T) while still being committed to individual business units, and then zoom out to deliver strategic insights and collaborate with suppliers.

Today's SCM professionals need to upgrade their skills whether it is an I- or T-shaped profile, and they might require an ambidextrous profile of the two with deep analytical skills combined with interpersonal skills (Brown, 2020). Managing talent in the future is expected to be a portfolio of talents with a mix of traditional talent management in organizations, technology-driven talents, and gig-economy talents (independent workers hired in temporary contracts). Thus, there are good reasons to look at to what extend the Danish Supply Chain Panel focuses on supply chain talent, what they see as important capabilities, and how they maintain their SCM knowledge reservoir.

TALENT MANAGEMENT

The panel members have been asked to evaluate their organization's focus on talent management in general, but also specifically to SCM, by responding to three statements based on a five-point Likert-scale (1= to a very low degree and 5 = to a very high degree). Figure 1 shows that a strong focus on talent management in general only obtains an average of 3,21 indicating room for improvement. The average scores decrease when the focus on talent management is zoomed in on SCM with average scores below three for 'a focus on talent management within the SCM area' and 'having the right talent on board to reach the strategic objectives'.

The respondents have also been asked to evaluate some pre-listed barriers to obtaining the right talent in the supply chains. In general, the data reveals a few real barriers with average scores under three (cf. Figure 2). The highest averages are lack of budgets for competence development; lack of budgets for recruiting and lack of top management attention. However, we should remember the relatively low averages. Thus, the respondents do signal a lack of talent (Figure 1) and also an absence of barriers (Figure 2) that hinder the organizations to improve the talent pool. Possible reasons for this paradoxical situation might be a lack of interest to focus on talent management; a too high focus on daily operations and that there might exist other barriers than those being asked to be evaluated.

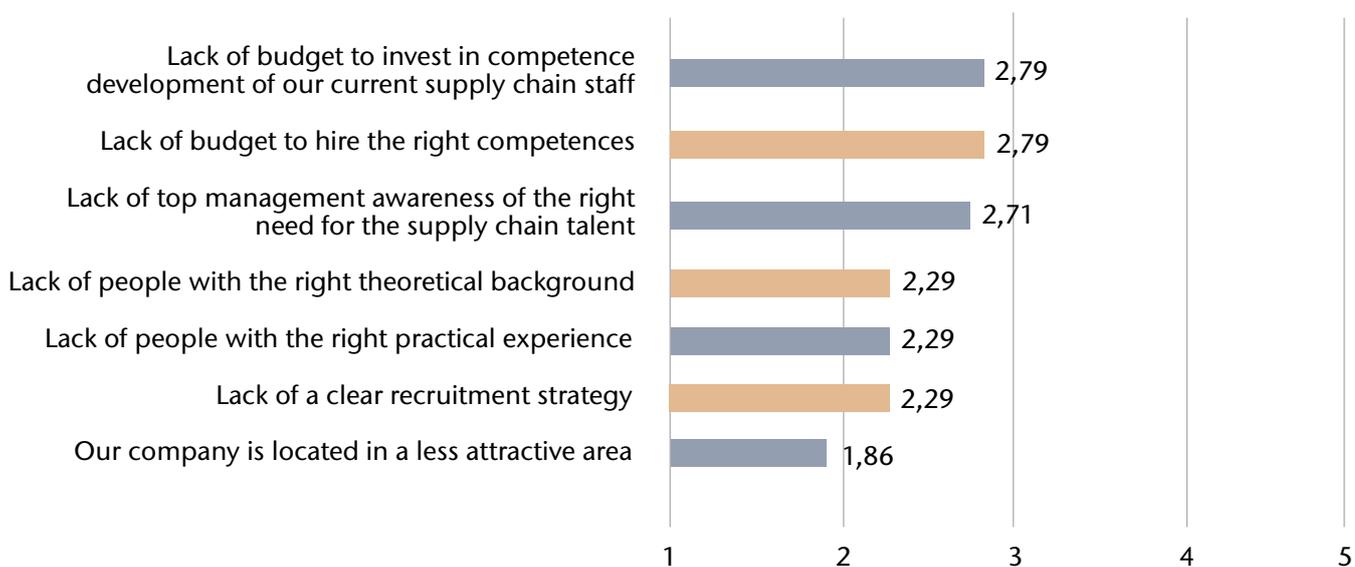**FIGURE 2.** BARRIERS TO OBTAINING THE RIGHT TALENT IN THE SUPPLY CHAIN

FIGURE 3. SUPPLY CHAIN CAPABILITIES – CURRENT LEVEL AND PERCEIVED IMPORTANCE

■ Perceived importance ■ Current level

Capability	Perceived importance	Current level
Demand forecasting	4,07	3,57
Sales & Operations Planning	4,07	3,29
Supplier collaboration and risk analysis	4,07	3,14
Supply chain risk management	4,00	3,50
Total Cost of Ownership analysis	3,86	3,00
Supply chain resilience	3,79	3,29
Using optimization tools	3,57	3,07
Supply chain finance	3,36	2,86
Integrated business planning	3,29	3,00
Artificial Intelligence	3,29	2,00
Control tower analytics and visualization	3,21	2,14
Real-time shipment tracking	2,93	2,21
Advanced Delivery Systems	2,86	2,14
Advanced robotics in manufacturing	2,64	1,93
3D printing	2,43	1,86
GPS and/or RFID	2,43	1,86
In-memory computing	2,43	1,79
Wearable Technology	2,43	1,57

SUPPLY CHAIN CAPABILITIES

The respondents have been asked to evaluate what they find are important supply chain capabilities for their businesses and how they perceive their current levels. As shown in Figure 3, seven capabilities obtain averages above 3,50 for their importance (demand forecasting, sales & operations planning, supplier collaboration and risk analyses, supply chain risk management, total cost of ownership analyses, supply chain resilience, and using optimization tools). Supply chain risk management and supply chain resilience have been strongly actualized in the ongoing COVID-19 pandemic.

The top seven capabilities are a mix of I- and T-shaped profiles (with demand forecasting and optimization tools directed towards the I-shape and the remaining toward the T-shape). What is interesting from Figure 3 is that the average scores for the perceived current levels are notably lower than the "importance" scores indicating room for improvements. High gaps exist for artificial intelligence and control tower analytics. It is important to notice that the specific evaluation of the importance of the supply chain capabilities is dependent on the specific context. Thus, some companies are more dependent on demand forecasting while others are more dependent on real-time shipment tracking.
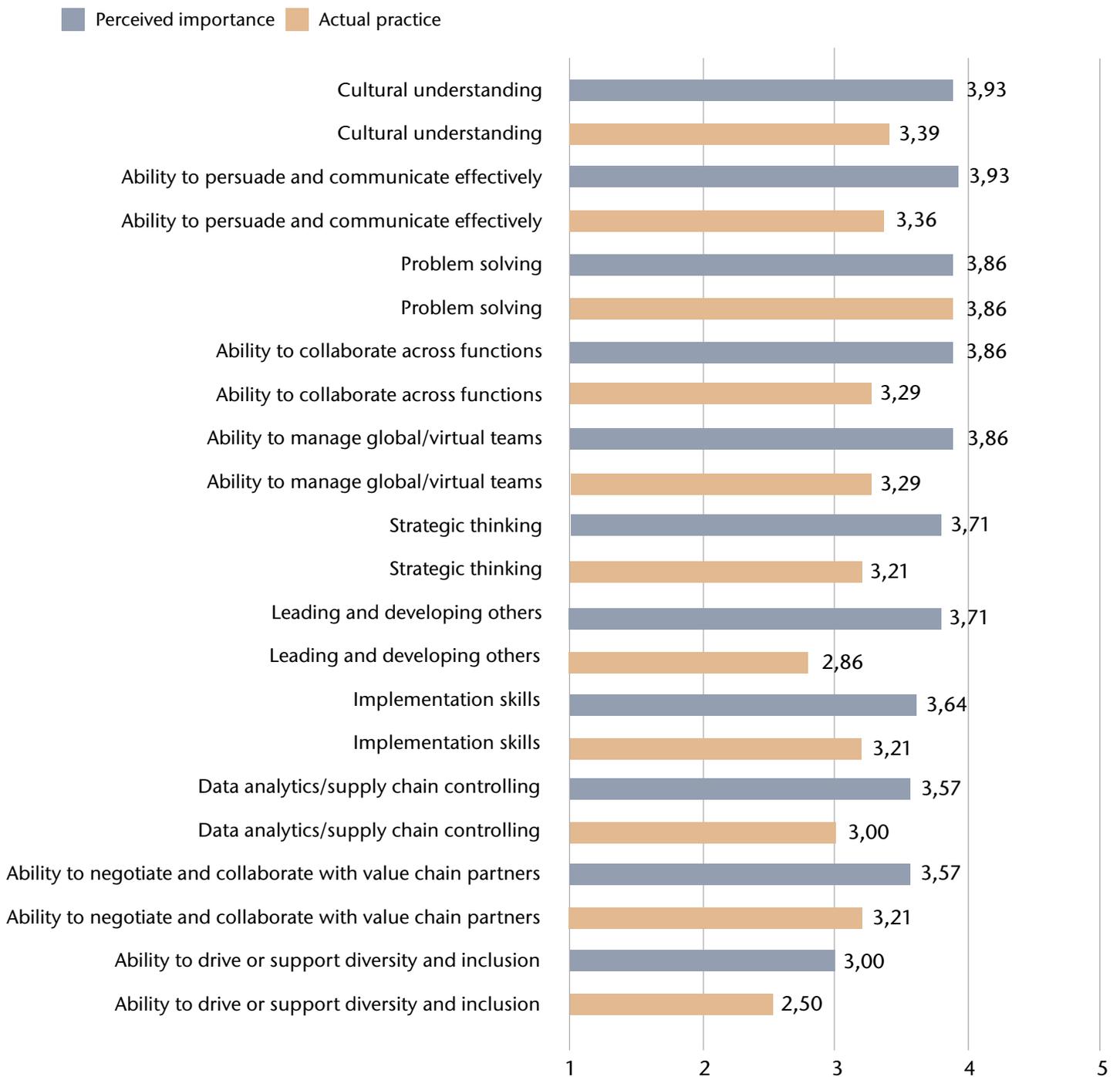
SUPPLY CHAIN COMPETENCE AREAS

Figure 4 contains the results of the answers about perceptions of the current levels of competence areas and their importance among the respondents. All the pre-listed competence areas obtain averages above 3,50 except "Ability to drive or support diversity and inclusion" which reaches an average of 3,00. Again, the perceived importance scores are higher than the averages for actual practice scores, except for problem-solving where actual practice equalizes with the importance at an average of 3,86. The competence area "leading and developing

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FIGURE 4. SUPPLY CHAIN COMPETENCE AREAS – ACTUAL PRACTICE AND PERCEIVED IMPORTANCE

Perceived importance   Actual practice

Competence area	Perceived importance	Actual practice
Cultural understanding	3,93	3,39
Ability to persuade and communicate effectively	3,93	3,36
Problem solving	3,86	3,86
Ability to collaborate across functions	3,86	3,29
Ability to manage global/virtual teams	3,86	3,29
Strategic thinking	3,71	3,21
Leading and developing others	3,71	2,86
Implementation skills	3,64	3,21
Data analytics/supply chain controlling	3,57	3,00
Ability to negotiate and collaborate with value chain partners	3,57	3,21
Ability to drive or support diversity and inclusion	3,00	2,50

others" obtain a high difference between actual practice and importance at 0,85 (3,71 - 2,86). Compared with a mini survey from 2017 that also included these competence areas, the importance scores in this survey are close to 0,5 points lower whereas the average scores for the actual practice are at the same level as for the 2017 mini survey.

Again, we can see that the I- and T-shaped profiles get averages above 3,50.

In general, the respondents from this mini survey find that the current SCM competence level matches what is required with an average of 3,50 at a five-point Likert scale. This is a higher average
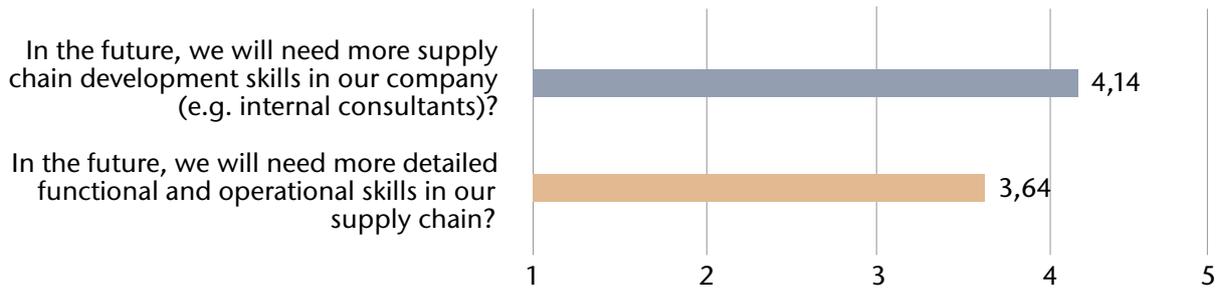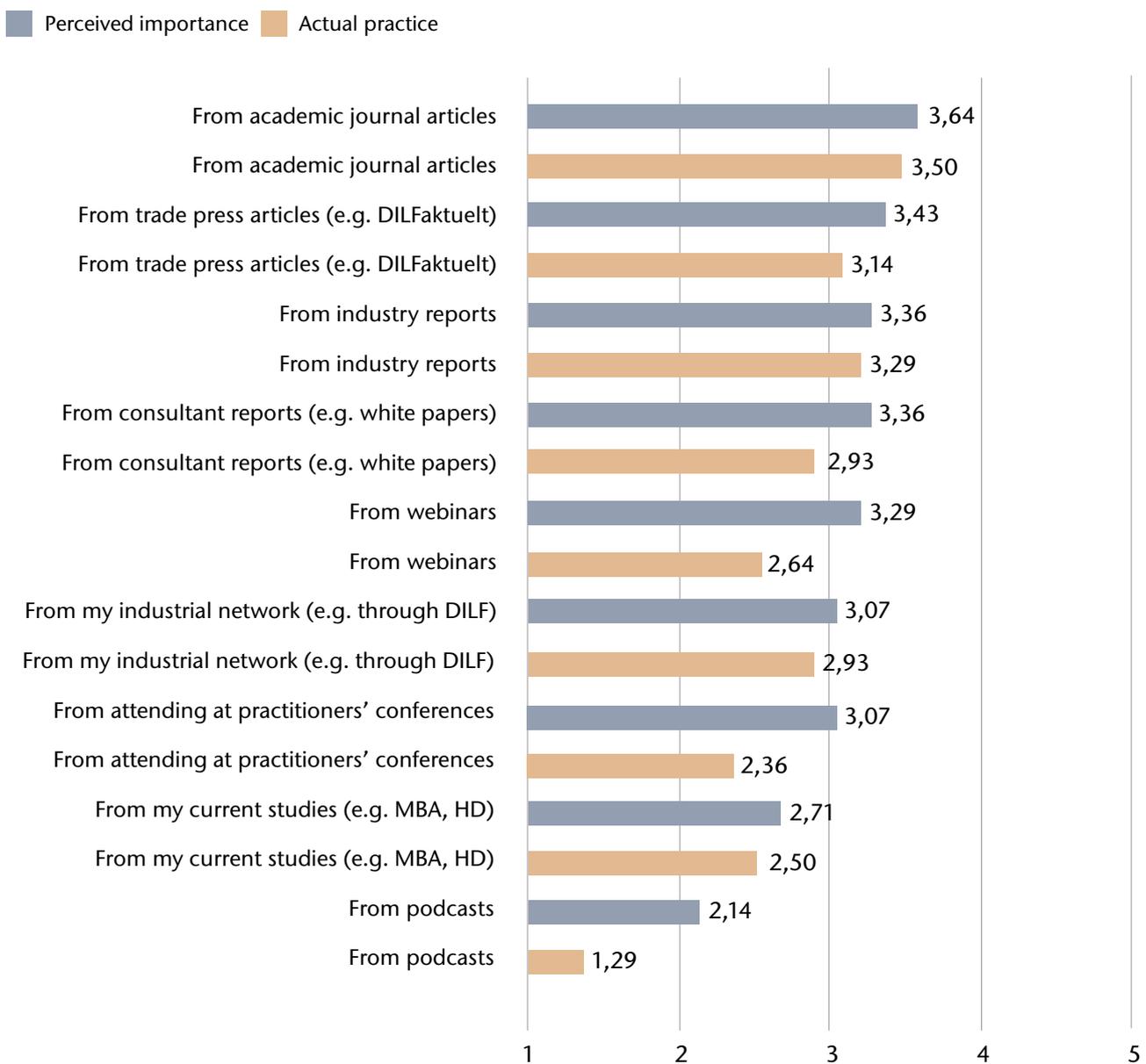
FIGURE 5. FUTURE COMPETENCE REQUIREMENTS

In the future, we will need more supply chain development skills in our company (e.g. internal consultants)? — 4,14

In the future, we will need more detailed functional and operational skills in our supply chain? — 3,64

FIGURE 6. SOURCES FOR SCM KNOWLEDGE – ACTUAL PRACTICE AND PERCEIVED IMPORTANCE

■ Perceived importance ■ Actual practice

Source	Value
From academic journal articles (Perceived importance)	3,64
From academic journal articles (Actual practice)	3,50
From trade press articles (e.g. DILFaktuelt) (Perceived importance)	3,43
From trade press articles (e.g. DILFaktuelt) (Actual practice)	3,14
From industry reports (Perceived importance)	3,36
From industry reports (Actual practice)	3,29
From consultant reports (e.g. white papers) (Perceived importance)	3,36
From consultant reports (e.g. white papers) (Actual practice)	2,93
From webinars (Perceived importance)	3,29
From webinars (Actual practice)	2,64
From my industrial network (e.g. through DILF) (Perceived importance)	3,07
From my industrial network (e.g. through DILF) (Actual practice)	2,93
From attending at practitioners' conferences (Perceived importance)	3,07
From attending at practitioners' conferences (Actual practice)	2,36
From my current studies (e.g. MBA, HD) (Perceived importance)	2,71
From my current studies (e.g. MBA, HD) (Actual practice)	2,50
From podcasts (Perceived importance)	2,14
From podcasts (Actual practice)	1,29

compared with another survey covering perceptions among supply chain staff's degree of acquiring new SCM knowledge that obtained an average of 2,71 (also at a five-point Likert-scale) (Stentoft, 2020, p. 39).

The respondents' answers on how they view future competence requirements are included in Figure 5. There are strong indications of the need for competencies within supply chain development with an average of 4,14. The current COVID-19 crisis might have initiated a need for redesigning the supply chains which demand supply chain innovation capabilities. The respondents do also indicate a need for staff with detailed functional and operational skills with an average of 3,64.

SOURCES FOR SCM KNOWLEDGE

The last area this mini survey has focused on is the sources of SCM knowledge used by the panel members. Figure 6 shows that the major source is from academic journal articles which is surprising as these normally have low availability for practitioners. The second-highest average is obtained at trade press articles followed by industry reports. Attending practitioners' conferences is at the moment low due to the COVID-19 pandemic.

Listening to SCM podcasts is currently not practiced which might be caused by the low availability of SCM podcasts. Podcasts as a knowledge source are expected to rise in the future.

FIGURE 7. SOCIAL MEDIA – ACTUAL PRACTICE AND PERCEIVED IMPORTANCE

Perceived importance   Actual practice

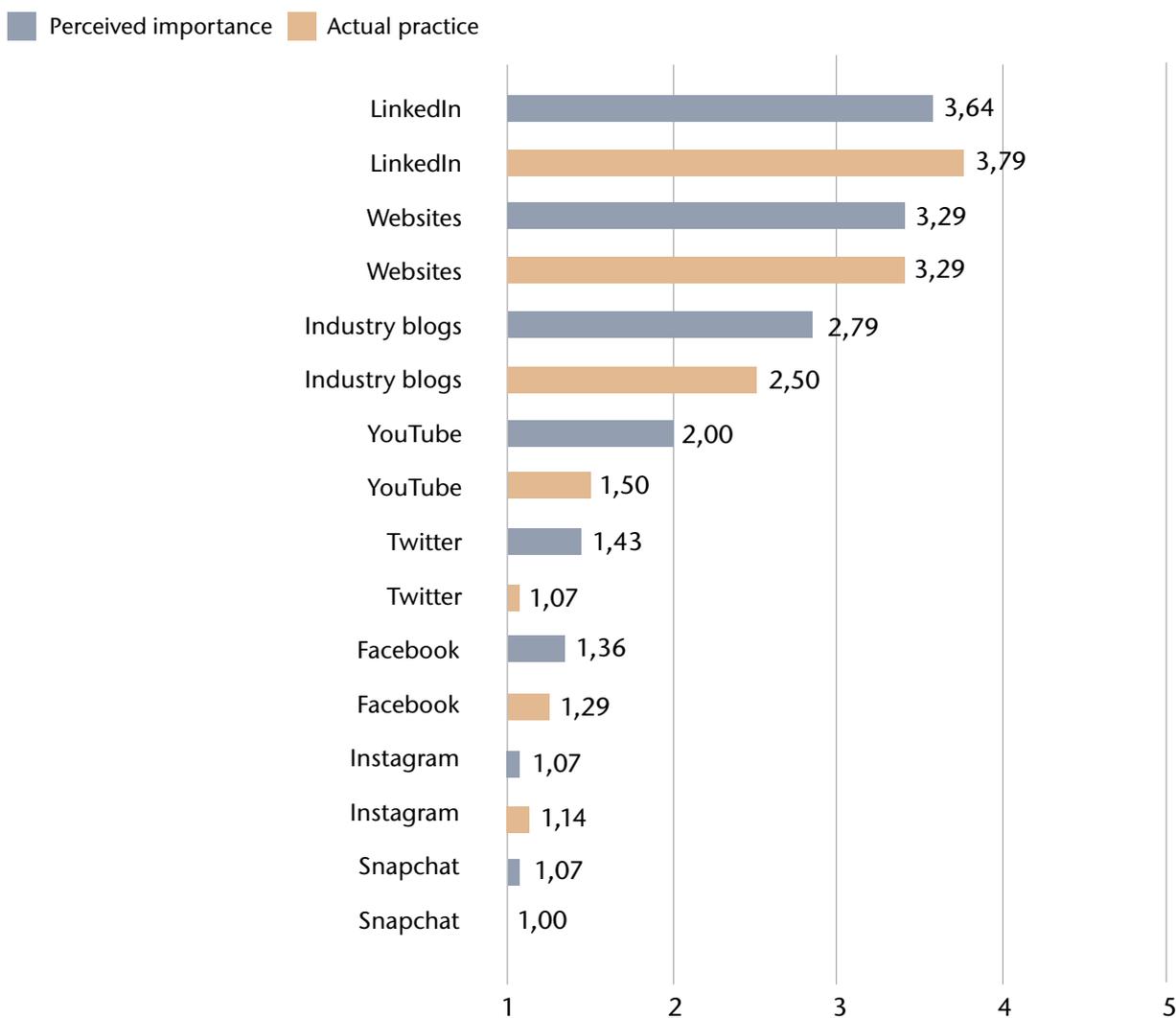|	
LinkedIn	3,64
LinkedIn	3,79
Websites	3,29
Websites	3,29
Industry blogs	2,79
Industry blogs	2,50
YouTube	2,00
YouTube	1,50
Twitter	1,43
Twitter	1,07
Facebook	1,36
Facebook	1,29
Instagram	1,07
Instagram	1,14
Snapchat	1,07
Snapchat	1,00

Figure 7 shows the respondents' answers to questions regarding the use of social media technologies. Compared with the results of a mini survey from 2014 regarding the use of social media (Arlbjørn et al., 2014), the present results indicate a growth in the use of social media technologies.

LinkedIn obtains the highest average at 3,79 in this survey compared with 2,34 in the 2014 mini survey. Websites obtain an average of 3,29 which is close to the average of 3,28 in the 2014 survey. Industry blogs obtain the third-highest average of 2,50 which too is higher than the average of 1,46 in the prior survey. These results indicate that some of the social media technologies to a higher degree are being used as a source to acquire and communicate SCM knowledge.

CONCLUSION

This mini survey has set out to investigate the respondents' perception of their current level of talent management, supply chain capabilities and competencies, and sources of SCM knowledge and to what extent this is at the right level to cope with future challenges. Data reveal a lack of focus on talent management in the SCM functions and that the respondents find that they to some degree have the right competencies on board to solve the future SCM challenges. A surprising finding is that the respondents do not find that they operate with major barriers when focusing on talent management.

The supply chain panel evaluates the importance of seven supply chain capabilities with averages from 4,07 to 3,57 spanning from demand forecasting, sales & operations planning, supplier collaboration and risk analyses, supply chain risk management, total cost of ownership analyses, supply chain resilience to using optimization tools. For all capabilities, the respondents find their current practice lower than the perceived importance which indicate areas for improvement. Regarding the listed competence areas, they all obtain high averages concerning their deemed importance (from 3,93 to 3,00). The top three competence areas are cultural understanding; the ability to persuade and communicate effectively and problem solving – indicating both I- and T-shaped profiles. In the future, the respondents to a higher degree find that they need development-oriented competencies (average at 4,14) than operational competencies (average at 3,64).

Major sources for new SCM knowledge are reported to be academic journal articles, trade press articles (e.g. from DILFaktuelt), and industry reports. LinkedIn is a major social media technology used among the respondents in their work followed by websites and industry blogs. It is the hope that the findings presented in this mini survey will enable discussions on this important topic in your company. The race for talents has already begun! /

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