

HOW TO OPERATIONALIZE STRATEGIC PROCUREMENT? CONTENT VALIDATION RESULTS

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Purpose: Recent years have been characterized by an increased number of strategic surprises, leading to supply chain disruptions, cost pressures, the need to develop sustainable practices, and the search for innovative solutions with suppliers. Due to these phenomena, a growing number of studies in the fields of operations and supply chain management examine purchasing in a strategic context. However, there is still a lack of studies that comprehensively address strategic procurement (SP), operationalizing in detail all its important dimensions, and supporting the development of a SP measurement scale. The limited number of previously proposed instruments to measure SP are one-dimensional constructs which present methodological challenges.

Design/methodology/approach: This study combines systematic literature reviews with content validation of the SP construct to propose an updated definition of the SP.

Findings: Within the scope of SP, four sub-processes were identified (innovation sourcing, cost optimisation, risk management and developing sustainability), each with 6 to 12 items. Expert-based panel supported the content validity of the SP measurement instrument, with three items indicating the need for revision or removal. Synthesizing these results with the findings from systematic literature reviews allowed for the formulation of an updated definition of SP.

Research limitations/implications: The proposed set of indicators can serve as a ready-made input for the next stage of scale development, i.e. construct validation.

Practical implications: Content validated sub-processes and items offer practitioners a roadmap toward SP.

Originality/value: This study provides a novel multidimensional construct as well as an updated definition of SP.

Keywords: strategic procurement, content validity, definition.

Category of the paper: Research paper.

1. Introduction

Purchasing is an essential aspect of managing modern companies and supply chains. Strategic surprises, such as the COVID-19 pandemic (Singh et al., 2021) or armed conflicts (Halser, Paraschiv, 2022), combined with pressure to achieve cost savings (Ellram et al., 2020),

the need to implement ESG practices in supply chains (Walker, Brammer, 2009) and growing importance to enhance R&D processes with support of suppliers (Delgado-Verde, Díez-Vial, 2023) forcing purchasing professionals to seek for alternatives to those practices that cease to function (Öberg, 2022). Purchasing, therefore, needs to be taken on a strategic level that allows companies to safeguard their supplies and use opportunities coming from supply chains. The first step in understanding strategic procurement (SP) is to analyze its triggers. Designing a structured assessment instrument can facilitate this process (Kauppi, Luzzini, 2022). The development process involves four stages: stage 1 – instrument development, stage 2 – expert judgement, stage 3 – scale dimensionality and validation, and stage 4 – nomological validity. This study presents the first two stages of this process, enabling the development of a definition of the SP.

The classic definition of purchasing refers to acquiring materials in the right quantity and quality, delivering them to the right place, at the right time and at the right price (Lysons, Farrington, 2005). Another perspective emphasises supplier selection, placing an order and acquiring goods and services (Bodnar, Hopwood, 2004). These approaches focus on the fundamental elements of purchasing process. The modern and prominent definition considered by its author to be tactical, conceptualises purchasing as the management of a company's external resources. Supplies of the needs must be organised from suppliers on the most favourable terms (Van Weele, 2014). Definitions are not intended to explain the entire concept, but the fact is that the above leaves the potential user with a dilemma as to what terms are "right" or "most favourable" in practice.

Strategic purchasing is broadly defined in governmental services, particularly in healthcare (Smotritskaya, Shuvalov, 2017; Klasa et al., 2018; Greer et al., 2020). However, given that this study focuses on the market approach, the business perspective must be considered. From this point of view, purchasing is strategic when it is:

- linked to the company's goals and priorities (Johnsen et al., 2014),
- aligned with competitive organisational strategy (Rendon, 2005),
- successfully transferred into goals for buyers (Monczka et al., 2009).

To be strategic, purchasing function must be integrative, proactive, long term oriented, and consistent with the firm's goals (Carr, Pearson, 2002). Depending on the author, different aspects of strategic purchasing are emphasised. First, strategic purchasing decisions are seen as taking advantage of opportunities in the market, considering the firm's capabilities (Carr, Smeltzer, 1997). Sollish and Semanik (2011) focus on maximising the value of purchased goods and services by locating, qualifying, hiring, and developing suppliers through strategic sourcing. It is also worth noting the factor of effective management of the supply base to identify suppliers who could be partners for long-term collaboration (Talluri, Narasimhan, 2004). Accordingly, supply planning and contracting can be added to this catalogue (Schiele, 2019). Practitioners affiliated with the Chartered Institute of Procurement & Supply (CIPS) have their descriptive definition of SP, which focuses on negotiating, communicating,

and preserving long-term relationships with suppliers while reducing the supplier base (CIPS, 2012). It is important to emphasise that, among all other aspects, CIPS underlines environmental consciousness.

As seen in the definitions above, there is a lot of terminology in the literature and practice related to purchasing. Words such as purchasing, sourcing and procurement are used interchangeably in the same context. To clarify, procurement is broader than purchasing or sourcing (Lysons, Farrington, 2005). It includes all the procedures necessary to move a product from a supplier to where it will be used (Van Weele, 2014). Since some of the concepts in the study, such as work on improvement of internal processes or initiation of development projects in the company, do not even fall perfectly within this scope, a narrower option cannot be used. Therefore, for the purpose of this study, the term strategic procurement (SP) should be considered.

To effectively manage procurement strategically - with a long-term perspective and based on a system approach - an in-depth understanding of the phenomenon is required. It is necessary to establish a precise construct of the SP. However, there is a lack of a common scale, accounting for all its relevant dimensions, that can help measure and define the phenomenon. There have been few studies in the past where the SP variable has occurred, including one that used a structured scale development procedure (Chen, Paulraj, 2004; Chen et al., 2004). In all cases, it has been a unidimensional construct called either strategic purchasing (Carr, Pearson, 2002, 1999; Chen, Paulraj, 2004; Chen et al., 2004) or strategic sourcing (Su, Gargeya, 2012). Two of the scales mentioned are three-item scales (Carr, Pearson, 1999; Su, Gargeya, 2012), one is a four-item scale (Carr, Pearson, 2002), and the last is a seven-item scale (Chen, Paulraj, 2004; Chen et al., 2004).

From a scientific perspective, it is not easy to develop an evidence-based theory without using well-constructed and validated measurement instruments Heggstad et al., 2019). Therefore, there is value in developing a structured SP assessment instrument to define scope of the phenomenon that allows the design and implementation of successful purchasing management strategies in practice and help to define scope of interest. To achieve this, the instrument must be validated.

Validity means how well a scale measures a specific variable (DeVellis, 2017). The scale includes all elements of the measurement instrument (i.e., questionnaire items, response formats, and instructions for respondents) that affect the measurement process and the data obtained. Validity ensures that the measurement instrument measures precisely what it is supposed to measure (i.e., the theoretical concept, domain or variable that is the target of measurement, called the construct). It ensures that the instrument reflects that particular concept, domain, or variable, not some other phenomenon (Carmines, Zeller, 1979). Validity can be deduced from a scale's construction process, its capacity to predict particular outcomes, or its connections to measures of other constructs. These procedures correspond to three different types of validity: content, criterion-related, and construct (DeVellis, 2017).

Content validity is the degree to which elements of a measurement instrument are relevant to and representative of the targeted construct for a particular assessment (Cook, Beckman, 2006).

While the representativeness of a measurement instrument is the extent to which its elements are proportionate to the facets of the targeted construct, the relevancy of a measurement tool relates to the appropriateness of its elements for the targeted construct and the functions of assessment (Haynes et al., 1995). Of these two aspects of content validity, the relevancy of the measurement instrument is the most commonly used to measure content validity (Polit et al., 2007). In this regard, content validity is specifically the appropriateness of a sample of items—that is, how well a given set of items captures a particular content domain. Therefore, content validity plays a primary role in the measurement tool development process. It allows for catching potential errors in operationalising the construct at the initial stage of the scale development process to increase the chances of achieving the required instrument's construct validity at the final stage.

As shown in Table 1. Stage 1, i.e. instrument development, involves three steps: 1) identifying the content domain, 2) generating the item pool, and 3) constructing the instrument, including the measurement format (Zamanzadeh et al., 2014; DeVellis, 2017).

Table 1.
Stages and Steps Involved in Content Validity

Step	DeVellis (2017)	Zamanzadeh et al. (2014)	
1	Determine what it is you want to measure	Domain identification	Stage 1: Instrument development
2	Generate an item pool	Item generation	
3	Determine the format for measurement	Instrument formation	
4	Have the initial item pool reviewed by experts	- Relevancy of items. - Clarity of items. - Necessity of items. - Comprehensiveness of the instrument.	Stage 2: Expert judgement

Source: own study based on DeVellis (2017) and Zamanzadeh et al. (2014).

Assessment of the scale's content validity is conducted in Stage 2. It requires expert judgement, which is conducted in the form of a panel of experts whose task is to review the initial pool of items for relevancy, clarity, necessity and comprehensiveness (Zamanzadeh et al., 2014; DeVellis, 2017). Domain expertise, specialised training, or professional experience in the field must be considered when choosing panel members. Based on expert responses, the content validity of both the items and the entire measurement instrument is assessed. It is recommended that at least three and not more than 10 experts be engaged when judging content validity (Lynn, 1986). Although the maximum number of experts to be included in the process has not been established, using more than 10 experts is unlikely, because doing so decreases the chance of agreement (Lynn, 1986).

According to the two-stage approach shown in Table 2, this study aims to develop an SP measurement instrument and evaluate the content validity of the proposed dimensions. The SP construct was generated through interviews with 12 practitioners, a non-systematic and systematic literature review using grounded theory methodology and rewriting items in several stages. The content validity of the generated items was then assessed in collaboration with six experts in the field. Content validity was quantified using the content validity index (CVI) and the modified Kappa coefficient.

Table 2.
Steps in the study

Step number, according to DeVellis (2017) and Zamanzadeh et al. (2014)	Steps in the study	
1	- Interviews with 12 practitioners. - Non-systematic literature review.	Stage 1: Instrument development
	- Systematic literature review to find the results of earlier systematic literature reviews of strategic procurement. - Systematic literature review: Strategic procurement definition.	
	Systematic literature review: strategic procurement elements. Item generation based on the grounded theory approach.	
2	Items rewritten three times.	Stage 2: Expert Judgement
3		
4	- Six semi-structured expert interviews. - Statistical analysis of results for relevancy and clarity (I-CVI, S-CVI, Kappa statistic). - Final formation of items (based on the results of the statistical analysis and the assessment of both the necessity of items and the comprehensiveness of the instrument).	

Note: I-CVI = item content validity index; S-CVI = scale content validity index.

The procedure was designed to facilitate the identification of the key sub-processes and items of SP. The results obtained through the content validity assessment provided a broader understanding of the phenomenon and contributed to the expansion of its definition.

2. Stage 1: Instrument development

Step 1 involved domain identification through 12 open-ended interviews with practitioners. The results were coupled with a non-systematic literature review, particularly on the fundamental duties and obligations of purchasing (Van Weele, 2014). In the end, it was concluded that operational excellence, innovation sourcing, cost optimisation, risk management, and developing sustainability were five potential sub-processes of SP. These results provide a general overview of the concept but cannot be used directly in developing the construct. No research protocol was in place that makes decision-making in data acquisition and use arbitrary (Moher et al., 2015).

Aware of the shortcomings mentioned above, before beginning a systematic literature review for the domain under study, it was determined whether similar studies on SP had been conducted previously. Searches in Scopus, Ebsco, Google Scholar, and Emerald were made based on search string: ('literature review' OR 'review of the literature' OR 'overview' OR 'systematic review' OR 'meta-analysis') AND 'strategic' AND ('purchasing' OR 'procurement' OR 'sourcing' OR 'buying') for papers published in English between 2011 and 2021. Of the 10 articles identified, two contained a systematic protocol (Hong, Kwon, 2012; Zimmermann, Foerstl, 2014). Since both are outdated, there was a case for re-running the study.

Therefore, another systematic literature review was conducted to determine the meaning of SP. Based on the designed search string sounding: 'strategic' AND ('purchasing' OR 'procurement' OR 'sourcing' OR 'buying') AND ('definition' OR 'description' OR 'explanation'), papers published in English between 2011 and 2021 were identified through Scopus, Ebsco, Google Scholar, and Emerald academic databases. Furthermore, relevant definitions that did not emerge from the search process were manually added. A summary of the results is included in the introduction.

Step 2 involved generating the item pool. Following the procedures proposed by Booth et al. (2016) and Tranfield et al. (2003), a systematic literature review was conducted using the Scopus, Ebsco, Google Scholar, and Emerald databases. The search covered studies published in English between 2011 and 2021, employing the following keywords: 'strategic' AND ('purchasing' OR 'procurement' OR 'sourcing' OR 'buying') AND ('elements' OR 'functions' OR 'responsibilities' OR 'dimensions' OR 'practices' OR 'factors'). Where possible, the search was further refined to include only papers and knowledge bases related to economics, management, and business. With each additional restriction, the resulting titles were reviewed until 10 consecutive suggestions generated by the search engines yielded no results that could be considered relevant to the research topic. Based on this process, a table with selected publications was compiled. Within this table, 41 duplicate records were removed. Finally, a procedure to read the abstracts of 118 articles was performed to further decide on inclusion (Xiao, Watson, 2019) and their relevance to the research topic. A total of 65 studies were accepted for full-text review. Based on the information extracted from these papers, items were generated using the grounded theory approach, which proposes a structured methodology for data analysis. Several steps of text coding, including open coding, axial coding, and selective coding lead to a description of the theory (Heath, Cowley, 2004). In the end, in step 3, 34 items were subjected to a triple-rewriting procedure to provide the most straightforward and precise possible wording. Finally, the items were categorised into the potential SP dimensions identified in Table 3.

Table 3.*List of generated items*

Item	Sub-processes	Item	Inspired by
1	Innovation sourcing	The purchasing department uses early supplier involvement in developing the company's products.	(Castaldi et al., 2011) (Van Poucke et al., 2016) (Luzzini et al., 2015) (Rajkumar, Stentoft, 2017) (Rodríguez-Escobar, González-Benito, 2017)
2	Innovation sourcing	The purchasing department searches for new technological solutions from suppliers.	(Castaldi et al., 2011) (Luzzini et al., 2015)
3	Innovation sourcing	The Purchasing Department selects suppliers whose expertise and capabilities can provide a competitive advantage for the company in the future.	(Homfeldt et al., 2017) (Jermisittiparsert, Rungtawat, 2019) Rajkumar, Stentoft, 2017)
4	Innovation sourcing	The purchasing department is committed to improving the company's internal processes.	(Castaldi et al., 2011)
5	Innovation sourcing	The purchasing department initiates development projects in the company.	(Rajkumar, Stentoft, 2017) (Castaldi et al., 2011)
6	Innovation sourcing	The purchasing department works with the sales and marketing departments to better understand customer expectations.	(Tunisini, Sebastiani, 2015)
7	Cost optimisation	The purchasing department controls the level of supplier diversification, buying a given product/raw material/service from a limited number of contractors.	(Hesping, Schiele, 2016) (Úbeda et al., 2015)
8	Cost optimisation	The purchasing department acquires technological knowledge to analyse the manufacturing cost structure for key raw materials/products/services before negotiations.	(Schütz et al., 2020)
9	Cost optimisation	The purchasing department seeks alternative suppliers to achieve negotiating leverage.	(Hesping, Schiele, 2016)
10	Cost optimisation	The purchasing department acquires knowledge about purchasing markets to intensify price competition among suppliers.	(Schütz et al., 2020) (Hesping, Schiele, 2016)
11	Cost optimisation	The purchasing department is gaining knowledge on how to conduct inquiries, negotiations and contracting to exploit advantages over suppliers better.	(Schütz et al., 2020)
12	Cost optimisation	The purchasing department controls the share of costs for which it is responsible concerning the total costs incurred by the company (spent under management).	(United States Government Accountability Office, 2012)
13	Cost optimisation	The purchasing department assists in the cost optimisation of processes within the company based on suppliers' experience.	(Schütz et al., 2020) (Hesping, Schiele, 2016) (Rodríguez-Escobar, González-Benito, 2017)
14	Cost optimisation	The purchasing department analyses purchase prices and the total cost of ownership (TCO) of the products/raw materials/services purchased.	(Hesping, Schiele, 2016) (Sharma, 2016) (Schütz et al., 2020) (Úbeda et al., 2015)
15	Cost optimisation	The purchasing department can give up the cheapest offer in favour of other values (e.g., better quality, reliability and supplier flexibility).	(Rodríguez-Escobar, González-Benito, 2017) (Sharma, 2016)
16	Cost optimisation	The purchasing department implements joint cost-saving projects with suppliers.	(Úbeda et al., 2015)
17	Cost optimisation	In selected areas, the purchasing department integrates suppliers IT-wise to hand over to them the supply and inventory management of products/raw materials (VMI - Vendor Managed Inventory).	(Yavas et al., 2011)

Cont. table 3.

18	Risk management	The purchasing department signs commercial contracts with key suppliers.	(Arney et al., 2014)
19	Risk management	The purchasing department identifies potential problems in cooperation with strategic suppliers and counteracts them before the situation becomes critical.	(Dixit, 2020) (Gangurde, Chavan, 2016)
20	Risk management	The purchasing department has developed ways to act in the event of a spike in demand for purchased raw materials/products/services.	(Ila Manuj, 2013)
21	Risk management	The purchasing department has developed ways to act in the event of a spike on the supply side of the raw materials/products/services being purchased (e.g., through delays in supply chains).	(Ila Manuj, 2013)
22	Risk management	The purchasing department analyses the financial condition of suppliers (e.g., to avoid working with companies facing insolvency).	(Kotula et al., 2018)
23	Risk management	The purchasing department uses established non-price criteria for selecting suppliers.	(Nepal, Yadav, 2015) (Rodríguez-Escobar, González-Benito, 2017) (Raut, Bhasin, 2012)
24	Risk management	The purchasing department uses established criteria for the periodic evaluation of suppliers.	(Loppacher et al., 2011) (Raut, Bhasin, 2012) (Rodríguez-Escobar, González-Benito, 2017)
25	Risk management	The purchasing department is developing relationships with key suppliers for use in emergencies.	(Dixit, 2020) (Eltantawy et al., 2014) (Formentini et al., 2019) (Gangurde, Chavan, 2016)
26	Risk management	The purchasing department engages key suppliers in improving (e.g., diversifying) product/raw material/service logistics.	(Rodríguez-Escobar, González-Benito, 2017)
27	Risk management	The purchasing department works with suppliers to improve the quality of products/raw materials/services.	(Gangurde, Chavan, 2016) (Loppacher et al., 2011) (Huma et al., 2020)
28	Developing sustainability	When selecting suppliers, the purchasing department considers their environmental activities.	(Bag, 2016) (Timlon, 2011) (Tchokogué et al., 2018)
29	Developing sustainability	The purchasing department expects suppliers to intensify their environmental activities.	(Dabhilkar et al., 2016) (Tchokogué et al., 2018)
30	Developing sustainability	When planning supply chains, the purchasing department considers not only their costs but also the level of pollution generated.	(Sadeghi Rad, Nahavandi, 2018)
31	Developing sustainability	The purchasing department's green attitude lowers the company's carbon footprint.	(Schoenherr et al., 2014) (Tchokogué et al., 2018)
32	Developing sustainability	The purchasing department prefers suppliers demonstrating social responsibility activities (such as supporting employees or the local community).	(Flammer, 2018)
33	Developing sustainability	The purchasing department supports local suppliers and, thus, the region's development.	(Tchokogué et al., 2018)
34	Developing sustainability	By setting equal requirements for suppliers, the purchasing department promotes fair competition among them.	(Tchokogué et al., 2018)

Sub-processes can now be provided with explanations. In this respect, innovation sourcing in SP results from using new raw materials/products/services from suppliers or introducing new practices (e.g., the early involvement of suppliers in the product design process). Cost optimisation in SP comes from cost savings and negotiation (e.g., diversification of supply

sources). Risk management in SP is the response to potential supply disruptions, changes in production or customer demand (e.g., action plans for supply chain delays). Developing sustainability in SP involves environmental consciousness and social responsibility of the purchasing process (e.g., ensuring fair competition in purchasing markets or educating suppliers on environmental requirements).

Operational excellence in SP included only one article out of 65, making it clear that developments in information technology (IT) (including artificial intelligence), will free human focus from a large portion of operational topics to support other activities that still cannot be performed by computers (Bienhaus, Haddud, 2018). Future considerations of the purchasing education process explain the lack of academic interest in exploring this problem. Given the increasing levels of automation, are students better prepared for a future career in purchasing if they only learn the basics of purchase order processing from a textbook, or should they also engage in project-based learning that teaches them how to design processes while having an in-depth understanding of the role of IT (Bals et al., 2019). In practice, the most prominent enterprise resource planning (ERP) suppliers offer modules that enable the creation and dispatch of purchase orders without human intervention (e.g., Oracle's Advanced Supply Chain Planning). Thus, the problem of operational excellence evolving into one that will be addressed by IT managers through system configuration and software development, rather than by buyers.

For these reasons, and because operational excellence belongs primarily to operational procurement, it has not been included in the list of dimensions of the SP construct.

3. Stage 2: Expert judgement

Step 4 in Stage 2 of the scale construction process was conducted with the participation of six domain experts – procurement managers with extensive expertise and years of practice (Table 4). A panel of experts was asked to rate each instrument item in terms of relevancy, clarity, necessity, and comprehensiveness. The qualitative content validity technique was used to adopt the advice of domain experts regarding the use of grammar, acceptable and accurate word choice, appropriate word placement within items, and appropriate scoring (Safikhani et al., 2013). Also, the evaluation of the items' necessity and the instrument's comprehensiveness was based on a qualitative assessment. Experts were asked whether the items that made up the questionnaire for measuring SP covered all critical aspects or whether certain items were missing; if so, they were asked to identify them.

Table 4.*Characteristics of the Domain Experts Chosen for Evaluating Content Validity*

Position	Work experience (years)	Experience in procurement (years)	Experience with a current company (years)
1. Purchasing Manager	26	18	>1
2. Deputy Purchasing Director	17	17	17
3. Purchasing Director EMEA – Logistics	13	13	2
4. Lead Buyer	22	21	20
5. Purchasing Director	20	14	20
6. Managing Director	28	20	1

The experts were also asked whether any items of the instrument should be removed. In the quantitative content validity method, a CVI and a modified Kappa coefficient were calculated to assess the relevancy and clarity of the instrument's items. The value of the CVI for relevancy was determined both at the item level (I-CVI) and at the scale level (S-CVI) (Polit, Beck, 2006).

3.1. Assessment of Content Validity – CVI

To evaluate the instrument's items, the experts used a 4-point ordinal rating scale, where for relevancy, 1 meant *not relevant*, 2 - *somewhat relevant*, 3 - *quite relevant*, 4 - *highly relevant*, and for clarity, 1 meant *unclear*, 2 - *somewhat unclear*, 3 - *quite clear*, 4 - *clear* (Zamanzadeh et al., 2014). A 4-point scale was applied to avoid having a middle score that was both neutral and ambiguous (Lynn, 1986). To calculate the CVI for the relevance and clarity of each item (I-CVI), the number of experts who rated the item as relevant or clear (score of 3 or 4) was divided by the number of all expert panellists. Thus, the I-CVI ranges between 0 and 1, representing the proportion of experts who agree that each item is relevant (Waltz, Bausell, 1981). It is recommended that, for six (as was the case in our study) or more judges, the I-CVIs should be not lower than 0.78 (Lynn, 1986). Researchers use I-CVI data to guide the editing, removal or replacement of items.

For relevancy, the CVI was also computed for the scale level (S-CVI). There are two approaches to calculating the S-CVI. The S-CVI computed according to the universal agreement calculation method (S-CVI/UA) is the proportion of total items on the scale that received a rating of 3 or 4 by all domain experts (Polit, Beck, 2006). The second approach to calculating the S-CVI is based on the averaging calculation method. This produces S-CVI/Ave defined as the average proportion of items rated as 3 or 4 across all the judges (Waltz et al., 2010). The first method is more conservative because it requires universal agreement among experts. The second method does not require it, and being more liberal, is preferred, especially with more experts on the validation panel (Polit, Beck, 2006). S-CVI/Ave is calculated using average I-CVI and places more emphasis on average item quality than on average expert performance. To calculate the index in the universal agreement approach, the number of items considered relevant by all experts (or the number of items with a CVI of 1) is divided by the

total number of items. In the average approach, the sum of the I-CVIs is divided by the total number of items (Polit et al., 2007). The acceptable cutoff for demonstrating content validity for S-CVI/UA and S-CVI/Ave is 0.8 (Lynn, 1986; Polit, Beck, 2006), while a value of 0.9 indicates a recommended excellent score (Waltz et al., 2010). Items that do not satisfy the required minimum indices are reassessed.

3.2. Assessment of Content Validity – Modified Kappa coefficient

Although researchers frequently employ the CVI to measure content validity, this index does not consider the risk of inflated values due to chance agreement. Therefore, to obtain more quantifiable results in evaluating the judgements of domain experts, the CVI is aided by the Kappa coefficient of agreement. The modified Kappa statistic is a consensus indicator of inter-rater agreement that accounts for chance agreement (Polit et al., 2007). It is a crucial addition to the CVI because it sheds light on the extent of agreement beyond chance. Because it eliminates any random chance agreement, the Kappa coefficient computation ensures better content validity comprehension (Zamanzadeh et al., 2014). Calculating the modified Kappa statistic first requires calculating the probability of chance agreement for each item; that is, $P_C = [N! / A! (N - A)!] \times 0.5^N$. In this formula, N represents the number of experts on the panel, and A represents the number of panellists who concur that the item is relevant. The Kappa statistic is then calculated using the following formula: $K = (I-CVI - P_C) / (1 - P_C)$. Under the Kappa evaluation criteria, scores above 0.74 are considered excellent, scores between 0.60 and 0.74 are good, and scores between 0.40 and 0.59 are fair (Cicchetti, Sparrow, 1981).

4. Results

Regarding relevancy (Table 5), the I-CVIs for most scale items obtained values between 0.83 and 1, reaching an acceptable cutoff level. Only two items recorded lower values: 0.67 (item 33) and 0.33 (item 17). Similarly, in the case of clarity (Table 6), most of the scale items obtained acceptable I-CVI values, ranging from 0.83 to 1. Only one item achieved a value of 0.67 for this index (item 8). The S-CVI/Ave for the sub-processes of innovation sourcing, cost optimisation, risk management and developing sustainability were 0.97, 0.92, 1.00, and 0.83, respectively, in terms of relevance, and 0.94, 0.89, 0.98, and 0.90, respectively, in terms of clarity. The S-CVI/Ave for the entire scale was 0.94 for relevancy and 0.93 for clarity, confirming the high content validity of the items for the construct of SP. Items that received an I-CVI of 0.67 or 0.33 showed a need for revision. Modified Kappa coefficients for most items ranged from 0.82 to 1 in both reliability and clarity ratings, achieving scores regarded as excellent. Two items (one for relevancy - item 33, and another for clarity - item 8)

received a negative value (-4.33), reflecting disagreement among evaluators about their inclusion in the SP construct and mandating their revision or removal.

Table 5.

Relevancy Ratings on the 34-Point Scale of Strategic Procurement by Six Experts

Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	No. of ratings of 3 or 4	I-CVI	Pc	Kappa statistic
1	V	V	V	V	V	V	6	1.00	0.02	1.00
2	V	V	V	V	V	V	6	1.00	0.02	1.00
3	V	V	V	V	V	V	6	1.00	0.02	1.00
4	V	V	V	-	V	V	5	0.83	0.09	0.82
5	V	V	V	V	V	V	6	1.00	0.02	1.00
6	V	V	V	V	V	V	6	1.00	0.02	1.00
7	V	V	V	-	V	V	5	0.83	0.09	0.82
8	V	V	V	V	V	V	6	1.00	0.02	1.00
9	V	V	V	V	V	V	6	1.00	0.02	1.00
10	V	V	V	V	V	V	6	1.00	0.02	1.00
11	V	V	V	V	V	V	6	1.00	0.02	1.00
12	V	V	V	V	V	V	6	1.00	0.02	1.00
13	V	V	V	V	V	V	6	1.00	0.02	1.00
14	V	V	V	V	V	V	6	1.00	0.02	1.00
15	V	V	V	V	V	V	6	1.00	0.02	1.00
16	V	V	V	V	V	V	6	1.00	0.02	1.00
17	V	-	-	-	-	V	2	0.33	135.00	1.00
18	V	V	V	V	V	V	6	1.00	0.02	1.00
19	V	V	V	V	V	V	6	1.00	0.02	1.00
20	V	V	V	V	V	V	6	1.00	0.02	1.00
21	V	V	V	V	V	V	6	1.00	0.02	1.00
22	V	V	V	V	V	V	6	1.00	0.02	1.00
23	V	V	V	V	V	V	6	1.00	0.02	1.00
24	V	V	V	V	V	V	6	1.00	0.02	1.00
25	V	V	V	V	V	V	6	1.00	0.02	1.00
26	V	V	V	V	V	V	6	1.00	0.02	1.00
27	V	V	V	V	V	V	6	1.00	0.02	1.00
28	V	V	V	V	V	-	5	0.83	0.09	0.82
29	V	V	V	V	V	V	6	1.00	0.02	1.00
30	V	V	V	V	V	-	5	0.83	0.09	0.82
31	V	V	V	V	V	-	5	0.83	0.09	0.82
32	V	V	V	V	V	-	5	0.83	0.09	0.82
33	V	V	V	-	V	-	4	0.67	0.94	- 4.33
34	V	V	V	V	V	-	5	0.83	0.09	0.82

Note: S-CVI/Ave = 0.936 (accepted). I-CVI = item content validity index; Pc = probability of chance agreement; S-CVI = scale content validity index.

Table 6.*Clarity Ratings on the 34-Point Scale of Strategic Procurement by Six Experts*

Item	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	No. of ratings of 3 or 4	I-CVI	P _c	Kappa statistic
1	V	V	V	V	V	V	6	1.00	0.02	1.00
2	V	V	V	V	V	V	6	1.00	0.02	1.00
3	V	V	V	V	V	V	6	1.00	0.02	1.00
4	V	V	-	V	V	V	5	0.83	0.09	0.82
5	V	V	-	V	V	V	5	0.83	0.09	0.82
6	V	V	V	V	V	V	6	1.00	0.02	1.00
7	V	V	V	V	-	V	5	0.83	0.09	0.82
8	V	-	V	V	-	V	4	0.67	0.94	- 4.33
9	V	V	V	V	V	V	6	1.00	0.02	1.00
10	V	V	V	V	V	V	6	1.00	0.02	1.00
11	V	V	V	V	V	V	6	1.00	0.02	1.00
12	V	-	V	V	V	V	5	0.83	0.09	0.82
13	V	V	V	V	V	V	6	1.00	0.02	1.00
14	-	V	V	V	V	V	5	0.83	0.09	0.82
15	V	V	-	V	V	V	5	0.83	0.09	0.82
16	V	V	V	V	V	V	6	1.00	0.02	1.00
17	V	V	-	V	V	V	5	0.83	0.09	0.82
18	V	V	V	V	V	V	6	1.00	0.02	1.00
19	V	V	V	V	V	V	6	1.00	0.02	1.00
20	V	V	V	V	V	V	6	1.00	0.02	1.00
21	V	V	V	V	V	V	6	1.00	0.02	1.00
22	V	-	V	V	V	V	5	0.83	0.09	0.82
23	V	V	V	V	V	V	6	1.00	0.02	1.00
24	V	V	V	V	V	V	6	1.00	0.02	1.00
25	V	V	V	V	V	V	6	1.00	0.02	1.00
26	V	V	V	V	V	V	6	1.00	0.02	1.00
27	V	V	V	V	V	V	6	1.00	0.02	1.00
28	V	V	-	V	V	V	5	0.83	0.09	0.82
29	V	V	-	V	V	V	5	0.83	0.09	0.82
30	V	V	V	V	V	V	6	1.00	0.02	1.00
31	V	V	-	V	V	V	5	0.83	0.09	0.82
32	V	V	V	V	V	V	6	1.00	0.02	1.00
33	V	V	-	V	V	V	5	0.83	0.09	0.82
34	V	V	V	V	V	V	6	1.00	0.02	1.00

Note: S-CVI/Ave = 0.931 (accepted). I-CVI = item content validity index; P_c = probability of chance agreement; S-CVI = scale content validity index.

As for the results of the qualitative assessment of the necessity of the items and the comprehensiveness of the instrument, two of the six domain experts participating in the panel identified one additional item they felt was missing from the SP construct. One completed risk management sub-process read as follows: *The purchasing department analyses information on the level of complaints reported to suppliers to avoid serious quality problems.* The other, which read: *The purchasing department eliminates activities that do not add value to the purchasing process* was added to the cost optimisation sub-process. This increased the construct by two items, bringing the item pool to 36.

Based on the findings of the research, an attempt to develop an updated definition of strategic procurement could be made. This requires combining previous definitions with the findings from the development of the measurement instrument, resulting in the following definition:

The contribution to achieving a company's objectives (Johnsen et al., 2014), aligned with organisational strategy (Rendon, 2005), by managing external resources (Van Weele, 2014) to acquire products and services while maximising value (Sollish, Semanik, 2011) through cost optimisation and risk mitigation, with consideration given to innovativeness and sustainability.

On top of that tables 5 and 6 gives detailed range of directions in each sub-process that can be taken to achieve practical success in practical implementation of SP.

5. Discussion

This study attempts to conceptualise the essence of SP by focusing on its triggers and causes, and to develop an instrument for its measurement. Linking abstract concepts to empirical indicators is a critical component of measuring. For a construct to be operationalised, it must be founded on items from a specific content domain appropriate for the given measuring circumstance. This is what content validity assures. Therefore, the proposed SP assessment instrument's content validity is influenced by a thorough literature review, solid theoretical base, and evaluation that reflects specialised subject-matter experience. The validation process was a two-stage process. In the instrument development stage, interviews with 12 practitioners and a non-systematic and systematic literature review based on the grounded theory method generated a pool of 34 items. Six domain experts were then asked to score the items in the judgment stage based on their necessity, clarity and relevancy. Through quantification of content validity based on CVI (I-CVI and S-CVI) and Kappa statistics, high content validity was revealed for 31 items, with three items indicating the need for revision or deletion. A qualitative assessment of the items' necessity and the instrument's comprehensiveness by domain experts resulted in the expansion of the SP construct by two additional items, thereby increasing the item pool to 36. Since the content domain was well defined, the construct's content validity computation reduced the discrepancy between academic and industry perspectives on strategic procurement. This does not alter the requirement that the proposed assessment tool thoroughly evaluate its psychometric qualities.

Previous research projects aimed at identifying the items of SP (Carr, Pearson, 1999, 2002; Chen, Paulraj, 2004; Chen et al., 2004; Su, Gargeya, 2012) describe significant but selected elements of the domain. Research that addresses SP comprehensively, without omitting any critical dimensions, is unknown to the author. By defining SP as a distinct construct with four

sub-processes - innovation sourcing, cost optimisation, risk management, and developing sustainability - the author of this paper provides a broader explanation of the phenomenon. To support understanding and usability of the findings each sub-process is described with a set of six to twelve items.

The findings of the research project made it possible to combine earlier definitions of SP with the results of measurement instrument development, thereby. Based on that a broad and updated definition of the phenomenon was formulated. In this way, the author contributes to theory building. In addition, the definition is extended by a set of items for each sub-process of SP, which can be used to develop purchasing organisations towards a strategic level and used as measurement instrument by researchers.

The proposed construct was evaluated for content validity, which provided the basis for developing the definition of SP. However, it should be underlined that a fully developed measurement instrument requires additional validation steps. These include assessment of construct validity through exploratory and confirmatory analyses, criterion validity to verify whether the results are consistent with an external criterion sometimes (often referred to as a “gold standard”), and nomological validity to examine how existing construct corresponds with other related constructs. Establishing additional three forms of validity provide solid base to examine the influence of SP on other constructs, such as purchasing department performance and overall firm performance.

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