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Sustainable Purchasing and Supply Chain Management: The Entrepreneurial Role of the Purchasing Function

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Authors' contributions

This work was carried out in collaboration between the authors. Both authors SA and IK contributed equally to the paper. Authors SA and IK designed the study, managed the literature searches, conducted the analysis and wrote the text. Both authors read and approved the final manuscript.

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ABSTRACT

Strengthening functional effectiveness and raising awareness of purchasing's aggregate value-added to the firm's sustainability agenda, calls for expanding sensitivity and receptiveness to the challenges it faces. This presupposes reconsidering the function's relationships within the company and establishing its position on the interface of strategy and operations. However, and while prior research has underlined the growing importance of purchasing, little is known how the purchasing function can be recognised as an equal partner and what the necessary capabilities are. Heeding the calls of both academics and practitioners for increasing understanding on purchasing successfully tackling sustainable supply chain challenges, the paper adopts a theory building approach to provide clarity with respect to various aspects of the concept of sustainable purchasing and deliver transferrable insight into the implementation process of integrating sustainability concerns into purchasing practices. To this end, we build on prior work within the Dynamic

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Capabilities field of strategic management to utilise this theory as the main supportive pillar of our research, in effect moving closer to the view of purchasing managers as entrepreneurs. Hence, the novel framework that the study presents constitutes the basis for discussing both why and how the purchasing function should become involved in sustainable supply chain management, thus lending credence to voices concerned over substantiating the function's indispensable role in the sustainability era. The paper's conclusion delves into the nature and interrelationship of purchasing managers' capabilities. This is explicated by justifying how they could disembark from a pure transactional approach and actively participate in the identification of challenges as well as opportunities and subsequently develop appropriate responses to accommodate more sustainable supply chains. The verdict of viewing purchasing managers as business pioneers is further elaborated and coupled with the theoretical contributions, managerial implications and potential avenues for future research. Overall, the paper lends credence to the argument that reaping benefits through sustainability assumes purchasing's strategic alignment through certain interactions.

Keywords: Sustainability; purchasing; supply chain management; capabilities; entrepreneurship; strategy.

1. INTRODUCTION: PURCHASING AND SUSTAINABLE SUPPLY CHAIN MANAGEMENT

There is growing recognition that the purchasing function is worthy of a seat in the boardroom. Significant 'heavy lifting' in driving value and supporting sustainability initiatives through reducing sourcing uncertainty and increasing visibility [1] as well as improving performance [2] falls on the shoulders of purchasing managers. Even though this new focus requires firms to develop more comprehensive sourcing strategies [3] with simultaneous attention paid to sustainability [4], little is known on how companies combine diverse purchasing practices in line with firm-specific sustainability challenges and contexts [5]. Specifically, and contrary to the long acknowledgment of the importance of fit between sourcing and corporate strategy [6], there is a paucity of research tackling the role of purchasing towards sustainability on an organisational level. As a result, the function appears alienated from its wider value chain role and still struggles to upgrade its perceived contribution [7].

Meanwhile, the function's strategic importance mandates a better understanding of these connections as a means of overcoming the theory–practice divide [8] and increasing its academic relevance and practical influence. This becomes even more urgent as it is subject to mixed expectations: purchasing managers are to balance between short-term needs of price reductions and the longer-term additional costs and potential benefits of sustainability practices. In this respect, the purchasing function's involvement towards efficiency and effectiveness appears indispensable [9]. Moreover, it calls for elevating the professional status of the function and increasing its ability of introducing and advancing new practices [10].

Therefore, purchasing appears to be an important organisational asset [11] currently under pressure for value generation and appropriation [12]. This renders it vital to articulate how corporate and purchasing strategies are connected and how the operational purchasing activities are further implemented [13]. Specifically, purchasing is relevant to cost optimisation, asset utilisation and value creation [14]. This potential can be realised through the direct practices of purchasing as such, or through the support to other functions. However, and according to Carr and Pearson's [15] and Ellram and Carr's [16] arguments, purchasing should be approached as a core strategic function. Such an attempt presupposes that it is viewed as a strategic resource by combining various capabilities in support of sustainability-related supply chain (SC) objectives.

Accorded such a strategic role, it becomes possible to leverage purchasing both for value creation and for sustainability ends. Conflicts between these strategic objectives may of course still arise, but by elevating purchasing to its rightful place allows us to use it as a tool for optimisation and problem solving at the level of strategy. For example, the CDP Global Supply Chain Report 2017, with its SC members collectively representing USD 2.7 trillion of

procurement spend, has disclosed emissions reductions resulting in associated cost savings of USD 12.4 billion while trying to deliver positive impact at a larger scale and speed in response to challenges of climate change and resource scarcity.

Recognising the benefits from such an integrated approach though, does not amount to a recipe for implementation. Both sustainable purchasing (SP) and sustainable supply chain management (SSCM) can be approached in a variety of ways. Overall, sustainability and corporate responsibility are inextricable parts of modern SCs [17]. Yet, little is known about the interaction of these corporate processes. This includes their contribution towards effectiveness. Typically they have been treated in isolation as van Weele and van Raaij [18, pp.: 63] maintain by suggesting that "contemporary purchasing and supply management research seems to reflect these strategic priorities only to a limited extent'' – and this is true irrespective of whether a positive or normative approach is taken. Add to this an as yet relatively superficial understanding of how SP and SSCM might contribute to value creation, and it follows that we need to consider the options available. Although SSCM (and SP as a subset) has been subject to considerable attention during recent years, researchers claim that the relationship between business strategy and SSCM remains largely unexplored [19-20].

The purpose of this paper is to address this issue. It does so by considering how purchasing capabilities can support SSCM practices. Towards this end, we conceive of procurement as the boundary-spanning function empowering internal and external alignment among partners mutually dependent [21]. Within such a setting, purchasing managers are expected to serve the twofold role of leadership and entrepreneurship and combine current needs with future developments. Essentially, their entrepreneurship role is directed towards ambidexterity by supporting new business opportunities without undermining their existing operations [22].

This work embraces a conceptual approach and abides by an abductive reasoning logic (Latin-based *ducere* meaning "to lead away", hence provide the most proper explanation) in order to develop certain propositions that can be put to empirical test. The establishment of such a philosophical standpoint serves as the necessary step towards theory building [23] and the derivation of theoretical propositions. It constitutes an alternative to theory construction compared to the one-sided treatments of either qualitative or quantitative analysis.

By doing so, the aim is twofold. First, we provide a unifying framework coupling together a set of prescriptive elements underlying the strategic character of the purchasing function. Second, we bring practical relevance to SP and SSCM in more general by heeding the calls of [24] to resist the umbrella concept trap, and instead of limiting ourselves to merely higher level and generic explanations, contextual and detailed accounts receive priority. To these ends, we combine existing theory along with the appropriate logical deduction and theoretical induction [25] in order to clearly communicate the novelty and respective contributions challenging the status quo [26]. Such a treatment acknowledges the constant interplay between deduction and induction [27] and conceives of them as mirror of one another [28]. Thus, instead of adopting a polarised stance through a sole approach, we side by Tukey's [29, pp. 13-14] argument that "It is far better (to offer) an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made (more) exact.''

Following this line of reasoning, the paper not only defines but also articulates the manner in which the various purchasing actions are or should be deployed by purchasing managers. These components and projections in turn can be made subject to empirical validation and measurement refinement in future studies [30]. Thus, we follow Choi and Wacker's [31] suggestions of theoretical integration as a means of challenging existing conceptualisations of purchasing management and presenting a systematic view of relationships among certain variables [32] through simplicity, fertility and surprise [33].

The argumentation is structured as follows: in the following section, we unveil the strategic nature of the purchasing function to pave the way for the importance of purchasing capabilities and define the research scope. We then continue making connections with entrepreneurship literature and identify those purchasing capabilities vital to accompany the function's practical shift from a transactional and purely administrative role to an embedded, integrative and value-adding utility. Abiding by multidisciplinary reasoning as a means of mapping the relevant relationships, our

research propositions, as derived from a dynamic capabilities (DCs) perspective and the treatment of purchasing managers as entrepreneurs, are then detailed. DCs essentially deal with effectiveness, through innovation and improvement, which constitutes the core notion of entrepreneurship [34]. The penultimate part focuses on the theoretical and practical implications while the finding section proceeds with potential future research directions.

2. STRATEGY AND PURCHASING: TWO SIDES OF THE SAME COIN AND THE CRUCIAL ROLE OF CAPABILITIES

The conceptualisation and development of a unifying framework of purchasing capabilities is motivated by the following two reasons. First, there is an increasing acknowledgment of the crucial role that the purchasing function can play in the realisation of business objectives and the overall strategy. Second, successful SSCM is contingent on how the purchasing function configures and executes its role. To better appreciate this argument, empirical patterns and differences in the function's treatment within current literature should be offered. This is necessary to promote shared understanding and pinpoint the degrees of potential value captured by the proper delineation of the purchasing managers' scope of activities. The following sub-sections are targeted towards these directions, namely to first establish the business case of a strategic view on the purchasing function and then explicate why it is important to capture the relevant SP dimensions.

2.1 Signs of Purchasing as a Strategic Driver

Engaging in SSCM practices presupposes meaningful interactions within the firm and across its SC on behalf of purchasing managers. Given this context, the function's role is particularly important and requires its ability to support these multidimensional practices and the management of relationships with a multitude of partners. Available literature dealing specifically with this coupling of purchasing and the strategic perspective, even though limited, is quite enlightening.

In a refocused approach on the issue of strategy and SCM, [35] showed the direct relationship between the kind of strategy that the firm adopts and the supplier management practices it supports. In turn, [36] as well as [37] highlight the consistency approach between strategy and SCM by proving that performance levels were analogue to the level of congruence between business and purchasing practices. Given that sustainability strategy applies to the SC level [38-39] and the direct relationship between operations and purchasing [40-41] the argument that SP is highly strategic [42] is strongly supported.

Such involvement can be effectuated either in a mediating manner through specific actions [43] or in a moderating way by looking at the degree of purchasing's incorporation into the company's strategic planning [44]. To accomplish this, active involvement by the purchasing personnel is crucial. This would allow for a strengthened process- and product-based SC greening [45-46] where sourcing centricity acts as a determinant of enabling the conduct of purchasing through a strategic perspective [47].

Moreover, findings from studies on sustainability practices adopting a configurational perspective [5,48-49] further support the idea of seriously considering various purchasing capabilities in implementing environmental initiatives. Yet, whereas sustainability appears high on the agenda of practitioners worldwide and across different industries, the question of how to create an effective purchasing function remains unanswered.

The red thread reverberating this strand of work views strategic objectives as dependent upon the connection with the upstream and downstream SC environment. Against this background, the purchasing function serves as the main interactive 'agent' that needs to possess those core capabilities leveraging business vision and competiveness. Its strategic contribution runs through a continuum from a less sophisticated to a more advanced posture: from serving as a residual competent function to realising a fully strategic role where its secondary support to firm targets and its complementarity to other functions give place to a truly core competence with unique skills supporting certain practices [50].

This developmental trajectory of the purchasing function's capabilities and strategic relevance is also captured through the different maturity models indicative of the function's posture and support towards organisational issues. In a review of the relevant literature, [10] unveils the positive relationship between the advancement

of purchasing practices and the ensuing firm financial performance due to increased capacity of the function to introduce and further develop best practices. This insight is highly topical to the current paper since it not only strengthens Bals et al.'s [12] argument about internal and external contingencies influencing the function's position and configuration but also clearly reveals a direct relationship between organisational purchasing processes and firm performance. Consequently, it puts the function's role centre stage on the discussion within SSCM and business strategy.

The main assumption supporting this argument rests upon the manner in which purchasing is involved or should be engaged in actions to effectively orchestrate firm resources [51]. From an internal perspective it is justified through the achievement of integrative advantage [52] wherein joint development of new materials, resources and processes is at the frontline [53-54]. Yet, these aspects receive not only internal (intra-organisational) but also external (inter-organisational) focus where sustainability related SC continuity induces mutual benefits for all involved parties [55] through actions concentrating on the integration of sustainability considerations into different functions, practices and wider stakeholder groups [56].

As becomes obvious, relegating purchasing to a peripheral, secondary activity primarily concerned with routine transactions represents an opportunity foregone. On the contrary, the decisive role of purchasing capabilities should be granted recognition since intra- and inter-organisational resources could be leveraged to further supply chain management (SCM) actions [57].

Indeed, recent evidence highlights the function's decisive role in accessing, acquiring and further extending sustainability-related knowledge [58-59]. Still, the corresponding processes leading to such an outcome are still unclear [60]. This also limits our understanding on how suppliers become acknowledged as strategically important in the first place as well as the actions granting credit to the purchasing department's influence [61].

Consequently, the current picture as maintained by the wider SC literature is fairly oversimplified [62]. Hence, business leaders are still uncertain about the implications for the purchasing function and how to effectively mainstream sustainability-related decisions into purchasing management [5-63]. It is therefore of no surprise that in real-life practice, apart from a few exceptions, application of SP remains on rather low levels and this could be attributed to a lack of the function's systematic integration into the overall sustainability strategy and its current insufficient capabilities [48].

In order to overcome current deficiencies and increase precision while widening the solution space available for purchasing managers when dealing with issues of sustainability within the wider SC context, value-adding practices should come into the spotlight along with their critical combinations. This is made explicit in the following subsection, where clarity is provided with respect to the various entrepreneurial roles that could be ascertained to the purchasing function. Such a treatment will enable the study of purchasing management to receive a broader scope of reference directly attached to the overall business strategy. On one hand, this allows for focusing on new questions instead of tackling familiar ones. In pursuit of answering how to create a truly sustainable SC we focus on what is different towards this effort [64] in terms of the purchasing function's contribution and its evolutionary character within the SSCM setting. On the other hand, strategic concerns ensuing from business and SC transformation are infused in the treatment of the function's dynamic role [65].

2.2 The Entrepreneurial Purchasing Function and its Manager(s)

Market pressures and internal enablers are present when shifting attention to the strategic perspective of the purchasing function. Under such circumstances, firms are adept at altering products and processes, investing in new technologies and developing new management skills. To achieve this, there is a need to ask what kind of capabilities the purchasing function needs to possess and what the means are through which these managers will achieve to differentiate their focal firms (and their respective SCs) from competition. A useful starting point refers to the seminal work of Schumpeter who defines the entrepreneur as the person occupied with implementing new combinations of resources to satisfy consumer desires [66]. Given that this process signals market opportunities [67] that presuppose appropriate entrepreneurial responses [68], it becomes apparent that the

purchasing function's contribution towards entrepreneurship is topical.

This entrepreneurial role manifests in different forms. Drawing on the seminal work of Knight [69] and the distinction between risk and uncertainty, entrepreneurs tackle issues of both (a) unknown outcomes whose odds of happening can be measured or learned (i.e. risk), and (b) events that presuppose an initial comprehension in order to effectively develop alternatives and subsequent handling (i.e. uncertainty). Essentially, purchasing managers serve as entrepreneurs, who deal with both succeeding in reaching satisfactory performance and exploiting opportunities by undertaking relevant ventures [70].

Following Flynn et al.'s [71] line of reasoning, we parallel issues that entrepreneurs are confronted with, on macro-level uncertainty as well as meso- and micro- levels of risk. Hence, the notion of 'unknown' encompasses a multilevel meaning situated on individual, group, functional and organisational levels in the wider SC context [62]. This environmental uncertainty is highly critical in achieving firm survival [72] through foreseeing positive and/or negative effects and instigating the appropriate responses [73] affecting also different tasks with varying degrees of interdependence [74]. Within such a setting, the role of agency and choice, the nature of the organisational environment and the relationships between organisational agents and the external environment are fundamental [75-76]. To understand the impact of non-economic objectives, a sorting of their possible constraints (i.e. trade-offs, win-win) on economic goals and assessment of their impact on firm priorities [77] should take place.

Given that entrepreneurship is often equated with individual agency and the role of the entrepreneurial manager, we shortly clarify the essence of our entrepreneurial approach. This operational conceptualisation is much in need in order to better comprehend the purchasing function's organisational position and potential. First, entrepreneurship depicts the levels of innovation, risk tolerance and proactivity of a given firm strategy [78-79]. Second, opportunity recognition and exploitation constitute core entrepreneurial issues [80] raising challenges [81] and enacting certain responses to sustainability issues [82-83] against a background of various uncertainties [73]. Following this line of reasoning, we conceive of organisational purchasing practices as reminiscent of the range of entrepreneurial initiatives undertaken by the firm in light of its competitive strategy.

Specifically, and due to the long lasting divide between dispositional [84] and behavioural [85-86] entrepreneurial action, it is imperative to overcome conceptual ambiguities and advance a constructive synthesis of these discrete standpoints. Whereas "behaviour is the central and essential element of the entrepreneurial process" [87, pp.: 8], the ability to sustain and exhibit, under a time-contingent perspective, stable patterns of actions [88] is what defines EO: behaviour constitutes a central element of entrepreneurial processes and such a posture is perceived as a defining firm attribute [89-90]. This bodes well with the strategic perspective underpinning entrepreneurial efforts, where an organisation-wide co-ordination, planning and execution take place for competitive ventures [91]. To achieve complementarity (i.e. to enhance the understanding of the purchasing function's entrepreneurial action on an organisational level) the paper inserts the DC's perspective, as elaborated below, since entrepreneurial firms seize various types of opportunities and their capabilities are conceived of as a vital means for performance [92] through specific practices.

The foregone discussion makes clear that sustainability constitutes a sole issue of strategy and elevates the purchasing manager's role into a core organisational concern. Whereas the majority of scholarly work in SP supports the top-down translation of strategic objectives into procurement strategies and operationalisation of supplier selection criteria implemented by the purchasing function [93], less or more unstable business contexts induce considerable changes in competitive conditions.

Consequently, complexity and the corresponding strategic ambiguity will interfere with supplier selection criteria [61]. Purchasing managers are expected to deal with supplier sustainability risks in a dynamically changing environment [94] mainly shaped by different stakeholder preferences [95] and their interplay with the firm's sustainability related uncertainty tolerance [1]. It becomes therefore apparent, that the role of purchasing needs to be apprehended against a setting where resources are utilised in congruence with a delicate and balanced

deployment between the firm's internal and external environment.

This in turn poses challenges to the purchasing's role concerning the respective sustainability assessment and performance criteria it should address. On one hand, cross-functional collaboration is necessary to reduce impacts and achieve goals effectively [96-97] whereas on the other hand elaboration encounters conflicts on what is deemed relevant in formulating and implementing supplier criteria [98]. Moreover, it furthers the need of opening the 'black-box' in how sustainability related criteria are formulated since little has been achieved [99]. Such a view, recognises sourcing centricity as a main determinant of enabling strategic purchasing [47] and calls for viewing holistically the purchasing function's practices, which provide the necessary intermediary linkage between the strategic and operational business levels.

3. THEORETICAL FRAMEWORK

To demonstrate the relevance of disequilibrium processes when combining resources through proper managerial choices [100] and the need to insert a time-contingent view on how resources and competences follow a developmental trajectory and translate into certain organisational practices, the paper sides by the tenets of the DCs view. Capabilities are viewed as a summative collection of specific abilities and patterned learned behaviours (i.e. competences) that support organisational practices. Such a view, embraces purchasing capabilities as those organisational practices reflective of the function's organisational-level interaction with constituent parts. Such a focus also makes a useful step in understanding the role of entrepreneurial managers [34] since it effectively considers environmental uncertainty and change [101]. Through this choice we propose that the successful possession and development of certain organisational capabilities enables the SP function to contribute towards desirable sustainability-related performance.

The DCs view captures the twofold facet of the purchasing function's mission. Strategy is not effectuated in a vacuum from the wider external surrounding. At the same time though, it unfolds through meaningful operationalisation. Yet, treating purchasing's role as an add-on activity risks running contrary to calls of strategic corporate responsibility due to its disconnection from the firm's upstream and downstream environment. In such a scenario, business strategy as a competitive plan with defined high-level goals runs the risk of failure caused by inappropriate operational components and/or ineffective deployment of intra- and inter-organisational relationships. Thus, DCs assist in explaining the relationship between managerial decisions and strategic change [102]. Against this background, the purchasing function's role is highly critical with the potential of heeding the calls for greater strategic alignment and making Kraljic's [103] influential assertion and paper title that "Purchasing must become supply management" timelier than ever. Overall, sustainability is

inherently integrative and brings the entire SC performance to the forth [104].

The micro-foundations of DCs are broken down into three main clusters: (1) identification, development and assessment of technological and wider stakeholder opportunities in relation to customer needs and business responsibilities (sensing), (2) mobilisation of resources to address needs/opportunities through viable business solutions, (3) reconfiguration of the organisational entity through resource recombinations into structures that could exploit the aforementioned opportunities [105]. In Figure 1 below, these capabilities are operationalised through certain SP practices, hence frame the role of the purchasing manager through an entrepreneurial and highly dynamic perspective.

Initially, as explicated in Figure 1, we summarise our conceptual framework of DCs through depicting certain categories and their accompanying dimensions.

In the following subsections, we substantiate our theoretical contribution through a two-step process. First, and as summarised in Figure 1, we classify certain purchasing capabilities according to their integration role within SSCM. This allows us not only to provide a systematic overview of the different areas that purchasing capabilities emerge. It also facilitates comprehension and critical comparison with and extension of previous research in SP and SSCM [5-106-107]. Second, such an approach supports a nuanced view on how to define and implement SP capabilities in a systematic manner with high awareness of business opportunities, thus increasing their academic and managerial relevance and substantiating them into concrete operational treatments.

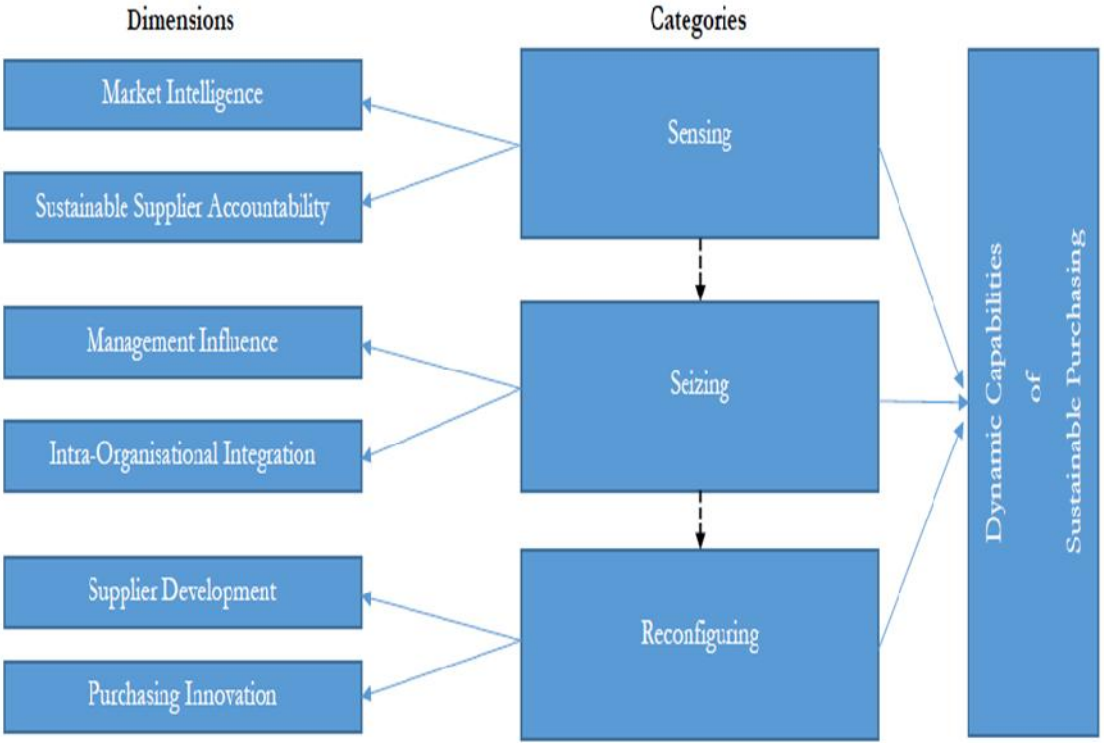

Fig. 1. Model of SP's DCs

3.1 Sensing

From an entrepreneurial perspective, organisational entities are proactively engaging in producing new commercial offerings ahead of competition. Entrepreneurial orientation is a growth strategy [108] encompassing the entry into new markets or the introduction of new products to existing markets [79]. To this end, managers need to identify the circumstances in favour of sustainability and utilise different environmental strategies in pursuit of establishing a competitive advantage through product- and process- based differentiation [109]. These concerns are extended by adding social evaluations as well through process- and market- based criteria [110]. In this view, purchasers' respective sustainability efforts constitute a strong antecedent of SC activities through defining the overall firm direction and providing guidance and support of corresponding activities [111] to achieve congruence with customer needs and multiple stakeholders [112]. Critical in developing successful business offerings is market sensing capability; to be aware of prevailing and forthcoming market conditions and forecasting customer responses [113].

This underlying opportunity identification is in parallel with the expectations posed on purchasing managers as part of their skills and duties [114]. Purchasing managers need to be alert to capture potential alterations and new developments in supply markets and include them in their interaction with decision makers [115] through assuming responsibility for gathering relevant information [116]. In this respect, the role of purchasing management in screening and selecting potential partners from the supply market is not merely confined to the operational perspective. Central towards this direction is purchasing's market intelligence capability. This can be viewed also as a wider SSCM capability where firms try to assess and if necessary integrate knowledge of SC partners [117].

Moreover organisations can never be too informed if they want to prevent risks; they need to demonstrate they have acted responsibly in case risks are exposed. Companies with highly recognisable brands do not risk damaging their name by their supplier' practices [118] and this poses implications on supplier selection as well as products and materials. Supplier performance transforms into a decisive critical success factor

in the effort of focal firms to safeguard themselves from reputational damages [119-120]. Simply put, reactions supersede pure operational risks and concern sustainability-related issues within the wider SC context that materialise through stakeholders who hold companies responsible for environmental and social issues [121-122-123]. To this end, purchasing managers fulfil their entrepreneurial role not only through market intelligence, but also through identifying, developing and utilising relevant stakeholder expertise towards instigating proper supplier sustainability management.

As such, sustainability-related issue identification and subsequent development of working operationalisations pertains to the appropriate mix of stakeholder inclusion and utilisation of their expertise. This process induces predictions about the external environment's future states through a mixed form of justified and creative intuition [124]. To this end, stakeholders play collaborative and proactive roles [125] pending on their relational and technical capabilities [106] as well as the firm's mode of engagement with external sustainability complexity [126-127] that in turn shapes the options of responsibility investments to be viewed as potential attempts to obtain necessary stakeholder resources [128]. The purchasing function's role effectuates through a systemic orientation by means of predicting events, understanding value propositions and adjusting processes while stressing the broader picture of activities and the external supply market's ability to contribute [21].

Given the preceding discussion, we posit that:

Proposition 1: Market intelligence and sustainable supplier accountability capabilities constitute two different facets of SP's sensing capabilities.

3.2 Seizing

Both *timing* and *content* of managerial decisions are vital in providing direction for value creation efforts [129]. From an initial sub-part of operations management to recent appreciation as an independent and competent function [130], purchasing is recognized as influential through its involvement in the strategic outline process [114]. If purchasing receives proper acceptance and back-up by top management through the dedication of time, resources and efforts in developing respective suppliers it will serve its role as a strategic partner [131]. Not only from a mere focus on cost negotiations but also from a longer term perspective where shared knowledge and networks of competences regain primacy [132] through different 'modes of engagement' with respect to supplier sustainability practices [133-134]. Such a realisation takes place through the influence of organisational cultural settings responsible for SP activities [135-63] by instigating proper employee behaviour towards SSCM objectives [42] and establishing a foundational strategically-oriented mind-set for sustainability objectives [55].

This reasoning is attributed to Teece et al.'s [131, pp.: 521] assertion of "quickly accomplishing reconfiguration and transformation ahead of competitors.'' As such, purchasing managers become *trusted advisors* and establish strong relationships with internal stakeholders. Through knowledge acquisition of stakeholder needs, the purchasing function juxtaposes these requirements against the wider market conditions and eventually delivers accountability through setting appropriate supply management goals [21].

To this end, the purchasing function justifies its boundary-spanning role and becomes particularly effective in implementing environmental programs internally and with respective suppliers [136] as well as advancing the social dimension of suppliers' operations [137]. This role is further strengthened in the event of these managers enjoying wider acceptance, as explicated through political skills, signalling a simultaneous understanding of intra-organisational social dynamics and functional needs [138]. The eventual outcome of successfully practicing these skills is to increase the function's legitimacy within the organisation and elevate its role into a core strategic facilitator for the entire SC [139] able of contributing both internally to the focal firm and on a supplier level [2].

In light of the above, we conceive of the purchasing function's influence capabilities as a pre-requisite of succeeding in making timely and market informed decisions to achieve strategic objectives. Thus, our corresponding propositions are formulated in the following lines:

Proposition 2a: Management influence capabilities are an explicit form of SP's seizing capabilities.

Considering the setting described above, experience to foster intra-organisational cross-functional co-operation is deemed necessary [97] amongst other qualifications. As a consequence, involving SP into strategy formulation contributes to greater internal integration. This integration takes place towards satisfying customers' requirements [140] and includes the utilisation and collaboration of various internal and external (to the focal firm) resources in pursuit of achieving the environmental performance of the SC as a whole [107].

Specifically, integration with other internal functions tackles both product and process innovations. New product innovations, like those related to environmental sustainability, presuppose internal collaboration among different departments such as marketing, R&D and operations [141]. In the same vein, process related sustainability expectations posed on the firm by external stakeholders as well as customers encourage integration with the marketing function to secure appropriate responses [142].

Moreover, green process enhancements, such as eco-innovations, always rest upon the lean dictate that promotes continuous improvements [82] and in turn put additional demands on materials purchased. This forms a complex process that requires cross-disciplinary collaboration and significant changes in current processes [143]. In this manner, shared resources as well as technological and social interaction materialise on environmental management practices [144] and socially-related upgrades on buyer-supplier relationships [145].

In these instances, purchasing's intra-organisational integration capability is indispensable in supporting its management influence capabilities and facilitating overall sustainability ends. This allows for the incorporation of divergent and sometimes contrasting ideas from different functions by enabling a shared vision and supporting joint design of new and more environmentally friendly products and processes [146]. It also supports social performance through the development of the appropriate capabilities [147]. As such, our next proposition is as follows:

Proposition 2b: Intra-organisational integration capabilities constitute a type of SP's seizing capabilities.

3.3 Reconfiguring

Purchasing managers interact with suppliers to embed new knowledge into operational capabilities. Their decisions play an important role in ensuring sustainability performance across the SC [148]. Central in this effort is the practice of supplier collaboration and development through resource support, technical assistance, guidance and training [107, 149-151] towards proceeding with new product as well as packaging developments, solving quality related issues and jointly preparing future development plans [47] as well as sustainable technologies [152] on environmental and social objectives [142, 153]. These actions lead to the establishment of relationship-specific and path-dependent capabilities hard to imitate [154-155]. Furthermore, such support is viewed as a vital predecessor of sustainability upgrade in suppliers' business practices [156] while meeting the short- and long- term supply needs for the focal firm [157] and avoiding potential sustainability risks [94].

This type of capabilities is paramount in extending environmental and social considerations to the supplier side through collaboration and learning [8, 61] and improving operational performance [158]. The nature of supplier development capabilities is congruent with the precondition of first integrating partner firms' valuable resources and then utilising forms of collaboration [159]. In more general, it pinpoints towards the evolutionary view of sustainability practises and their advancement through learning [160].

In this manner, resource recombinations are realised and the focal firm's capacity to purposefully extend, modify or even create new resource base(s) [161] as witnessed through supplier development efforts is vital towards both in acknowledging the inter-organisational aspect of DCs and their relational character [162] and at creating value [163] through offering 'new ways of doing things' with respect to SSCM issues. These capabilities, touching on both environmental and social issues, tackle both process- and market- based initiatives with suppliers [110] and their extent and specialisation (e.g. environmental perspective) depends on product criticality and relational characteristics [137].

These new offerings result in environmental and social market-based practices [164] as a

practical expression of the notion of *newness*. Hence, innovativeness (e.g. new processes, new supply factors and altered offerings) constitutes an inextricable component of supplier development capabilities in pursuit of enabling and motivating behaviours necessary for breakthroughs [165]. This view coincides with Hartmann et al.'s [166, pp.: 25] third interpretation as "focus on innovative tasks". Briefly put, purchasing innovation capability will provide with the necessary expertise for the development of new products and processes through appropriate knowledge accumulation and generation [167]. This innovation capability constitutes part of the knowledge mechanisms of absorptive and desorptive capacity recently outlined by [58] towards developing sustainability-related SC responses and is closer to what Argyris and Schön [168] call ''single'' and "double'' loop learning.

Concluding with the preceding discussion, we develop our two last propositions as follows:

Proposition 3a: Supplier development capabilities are part of SP's reconfiguring capabilities.
Proposition 3b: Purchasing innovation capabilities are part of SP's reconfiguring capabilities.

4. SP DCs RELATIONSHIPS AND CONTEXUAL FACTORS

The purpose of SP's DCs is to improve the sustainability performance of the firm and its SC constituents. Their dynamic character presupposes that these changes will take place within a given time and through the interactions argued above. This progress in terms of sustainability performance is affected by certain contextual factors acting as an enabler or barrier that either assist or obstruct the translation of the purchasing's function DCs into certain outcomes. Accordingly, this paper tackles two contextual factors to provide clarity into the nature of purchasers' DCs interactions and their contribution to SSCM performance.

4.1. Risk Intolerance

Intra-organisational integration purchasing capabilities leading to proper operational SSCM are contingent on the firm's overall uncertainty tolerance. In a recent study [1] the treatment of different operational sustainability SC risks depends on the firm's risk intolerance and the higher the uncertainty involved the more relevant information is needed. According to the study, certain purchasing mechanisms are applied in order to respond to the external environment and effectively tackle the ensuing sustainability uncertainty. Consequently, sustainability risk costs for the firm are further exacerbated by its risk vulnerability [169] as explicated through different stakeholder demands [106].

As an immediate outcome, buyer-supplier relationships are altered as well as respective products. This in turn implies that the purchasing function will possess a stronger position in contributing to the strategic objectives in terms of a sustainable competitive advantage by means of sustainability knowledge and the mobilisation of valuable external resources, the development of a critical supplier network and the critical ability to innovate in terms of sustainability.

Hence, our next proposition is as follows:

Proposition 4: The higher the risk intolerance of the focal firm, the less strong the presence of its SP's DCs is.

4.2 Downstream Market Position

Given the fact that the more downstream the focal firm is the less diverse the stakeholder demands are [170-171] due to reduced visibility boundaries [62] and increased sustainability control [123]. This renders possible for the firm to reap more benefits by adhering to responsible practices through a wider spectrum of available 'business-case'-related benefits due to its more mature green SC practices [172] and socially responsible supplier engagement improving quality of outputs and finally enhancing cost performance [173]. However, given the fact that the purchasing function follows a developmental trajectory [139] and higher maturity indicates the application of available best practices [174], we maintain that:

Proposition 5: The more downstream the focal firm is, the stronger the development of its SP's DCs is.

4.3 Buyer-supplier Dependency and Capabilities' Potential

Utilising the emerging conceptual model of [175] to assess purchasing's options in supplier sustainability risk management under shifting

contingencies, SP's role is more topical than ever considering the fact that supplier sustainability risk management capabilities depend on the capacity built through their initial configurations and their gradually broader scope of application [94]. This is due to a vicious cycle between continuous growth of compliant supply base enabling goal setting and arm-length's relationships and supplier development initiatives towards new sustainability knowledge desorption [58].

In case the buying firm dominates the respective relationship, [175] supports two alternatives: if supplier sustainability risk is high then collaborative approaches are favoured whereas monitoring is more apposite when risk is low. In the former case, clan control mechanisms are applied aiming at developing commitment and relevant skills whereas in the latter case monitoring based control is deemed appropriate [176]. In the event of supplier dominance, the authors maintain that the focal firm's purchasing function admits its lock-in and therefore accepts the sustainability risk ensuing form the supplier.

The above discussion draws a distinction between the breadth and scope on one hand and the ease on the other hand of sustainability issues established and applied from the purchasing function in supplier management practices [48]. Following this line of reasoning, scale and scope of activities increase both control and co-ordination costs with the former relationship being stronger. High sustainability risks presuppose a need of dealing with issues at stake. Relying solely on monitoring and control is insufficient due to costs and limited capacity of influencing desired outcomes. On the other hand, a mere adherence to behaviour-based control limits viability potential due to high co-ordination costs. Both alternatives rely on the ability to specify expectations *a priori* and determine *ex post* if they are met [177]. From a dynamic perspective and time contingent view, a mixture of approaches i.e. behavioural- and output- as outcome control and input- as clan control mechanisms is needed [178]. In both instances and within the buyer-supplier relationship, purchasing managers are challenged with applying their respective expertise through screening supply market availability as well as relevant stakeholders for any potentially justified sustainability claims that should be introduced to supplier sustainability related practices.

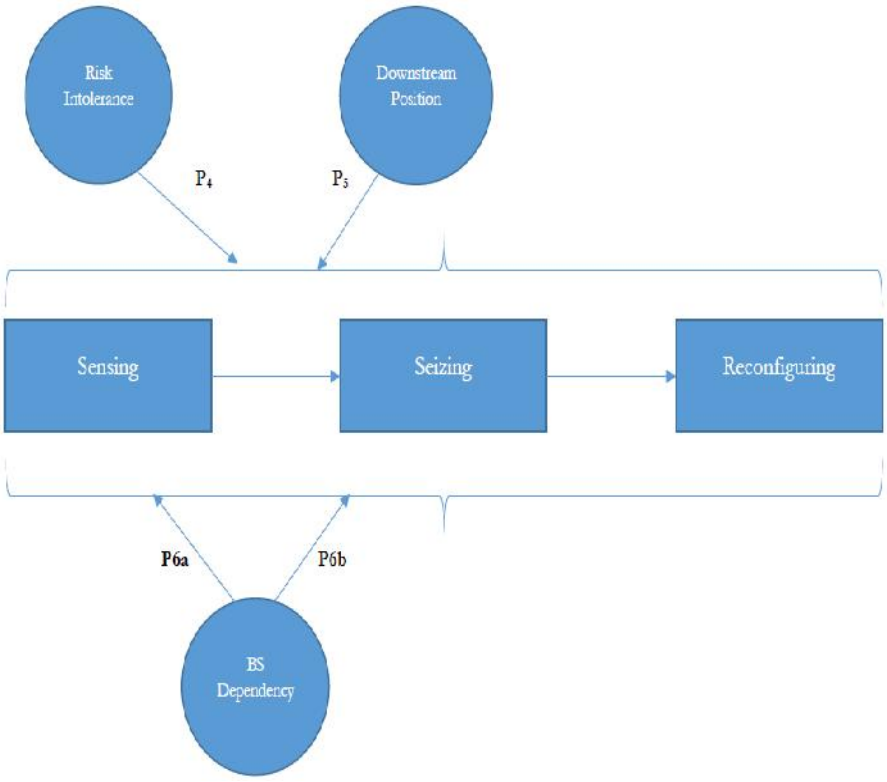

Fig. 2. Contextual model of SP'S DCs

Proposition 6a: The higher the sustainability risk of the supplier in a buyer dominance situation, the stronger the influence of purchasing's market intelligence as well as sustainable supplier accountability on supplier development capabilities.

Proposition 6b: The higher the sustainability risk of the supplier in a supplier dominance situation, the weaker the influence of purchasing's market intelligence capabilities and sustainable supplier accountability on supplier development capabilities.

Concluding with the conceptual and theoretical background and combining the contextual effects on the purchasing function's DCs, we insert Fig, 2 depicting a higher-order (in comparison to Fig. 1) model with respect to SP's potential contribution in SSCM.

5. DISCUSSION

Given the ever-increasing pressure on the purchasing function to prove strategic and meaningfully contribute to the overall business objectives, the paucity of studies shedding light on the respective necessary intra- and inter-organisational capabilities remains surprising. At the same time, sustainability has entered the contemporary agenda as a promising avenue for making SCs greener and more socially just. The current paper makes the basic point that SSCM rarely rises from applying the same modes of operations. This in turn accentuates the need of coupling SP practices with the overall business strategy. Such a lens is required in order to discern new possibilities and enrich purchasing managers' attempts to look beyond traditional approaches and better comprehend new sources of sustainability-related risks and opportunities.

In order to address this need, the study proposes a theoretically grounded conceptual model linking two foundational business cornerstones: $strategy_{(1)}$ and $operations\ management_{(2)}$. We propose a framework that allows us to assess whether business strategy is supported by the corresponding SSCM practices and the role that the purchasing function might have in achieving sustainability goals. Drawing from the DCs view, we have argued that the purchasing function and its managers are expected to act as entrepreneurs, thus need to possess a multitude of competencies as a prerequisite for successful interaction within and across firm boundaries.

Having said this, the paper also acknowledges that the clear-cut distinction between operational and dynamic capabilities is infeasible. To this end, we concur with [161] maintaining that separating these is fruitless and what needs to be done is to consciously accept the relative importance of the observed granularity levels; in the very end, this constitutes an issue of the "time frame of consideration" (p.: 1249). Our theoretical propositions echo this concern and the current paper supports the view that capabilities need to secure for both present and future states through achieving a series of advantages over time [129]. Despite the fact that DCs are built on "…two contradictory notions of logic at the same time: reliable replication and continuous change – two dimensions that hardly mix" [179, pp.: 922-923] this work serves as a conceptual platform for SP. However, the specific capabilities dealt with throughout the paper, have a more 'change-inducing' and 'dynamic' connotation in comparison to other types of lower level and operational capabilities. Even though discussion and debate continue about the nature and type of DCs, we abide by Helfat and Winter's [162] argument and conceptualise a meaningful and firm-relevant framework.

The current paper depicts a first step towards outlining a holistic background for the function's strategic relevance and the areas of expertise where purchasing capabilities are developed and deployed. To this end, the function's skills profiling [180] and weighted importance could also be investigated and receive attention for any potential extension of the sustainability agenda for purchasing. It also provides a baseline in opening the discussions about the purchasing function's role and how to further elevate it.

5.1 Conceptual Implications

The conceptual model presented in Fig. 1 delineates purchasing capabilities into distinctive areas of competencies spanning various business practices. As such, we come forth with different SP 'modes of engagement' in light of SSCM. The literature of SSCM has mainly taken for granted these capabilities and has instead focused on the different supplier sustainability practices utilised through the purchasing function [133]. Our approach is aligned with addressing the concerns of [99] on offering conceptual elaboration of the purchasing function's role in, amongst other, developing green criteria. We view this by tackling the different facets of SSCM as outcomes of SP capabilities.

Furthermore, we treat the role of the purchasing manager as that of an entrepreneur confronted with a multitude of challenges. Sustainability practices are treated as an extension of the role of the entrepreneur for opportunity identification and exploitation [17, 67-68]. In doing so, we also open up the agenda of SSCM literature and make it more lenient towards management innovation and entrepreneurship literature(s). This practically entails a seamless integration of multiple levels of business thinking and actions, therefore heeds the calls for embracing a multi-level approach in SSCM research [181].

Last but not least, we conceive of the focal firm and its SC function as an outcome of ongoing resource interactions. Central to this realisation, is the possession, reconfiguration and utilisation of those critical capabilities as a means of achieving sustainability outcomes. As such, we adopt an integrative approach, namely external, internal and supplier-focused. Thus, we sympathise with [182] and their concerns about increasing our understanding of how different dimensions of SSCM interact and support each other in pursuit of sustainability objectives. Furthermore, we elaborate on the different integration dimensions and how SP contributes towards SSCM performance. In doing so, we also heed the calls of other researchers [141] in outlining potential mechanisms (through the purchasing function) underlining how achievements are contingent on interactive capability elements. This latter point, is further developed through the elaboration on specific contextual characteristics and their effect on SP.

A conceptual implication deriving from the current work and presenting itself as a promising future research avenue relates to the development of an appropriate measurement scale. As has been widely argued throughout this work, SP is not confined within organisational boundaries. On the contrary, it takes place across the SC. Consequently, SP has rendered itself a valuable means of securing competitive advantage and improving sustainability performance. In order to further appreciate a meaningful alignment between strategic priorities and the operational context, we need to develop and validate the different purchasing dimensions for SP. We have proposed SP capabilities to be a multi-dimensional concept, hence viewed them through a holistic organisation- and SC-wide perspective.

To further link SP with other organisational and SC processes, it is necessary to obtain a parsimonious measurement instrument so as to subsequently incorporate more contingency constructs into SP research and SSCM performance. Such an accompanying scale along with more in-depth contextualisation would provide empirical evidence on the multidimensional role of SP and tangible results for making purchasing decisions within an uncertain, time-constrained and highly dynamic context that purchasing managers often encounter.

In the current writings, we have focused on the moderating effects of risk intolerance, SC position and power dependency. However, we make no stringent claims that these are the only significant contingencies. For example, the effects of the external environment and the ensuing firm responses to deal with environmental uncertainty [106,126] also pose challenges on the firm's responses to effectively tackle cognitive and relational complexities, hence provide potential areas of consideration for the purchasing function's role and its contribution. This could in turn be further extended and coupled with the configurational approach [5] aimed at developing certain SP profiles contingent on different contextual factors since it represents a particularly useful approach in case that relationships among variable become too complex to be modelled with conventional cause-effect models [183].

Moreover, and as an extension of the purchasing function's responsiveness to uncertainty and the external environment, a promising avenue would be to more explicitly incorporate the behavioural perspective into SP decisions. Whereas our framework tackles this issue through the power interdependencies across the various levels of purchasing decisions, researchers are well advised to deal with different modes of intuition and how these affects procedural rationality. For example, purchasing managers engaging in decision making with *external-internal-supplier* stakeholders might display different biases and exercise varying, in terms of procedural rationality, decisions. Even though the outcomes of these interactions will depend on power politics, an issue that is also more or less implied and highlighted in this paper, we deem it useful to obtain insight in this under-researched field and further complement emerging efforts [184-185].

5.2 Managerial Implications

Managerial implications derived from this study, are twofold.

First, we develop a solid business case for SP towards achieving sustainability-related goals. We have identified the mediating paths that company executives and purchasing managers should consider in pursuit of serving strategic objectives. This could in turn allow for managerial decision-making. Even though sustainability calls for purchasing to become strategic and serve the overall business objectives, we explicitly demonstrate how fostering purchasing and SSCM practices, which are actually to the interest of the focal firm, requires awareness of path dependencies within and across the organisation. This could prove particularly valuable considering the lack of steering frameworks for SP decisions. Despite the fact that ecologically friendly SC commitment makes sense, managers in general encounter an absence of guidelines on how to start greening their SC efforts [186].

Second, we highlight the necessary skills for purchasing managers in order to serve SSCM aims. Amongst other, and following a similar line of reasoning with previous literature [114], we refer to the entrepreneurial mindset of purchasing and the integrative capabilities spanning the external environment, areas of inter-functional collaboration and buyer-supplier relationships. To this end, we disengage from a mere view of purchasing managers as solely interested in cost reductions and instead focus on their ability to appear as value promoters of their firms [169]. Supplementary to this, we take a stance towards viewing purchasing as part of the overall technical complexity that characterises sustainability decisions according to which organisational expertise and support is required [187]. Thus, we are of the opinion that managers could derive inspiration by treating purchasing capabilities as part of the overall organisational capabilities necessary for the strategic orientation of the firm.

6. CONCLUSIONS

In the current work, we have presented a conceptualisation of the role of SP in SSCM performance. We have done so by applying the lens of DCs. We acknowledge that one of the shortcomings of current SSCM (and SP) literature rests upon the lack of detailed theoretical dictates to explain why and how the purchasing function could serve SSCM objectives or sustainability more generally. To address this problem, we have coupled the strategic and operational dimensions of SCs. In particular, we answer the questions of how and why SP could contribute to sustainability-focused development. This means that we have brought into the spotlight the 'black-box' of the focal firm's internal environment and purchasing actions that facilitate its sustainability practices. As an immediate consequence, we elaborate on the theoretical and practical implications by making connections to applicable insight. The paper contributes to sustainable purchasing management practice through offering a detailed framework for effective decision making and providing the basis to capture progress in sustainable SCs. In this respect, we relate effective business performance through certain interactions. Furthermore, we suggest potential avenues for future research both in terms of broadening and supplementing SP and in dealing with some implications emanating from our conceptual framework such as conceptualisation and measurement.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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