

Improving startup's attractiveness as industrial customers by organizing their purchasing activities

Organizing
their
purchasing
activities

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Received 21 July 2022
Revised 2 November 2022
10 April 2023
Accepted 8 June 2023

Abstract

Purpose – This study aims to analyze how startups organize their purchasing activities to improve operative excellence and become attractive customers.

Design/methodology/approach – The authors use a two-phase exploratory approach with semistructured interviews and a World Café. In total, 20 startup purchasers and suppliers participated. It is an international study with participants from eight countries (Belgium, Brazil, France, Germany, Hungary, The Netherlands, the UK and the USA).

Findings – The authors find that startups organize the purchasing function in five ways: partial outsourcing, transactional-oriented, strategic only, outsourced purchasing and full department. Each type has advantages and disadvantages regarding operative excellence. The authors identify type-specific antecedents to operative excellence: forecasting, payment habits, ordering process, contact accessibility and quick decision-making.

Research limitations/implications – The value of this paper is that it offers entrepreneurs a framework to organize startup purchasing activities, including outsourcing options. Furthermore, it provides theoretical contributions that expand the topic of purchasing and supply organization and operative excellence to the startup context.

Originality/value – The value of this paper is that, to the best of the authors' knowledge, it is the first to explore purchasing organization and operative excellence in startups.

Keywords Startups, Purchasing organization, Operative excellence, Customer attractiveness, Outsourcing, Strategic sourcing

Paper type Research paper

1. Introduction

Purchasing is crucial to startups' success, as they require suppliers for various materials, components and services to develop and produce their products or services. In many cases, startups are active in new technology markets [e.g. cyber-physical systems, digital twins, blockchain technology, three-dimensional printing and artificial intelligence (AI) (Schiele *et al.*, 2022a)], where sourcing specialized components can be critical for success. For example, Elroy Air, a startup focusing on AI-powered cargo drones (Portapas *et al.*, 2021),



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requires suppliers for batteries, drone motors, sensors, cameras and control boards that are critical for developing and commercialization of their drones. Moreover, startups must partner with strategic suppliers for prototyping and serial production (DiResta *et al.*, 2015). Partnering can be challenging due to their limited resources (Das and He, 2006) and perceived risk by suppliers (Bolumole *et al.*, 2015). Therefore, organizing purchasing activities and improving operative excellence is essential for startups to attract suppliers and become successful.

Despite the strategic importance of suppliers for startups, startups may be unattractive customers (Björgum *et al.*, 2021):

- First, startups may poorly manage suppliers because startup management provides little attention to suppliers (La Rocca and Snehota, 2021).
- Second, startups may lack a formal purchasing process because of the startup's low level of organizational formalization (Aldrich and Auster, 1986).
- Third, small firms may lack a formal purchasing organization because purchasing seems unimportant (Quayle, 2002).

As a result, purchasing operational processes to manage purchase orders, order material and approve and pay supplier invoices (Rozemeijer, 2008; van Raaij, 2016) may be rudimentary in startups. Hence, suppliers may avoid selling to startups, perceiving startups as unattractive (Björgum *et al.*, 2021). In short, suppliers may see startups as risky (Bolumole *et al.*, 2015) and inconvenient customers. As a result, startups may have difficulties finding high-quality suppliers (Chod *et al.*, 2019).

Startups can attract suppliers, however, by improving their operational excellence (Hüttinger *et al.*, 2014). Operative excellence refers to how suppliers perceive efficiency in operational activities, which impacts the suppliers' convenience of doing business with the buyer (Hüttinger *et al.*, 2014). Thus, startups can improve operative excellence to become attractive customers by organizing purchasing better. For example, startups can be inspired by how large, well-established companies organize a purchasing department. Large companies typically have several design choices for organizing a purchasing department. They can structure a purchasing department by category, activity, geography or business unit (Bals *et al.*, 2018). Also, purchasing processes can be organized by the level of involvement, formalization and standardization (Bals *et al.*, 2018; Glock and Hochrein, 2011). In short, startups can improve their attractiveness as customers by organizing their purchasing processes better.

However, the purchasing and supply management (PSM) literature does not consider purchasing organization and operative excellence within startups. Moreover, PSM literature at large often overlooks the importance of operational purchasing (Ramsay and Croom, 2008). Even though there are more than 200 papers on purchasing organization (Schneider and Wallenburg, 2013), and some of this literature analyzes small- and medium-sized enterprises (Morrissey and Pittaway, 2006; Quayle, 2002), there is little research regarding startups. This matters because research on large buyers may not suit smaller firms (Morrissey and Pittaway, 2006) due to differences in size (Bals *et al.*, 2018). This is because size significantly determines how companies organize purchasing (Bals *et al.*, 2018; Trent, 2004). Hence, there is a gap in 50 years of purchasing organization and operative excellence research.

Startup companies face unique challenges when it comes to organizing their purchasing activities. Unlike mature organizations with established purchasing processes and a large pool of suppliers, startups often lack formal processes and may be

constrained by limited resources. As a result, startups might approach purchasing differently. While ample research exists on purchasing organization and operative excellence in mature organizations, there is a lack of startups' purchasing organization and operative excellence research.

Consequently, there is a call for purchasing research that addresses startups (Baraldi *et al.*, 2020; Bjørgum *et al.*, 2021; Wagner, 2021). This paper aims to fill this gap by asking two research questions:

RQ1. How do startups organize their purchasing activities?

RQ2. What is the impact of purchasing organization on operative excellence? This paper addresses the two questions using a two-phase exploratory study using semistructured interviews and a World Café.

This study makes several contributions to the literature and practice. First, this research lays a framework for scholars that study purchasing organization and operative excellence in the startup-incumbent context, which extends models on purchasing organization. Second, it advances the emerging research stream of customer attractiveness (CA) in startups by introducing the purchasing organization as a mechanism to increase operative excellence. Finally, the study offers practical implications guiding startup managers in selecting the appropriate purchasing organization type to achieve the desired operative excellence level. We provide a framework for organizing purchasing containing five configurations: *Partial outsourcing*, *Transactional-oriented*, *Strategic only*, *Outsourced purchasing* and *Full department*. We also find that operative excellence in startups is an outcome of purchasing organization, concluding that operative excellence may be low in startups.

2. Conceptual background

This section provides a conceptual background of purchasing and supply organization (PSO) and operative excellence in startups. First, we examine key PSO concepts, including purchasing structure, purchasing organization characteristics and purchasing operational process. Second, we examine operative excellence and its antecedents. The literature review provides the theoretical framework for analyzing the data collected from the interviews and a World Café.

2.1 Purchasing and supply organization

PSOs (Bals *et al.*, 2018) are critical in helping startups manage purchasing activities professionally. However, despite the importance of PSOs, the literature lacks a framework to study a startup's purchasing organization. To date, the intersection of purchasing organization research and startups has only been discussed from the large firm's point of view. For example, Kurpjuweit *et al.* (2021) discuss how large firms can organize the purchasing department to better source from startups. From the startup point of view, organizational structure and processes are essential to study how to organize the purchasing function (Schneider and Wallenburg, 2013). The organizational structure and processes are vital to understanding labor division and task efficiency. The organizational structure allocates tasks among employees, including division of labor, communication flow, responsibilities and authority (Trent, 2004). The purchasing process allocates purchasing tasks in steps (Bäckstrand *et al.*, 2019). The structure is a precondition to performing tasks efficiently (Glock and Hochrein, 2011). An efficient operational purchasing process improves operative excellence (Essig and Amann, 2009). Therefore, we use organizational structure

and processes as research focus when analyzing the PSO literature considering correlations with operative excellence.

Because organizational structure and processes are essential for purchasing effectiveness, this research focuses on three elements:

- (1) macrolevel purchasing structure (Bals *et al.*, 2018; Schneider and Wallenburg, 2013);
- (2) microlevel purchasing organization characteristics (Bals *et al.*, 2018; Glock and Hochrein, 2011); and
- (3) a process-level purchasing operational perspective (Rozemeijer, 2008; van Raaij, 2016).

Therefore, this study uses the three main building blocks as a research focus to analyze how startups organize the purchasing function and the link between purchasing organization and operative excellence.

2.1.1 Macrolevel purchasing structure. Purchasing structure is a macrolevel design choice for a purchasing department configuration (Bals *et al.*, 2018). Purchasing department design choices are relevant for companies where purchasing is a dedicated function (Schneider and Wallenburg, 2013). One option is when the startup may not need a full-time purchaser to manage only a few suppliers (Baraldi *et al.*, 2019). In this case, there is no purchasing function in the startup. Instead, purchasing responsibilities may be assigned part-time to someone in the finance department. This can lead to a lack of separation between purchasing and finance functions, for example, when one person performs purchasing and finance tasks. Consequently, purchasing happens, but not as a dedicated function. This case is similar to small- and mid-sized companies (Morrissey and Pittaway, 2006; Quayle, 2002). A second design option is purchasing outsourcing (Bhalla and Terjesen, 2013), where a third party will manage the suppliers externally. Finally, a startup may have a dedicated purchasing function, with dedicated full-time purchasers grouped as a purchasing department, including a purchasing manager.

The PSO literature uses three design principles to describe organizational structure:

- (1) level of centralization;
- (2) category teams; and
- (3) split into strategic versus transactional activities (Bals *et al.*, 2018).

First, one of the most studied PSO topics is centralization: how many purchasing departments control purchasing within an organization (Bals *et al.*, 2018; Dubois and Wynstra, 2005). However, for startups that may not have multiple business units in different countries, the level of centralization may not be a critical PSO design principle. Second, category teams are another common design principle (Bals *et al.*, 2018; Cavinato, 1992; Glock and Hochrein, 2011). In a category team, purchasers are grouped by the similarity of products or services they buy (Bals *et al.*, 2018). However, category teams are discussed in the context of large companies with enough purchasers to group them. Category teams may not be effective in small purchasing departments that only have a few buyers that cover many categories. Third, the organization by activity design principle (Bals *et al.*, 2018) involves clustering the purchasers based on their activities. A popular organization design splits the purchasing department (Bals *et al.*, 2018) into strategic and transactional activities. This is also an option for startups.

In summary, startups may not yet have many purchasers, purchasing categories, multiple geographies and business units. As a result, structural purchasing options are

limited to splitting activities into strategic and operational purchasers. After considering the design options for the purchasing structure (subsection 2.1.1), startups have further design options related to microlevel purchasing organization characteristics (subsection 2.1.2) and operational processes (subsection 2.1.3).

2.1.2 Microlevel purchasing organization characteristics. Purchasing organization characteristics are microlevel design options (Bals *et al.*, 2018; Glock and Hochrein, 2011) related to purchasing process (Bals *et al.*, 2018), responsibilities and allocation of activities (Glock and Hochrein, 2011). This research focuses on three microlevel characteristics: involvement, formalization and standardization extracted from Glock and Hochrein (2011) and Bals *et al.* (2018).

Involvement is the extent to which purchasing personnel is involved in the purchasing decision-making (Glock and Hochrein, 2011). A high level of involvement means that purchasers influence the decision-making process. Still, top-level management may make decisions (Glock and Hochrein, 2011). Consequently, founder involvement reduces the influence of purchasers in the decision process. For example, the founder may be a decision authority that selects and negotiates with suppliers. The operational purchaser may only be involved later in creating a purchase order.

Formalization is the extent to which explicit purchasing policies (purchasing administrative procedures including rules and regulations) exist (Glock and Hochrein, 2011). A high level of formalization means that purchasers must adhere to formal processes to perform purchasing activities (Glock and Hochrein, 2011). Formalization is sometimes the opposite in startups, where employees are encouraged to be entrepreneurs and have the freedom to perform daily activities. Furthermore, purchasing policies exist in a highly formalized environment and are communicated to the company (Glock and Hochrein, 2011). Nevertheless, startups may lack a formal communication process. As a result, purchasing policies may exist. However, not all employees know of their existence.

Standardization is the extent to which explicit purchasing policies are accurately defined (Glock and Hochrein, 2011). A high level of standardization means that several purchasers can perform purchasing processes in the same manner. This reduces variability in the purchasing process (Glock and Hochrein, 2011). Startups, however, may have loosely defined purchasing policies increasing variability and uncertainty in purchasing processes. As a result, suppliers may perceive startups as less operationally efficient. The combination of formalization and standardization can increase the efficiency of the purchasing process. Increased efficiency then improves the supplier's satisfaction in the relationship.

Within later parts of the paper, we will use the microlevel purchasing organization characteristics to specify our organizational purchasing models for startups (Figure 1). The purchasing organization characteristics are essential elements for the purchasing organization model. Consequently, purchasing organization characteristics can help to analyze purchasing process connected to operative excellence.

2.1.3 Process-level purchasing operational perspective. The purchasing process is a sequence of activities divided into steps (Bäckstrand *et al.*, 2019), from sourcing to payment of the supplier's invoice (van Raaij, 2016). The purchasing process has an operational and strategic part (Bäckstrand *et al.*, 2019). The strategic purchasing process involves, for example, sourcing strategy, supplier selection and contracting (van Raaij, 2016). The operational purchasing process involves identifying buying needs, creating and managing purchase orders, ordering material, processing and approving invoices and paying supplier invoices (Rozemeijer, 2008; van Raaij, 2016). Purchasing operational processes are closely related to operative excellence, which we will describe further in the next section.

		Partial coverage	Full coverage
External	Partial outsourcing	<p>Procurement focus: Supply Chain Management Company will be responsible for ordering material, paying suppliers and logistics. Or Sourcing agent will be responsible for sourcing and supplier development.</p> <p>Involvement on decision process: no involvement</p> <p>Formalization: High (Supply Chain Management Company or Sourcing agent)</p> <p>Standardization: High (Supply Chain Management Company or Sourcing agent)</p> <p>Observed industries: not found in our sample</p>	<p>Outsourced purchasing</p> <p>Procurement focus: Contract manufacturing will be responsible for the entire supply chain including sourcing, payments and contracts.</p> <p>Involvement on decision process: no involvement</p> <p>Formalization: High (contract mfg. supplier)</p> <p>Standardization: High (contract mfg. supplier)</p> <p>Observed industries: Manufacturing</p>
	Internal	Strategic only	<p>Procurement focus: High value purchases, managing critical components for manufacturing</p> <p>Involvement on decision process: High</p> <p>Formalization: Low</p> <p>Standardization: Low</p> <p>Observed industries: Service and Manufacturing</p>
		Transactional-oriented	<p>Procurement focus: Contracts, payments and assuring compliance for the startup investors.</p> <p>Involvement on decision process: Low</p> <p>Formalization: Medium</p> <p>Standardization: Medium</p> <p>Observed industries: Service</p>

Figure 1.
Five organizational models

Source: Author's own creation

2.2 Operative excellence in startups

Operative excellence is how suppliers experience buyers' efficiency in operational activities, which impacts the suppliers' convenience of doing business with the buyer. (Hüttinger *et al.*, 2014). When buyers improve operative excellence (Hüttinger *et al.*, 2014; Vos *et al.*, 2016), they can increase CA (Hüttinger *et al.*, 2014), supplier satisfaction (SS) (Maunu, 2003) and mobilize supplier resources (Pulles *et al.*, 2019).

To improve operative excellence, startups can focus on several antecedents (Ilkay, 2019). Some operative excellence antecedents originate from the operational level dimension (Essig and Amann, 2009). One antecedent is the order process, composed of the ordering procedure, adherence to arrangements, adherence to long-term contracts, bargaining position and schedule (Essig and Amann, 2009). Another antecedent is billing/delivery, composed of payment habits, payment procedures, delivery deadlines, the required effort needed for delivery, receiving procedure and support during preparations for first-time delivery (Essig and Amann, 2009). Operative excellence antecedents also comprise reliable forecasts, quick decision-making (Hüttinger *et al.*, 2014) and contact accessibility (Vos *et al.*, 2016).

Some operative excellence-related antecedents exist in SS (Maunu, 2003; Essig and Amann, 2009) and CA constructs (Hüttinger *et al.*, 2014). For example, some authors argue that

forecasting is part of the SS construct (Maunu, 2003). For others, forecasting is linked to an operational level and does not directly impact SS (Essig and Amann, 2009). In summary, combining the operative excellence antecedents suggested in the CA, SS and preferred customer (PC) literature; we found five operative excellence antecedents (Table 1): forecasting, payment habits, ordering process, contact accessibility and quick decision-making.

Furthermore, high operative excellence results from an efficient operational purchasing process (Essig and Amann, 2009; Rozemeijer, 2008). For instance, buyers with high operative excellence have an efficient operational purchasing process with adequate demand planning systems (Hüttinger *et al.*, 2014; Ramsay and Wagner, 2009). Thus buyers can share reliable forecasts about their future demands, allowing suppliers to plan better their production capacity (Hüttinger *et al.*, 2014) and reduce suppliers' risk of stock obsolescence (Ramsay and Wagner, 2009). Moreover, the operational process of paying suppliers' invoices (van Raaij, 2016) can be more or less efficient. In an inefficient process, the startup may not have a formalized purchasing policy regulating how to pay supplier invoices. Process standardization may be low due to high staff turnover in startups. As a result, different people will pay suppliers' invoices, which increases process variation.

Furthermore, because of low purchasing involvement in the purchasing decision, purchasers are often unaware of the payment obligation. This can lead to suppliers experiencing high variation regarding on-time payment. Suppliers will perceive the startup as poorly organized and find it difficult to do business with it. Suppliers will be concerned about startups' ability to pay (Luo *et al.*, 2020) due to high uncertainty regarding payment habits (Rozemeijer, 2008). They will become less satisfied with the relationship.

To address supplier dissatisfaction, companies can organize purchasing better (Stek and Schiele, 2021), thus improving operative excellence. Hence, operative excellence can be an outcome of purchasing organization.

3. Research methodology

We choose qualitative methods (Silverman, 2020) because there is very little research on startups as buyers (Wagner, 2021). We use a two-step qualitative data collection method to

Factor	Definition of factor in CA, SS and PC literature	Exemplary reference
Forecasting	Systematically communicate reliable forecasts of short- and long-term purchasing volumes/demands to suppliers	Maunu (2003)
Payment habits	Paying supplier invoices within agreed payment terms	Rozemeijer (2008)
Ordering process	The process of placing orders for goods like raw material	Essig and Amann (2009)
Contact accessibility	The degree to which the supplier can access the buyer's contacts	Vos <i>et al.</i> (2016)
Quick decision-making	The buyer has simple and transparent internal processes and supports short decision-making processes	Hüttinger <i>et al.</i> (2014)

Source: Authors' own creation

Table 1.
Antecedents of
operative excellence

obtain in-depth information on how startups organize purchasing. The first step is semistructured interviews with purchasers to build an initial framework for purchasing organizations in startups. The second step uses the framework from the first step as input for a World Café (Brown and Isaacs, 2005; Schiele *et al.*, 2022b). The World Café discussed the organizational framework with practitioners as coresearchers (Schiele *et al.*, 2022b) to refine the initial framework. World Café discussions included the advantages and disadvantages of each purchasing organization type and links with operative excellence.

3.1 Participant selection and sample

We used nonprobability purposive sampling (Silverman, 2020). We used the maximum variation sampling technique for the semistructured interviews to capture various perspectives regarding how startups organize purchasing. For the World Café, we used the expert sampling technique to select individuals with startup-supplier relationship experience.

We used a heterogeneous sample for the semistructured interviews. Given our research questions, we focused on startups involved in purchasing (startups with annual spend volumes with suppliers greater than EUR 10,000). We used information from CrunchBase [Global startup database (Startup Genome, 2020)], LinkedIn and the researchers' network to identify startups based on two characteristics age group and purchasing organization. To maximize variation, we included startups from three age groups (0 to 36 months, 37 to 72 months and beyond 72 months of age) (Venkataraman and Van de Ven, 1998). To ensure a heterogeneous sampling regarding purchasing organization, we purposively chose startups with at least one full-time purchaser (group A) and without a full-time purchaser (group B). Appendix describes the startup informants who were interviewed.

We focused on experts for the World Café. Participants were eligible if they had experience with startup-supplier relationships. Experts should be procurement professionals with startup working experience or suppliers with sales experience doing business with startups. We recruited participants from LinkedIn, the personal researcher network and those who previously participated in the interviews.

The sample included 20 startup purchasers and suppliers that participated in our study. It is an international study with participants from eight countries (Belgium, Brazil, France, Germany, Hungary, the Netherlands, the UK and the USA). We conducted ten semistructured interviews with the informants. The informants in group A were full-time purchasing professionals who worked for the selected startups. The informants in group B were part-time in the purchasing function, such as the supply chain manager, finance director and cofounder. In short, the participants were experienced, qualified professionals. The World Café had 15, including purchasers and salespeople. We recruited five participants from the interviews and ten new participants (Appendix).

3.2 Data collection

We collected data in two steps. In the first step, we conducted semistructured interviews. Participants were contacted by e-mail. They were told the general purpose of the study (to understand the purchasing organization in startups). We developed an interview guide, discussed it with experienced PSM researchers and pilot-tested. Interviews started with general questions about purchasing in the startup, followed by deep dives into purchasing organization and structure and purchasing operational process. Interviews were conducted from December 2020 to June 2021. They took place virtually and were 45 to 60 min long. The author conducted the interviews. All were recorded using Microsoft Teams and transcribed, producing more than 110 single-spaced pages of data. We shared the transcripts with the participants for comment and correction.

In the second step, after the initial data collection, we conducted an online focus group in the format of a World Café. The goal was to substantiate the interview findings. Therefore, we presented the participants with the early version of startup purchasing organizational types (Figure 1). We asked participants for feedback using the following leading questions:

- Q1. What are the success factors for each type?
- Q2. When is each type used or recommended? (advantages and disadvantages)
- Q3. From a seller's perspective, which type is more attractive?

The World Café happened in July 2021. It was 2.5 h long, including three rounds (25 min, 20 min and 15 min). We fixed the moderator, and the participants rotated among three virtual rooms. We recorded the event using Zoom online conference software and transcribed it for further analysis.

3.3 Data analysis

We performed the data analysis in two phases. First, we performed a thematic analysis of the interview data. Second, we refined the concepts using World Café data. In the first phase, we started data analysis when transcripts from the first few interviews were available. We coded the data, first by manually coding the transcripts using ATLAS.ti software without a preestablished coding scheme. Next, we used an inductive approach to compare the codes with the PSO literature. We compared the codes from the interview guide question: How the purchasing department is structured/organized? Then, we compared the codes from the two groups we interviewed (Group A: startups with dedicated purchasing employees, and Group B: startups with no established purchasing function).

Furthermore, we coded the data regarding interview guide questions such as: “Can you shortly describe your operational purchasing process that interfaces with suppliers?” We then compared the codes with the microlevel PSO literature (Glock and Hochrein, 2011; Bals *et al.*, 2018). Finally, we used the purchasing organization's microlevel characteristics: involvement, formalization and standardization, as a coding scheme for the operational purchasing process. In short, we aligned the primary codes, aggregated them into subthemes and compared them with factors in the PSO microlevel and operative excellence literature. The categories from the literature became the overarching category scheme. Finally, the themes and early findings were discussed with several informants to improve validity. Using an inductive approach, we identified an initial purchasing organizational framework. We used this framework as input for the World Café.

In the second phase, we analyzed the World Café data. We used the data to refine the concepts and the five design options (Figure 1). We did not code the transcript as the World Café method already provides a list of the most relevant topics. We first created a cross table in Microsoft Excel, using the five design options (Figure 1) as an overarching scheme. Then, we organized the World Café topics according to three categories: advantages, disadvantages and when each organization type is recommended. We also used the transcripts to enhance the meaning of the World Café themes, extracting quotes from the transcript as examples to illustrate specific situations. Transcripts also help with documentation, capturing World Café results and the entire process (Schiele *et al.*, 2022b). Also, we share early versions of the World Café analysis with participants for feedback.

3.4 Methodological rigor

Research quality criteria such as validity and reliability for a naturalistic inquiry paradigm can be evaluated through the trustworthiness criteria of credibility, transferability, dependability

and confirmability (Guba, 1981). We used method triangulation (semistructured interviews and World Café) to satisfy the credibility criteria. Moreover, triangulation by using different data collection methods enhances the reliability of the results (Fusch and Ness, 2015). Regarding transferability, we collected and developed thick descriptions through semistructured interviews. We also used purposive sampling, including startups in different development stages, industries and countries. We also maximized variation, including startups with and without a purchasing organization. We left an audit trail to ensure dependability and confirmability. We developed an interview guide and pretested it. We recorded and transcribed the interviews. We performed a thematic analysis, coding the transcripts using ATLAS.ti software. We can trace the codes and themes using software and link them with the text fragment within each interview transcript.

4. Findings

In this section, we present the findings. We organize the findings into two main sections: purchasing organization typology in startups and implications for operative excellence. The first section identifies five purchasing organization types based on external versus internal organization and partial versus full purchasing process coverage. We discuss the procurement focus, the microlevel purchasing organization characteristics and the disadvantages and advantages of each type. We also offer propositions for each purchasing organization type. The second section explains operative excellence and how the five organizational models impact operative excellence. We also describe five operative excellence antecedents in detail. The findings suggest that specific organizational models substantially impact operative excellence more than others. Overall, our research sheds light on the importance of the purchasing organization in enhancing operative excellence in startups.

4.1 Purchasing organization typology in startups

This study's first question asks about how startups organize their purchasing activities. Figure 1 depicts five options based on the external versus internal organization (y -axis) and partial versus full purchasing process coverage (x -axis). On the y -axis, internal means that the startup employees will perform the purchasing process internally. On the contrary, external means that the startup will perform the purchasing process externally using a third party. On the x -axis, full purchasing process coverage means that the startup purchasing organization has responsibility for all processes (van Raaij, 2016) that regulates purchasing, from strategic (e.g. sourcing strategy and contracting) to operational process (e.g. purchase orders and approving invoices). On the contrary, partial purchasing process coverage means that the startup purchasing organization will not be responsible for all processes regulating purchasing.

As a result, this research presents five purchasing organization types for startups. Four types are based on the research findings: *Transactional-oriented*, *Strategic only*, *Full department* and *Outsourced purchasing*. Additionally, from the world cafe, we also conceptualize *Partial outsourcing* as a theoretically feasible option. However, we have not found this option among the respondents. Further insights from experts in the World Café helped identify the advantages and disadvantages of each organizational type. The five organizational models (Figure 1) provide type-specific descriptions for procurement focus related to the critical purchasing organization responsibilities. Figure 1 also offers type-specific descriptions for microlevel purchasing organization characteristics (Bals et al., 2018; Glock and Hochrein, 2011).

4.1.1 *Partial outsourcing*. The *Partial outsourcing* organization focuses on outsourcing part of the purchasing processes. For example, the startup can outsource the strategic

process (e.g. sourcing strategy, supplier selection and contracting) or operational process (e.g. managing purchase orders, ordering material and approving invoices). This option is possible because small companies might be interested in purchasing consultancy (Quayle, 2002), which can be a form of partial outsourcing. Another possibility is to outsource all operational processes. Outsourcing could also be a service provided by startup incubators and accelerators. For example, some hardware startup accelerators in San Francisco, USA, offer mentorship from experts in manufacturing, giving space for prototyping and introducing suppliers (DiResta *et al.*, 2015).

In addition to incubators and accelerators, startups can use consultancy companies specialized in sourcing and supply management. Some companies, also called supply chain management (SCM) companies (DiResta *et al.*, 2015), offer purchasing services for startups, ranging from procuring suppliers for a single part to suppliers for complete assemblies and managing packaging and logistics, saving time for the startup (Ohr, 2017). Nevertheless, *Partial outsourcing* has disadvantages and advantages. The disadvantages include higher costs because the startup will pay an upfront fee. Another disadvantage is purchasing-agent opportunism (Braun and Guston, 2003).

Advantages of *Partial outsourcing* include economies of scale, simplified ordering management and flexibility. First, startups can outsource the strategic process to a sourcing agent, such as searching for supplies and supplier selection. Sourcing agents can bundle the volume from several clients and improve the negotiation power when sourcing suppliers for a startup. Second, startups can outsource operational processes such as creating purchaser orders, ordering materials and paying supplier invoices to a SCM company. The SCM company allows the startup to have only one supplier to manage, simplifying the ordering process. Third, the SCM company will be an intermediary and handle all suppliers' transactions, adding flexibility to the startup to manage more suppliers without needing more purchasers. Nevertheless, further research is needed to investigate the advantages and disadvantages of a *Partial outsourcing* organization. In short, based on the literature, we expect those small and early-stage startups would benefit from a *Partial outsourcing* organization. Therefore, we offer the following proposition:

- P1.* Early-stage startups can use sourcing agents to procure suppliers, simplify the ordering process and benefit from economies of scale by leveraging sourcing agents' existing network of suppliers.

4.1.2 Transactional-oriented. The *Transactional-oriented* organization focuses on purchasing operational routines. The purchasing department will create and manage orders, process payments, sign contracts and ensure suppliers perform the service or deliver the product. As a result, purchasers will improve the formalization and standardization of the startup's operational purchasing routines. However, the purchasing department does not focus on strategic items (Kraljic, 1983). Instead, the founder, owner or management team usually purchases the strategic items. As a result, purchasers have low involvement in the decision process. Furthermore, strategic sourcing processes such as key supplier selection may be less formalized and standardized. We observed the *Transactional-oriented* organization in service startups.

Findings suggest that startups should choose the *Transactional-oriented* model when:

- startups need to ensure adherence to the purchasing policies and process;
- managing supplier payments is critical; and
- the startup management team needs time to focus on strategic items and needs help with time-consuming operational purchasing routines.

The *Transactional-oriented* type is vital to ensure adherence to the purchasing policies and process. The purchasers are not involved in high-value sourcing and negotiation processes. However, they will assist with contracts and documentation to ensure adherence to contracting best practices. One of the interviewees revealed they are implementing a purchasing department in a startup in the service sector to improve formalization, addressing compliance issues with the startup investor. The startup needed control and proper documentation for its purchases. The investors infuse millions in capital into the startups, expecting startups to justify how they spend the investor's money.

Transactional-oriented purchasing also sometimes works similarly to an accounts payable department. For example, supplier payments are critical when the startup is short on cash or regularly receives many supplier invoices:

I think operative [Transactional-oriented] most startups I saw, it is the payables department. Participant#1, Procurement Lead from a startup located in Brazil

Transactional-oriented is beneficial for managing time-consuming purchasing activities such as managing many noncritical suppliers. As a result, the startup management team can work more efficiently by focusing on high-value and strategic purchases. In short, *Transactional-oriented* has disadvantages and advantages. The disadvantages are that the *Transactional-oriented* type is less flexible because it must deal with many transactions (e.g. contracts and purchase orders), and the startup needs to add more people to scale up the purchasing department. In short, evidence suggests that managing cost and strategic supplier management are not a high priority in a *Transactional-oriented* organization. Again, our findings and Quayle's (2002) have similarities, who found low purchasing priority at small firms.

The advantages are that these organizations tend to have fewer purchasers than a Full department. As a result, they are not expensive. It also can help to ensure adherence to the purchasing policies and processes to improve the startup's reputation in the eyes of its investors and suppliers. It has some level of operative excellence to ensure payments, for example. Thus, we offer the following proposition:

P2. Startups can improve adherence to the purchasing policies and process (e.g. supplier payments and supplier contracts) by implementing a *Transactional-oriented* purchasing organization.

4.1.3 *Strategic only*. The *Strategic Only* organization focuses on strategic items (Kraljic, 1983) (e.g. high-value components) critical for the startup. Also, this type of organization has a small group of dedicated purchasers with high involvement in the decision process. We observed the *Strategic only* configuration in manufacturing and service startups. Small size characterizes this organization's design, and the company decides not to focus on noncritical items (Kraljic, 1983). Furthermore, all purchases classified as nonstrategic are decentralized and managed by several departments, including writing contracts, issuing purchase orders and managing suppliers' payments. As a result, the startup will have a low level of standardization because multiple departments will execute purchasing routines. Furthermore, evidence suggests a low formalization of purchasing processes, routines and policies.

Findings suggest that startups should choose the *Strategic only* model when startups need flexibility, and it is acceptable that purchasing should focus only on high-value purchases. One of the interviewees from a service startup described their strategy to maintain flexibility. Purchasing will manage purchases above US\$50,000. Below the threshold, the purchasing department does not have to be involved. Regardless of the strategy to build flexibility in the purchasing organization, purchasers continuously decide how to reprioritize high-value

purchases to reduce the overall complexity. Some participants argued that procurement should focus only on high-value purchases because they have limited time and choose how they allocate their time:

I cannot be involved with everything within my company (. . .). The most important suppliers to us are the suppliers that provide materials directly related to this machine because we have suppliers that actually help us create value. Participant#2, Procurement Manger from a startup located in The Netherlands

In short, *Strategic only* has disadvantages and advantages. Disadvantages are that *Strategic only* organizations are less process-oriented, have lower operative excellence and focus less on ensuring adherence to the purchasing policies and process. As a result, purchasers constantly make trade-offs between areas they can focus on and those left behind. Overall, our findings for the *Strategic only* organizations are consistent with [Christiansen and Maltz \(2002\)](#). They propose that purchasing should manage key suppliers.

The advantages are that strategic organizations tend to be small and inexpensive, flexible and scalable. Thus, we offer the following proposition:

P3. Startups can improve the scalability and flexibility of the Purchasing Organization by implementing a *Strategic only* organization.

4.1.4 Outsourced purchasing. The *Outsourced purchasing* organization focuses on outsourcing the manufacturing process, including purchasing and supply chain activities. The contract manufacturing supplier will be responsible for sourcing, supplier selection and development, issuing purchase orders and making payments:

Some of the parts that were specified by the startup because the startup had an engineering background, we are able to do the concept of the product and a couple of the key components, but then the whole sourcing job of getting these components and finding the specs of the rest of the components around that was done by the contract manufacturer Participant#7, Head of Supply Chain from a French supplier

However, we cannot discuss the startups' purchasing process formalization and standardization because they outsourced them. We observed the *Outsourced purchasing* type in two manufacturing startups in the consumer electronics we interviewed. Manufacturing startups are also hardware startups ([Björgum et al., 2021](#)). Similarly, in the research by [Björgum et al. \(2021\)](#), all six hardware startup cases operated under contract manufacturing.

Results from the workshop support the idea that startups should choose *Outsourced purchasing* when:

- they need the flexibility to allow the startup to scale up; and
- they lack expertise and supplier networks.

Furthermore, *Outsourced purchasing* has disadvantages and advantages. The disadvantage is that outsourced purchasing organizations can lead to higher costs because the startup will pay an upfront fee or a percentage on top of every purchased component ([DiResta et al., 2015](#)). Moreover, contract manufacturing suppliers will act similarly to purchasing agents ([Zhang et al., 2011](#)), and startups could lack control and visibility of the entire supply chain. Also, Tier 2 suppliers are usually unknown; consequently, the startup may be unable to develop an alternative contract manufacturing supplier:

So, it's like every time, most of the contract manufacturers, they give you some of the layouts, but not all of it. And when you get the layout and go to another supplier, you probably run into issues. Participant#7, Head of Supply Chain from a French supplier

Furthermore, the cost of components is not transparent to the startup. As a result, contract manufacturing suppliers can act opportunistically, maximizing their profits by further reducing prices with Tier 2 suppliers. However, there is little pricing transparency, and startups will not benefit from the reduced prices. These findings are consistent with the agency theory used in purchasing (Fayezi *et al.*, 2012) to address outsourcing relationships (Logan, 2000). In the agency theory, principal-agent problems can arise, such as agent opportunism and agent pursuit to maximize self-interest (Braun and Guston, 2003). Startups can mitigate the principal-agent problem by introducing monitoring mechanisms (Braun and Guston, 2003), such as auditing the contract manufacturing supplier invoices to Tier 2 suppliers.

These findings regarding the disadvantages of the *Outsourced purchasing* organization are consistent with Garnsey and Wilkinson (1994). They found that suppliers may force startups into exclusivity agreements, limiting their ability to change suppliers, limiting competition and hurting startup competitiveness. In addition, the results reflect those of Rottenburger and Kaufmann (2020), who found that startups can suffer from opportunistic supplier behavior. Furthermore, it seems that contract manufacturing suppliers seek to maximize their self-interest. This creates a principal-agent problem that arises from the outsourcing model (Logan, 2000). However, despite the disadvantages of higher prices, startups with high margins favor outsourcing.

The advantages are that outsourced purchasing organizations do not need a full-time purchaser. As a result, they are not expensive organizations. They are also flexible, allowing the startup to scale up. Outsourcing purchasing through the contract manufacturing supplier is a workable solution for startups that lack expertise because they can indirectly access the contract manufacturing supplier network:

You do not need to build the expertise. You do not need to build networks. You can buy this out somehow. Participant#11, Business Unit Manager from a Hungarian supplier

As a result, we offer the following proposition:

P4. Hardware startups can quickly build a network of suppliers by outsourcing purchasing to contract manufacturing suppliers.

4.1.5 Full department. The *Full department* focuses on strategic and nonstrategic purchases, managing most suppliers. Purchasing has medium to high involvement in the decision process. Startups, in this case, have written purchasing processes, leading to high formalization. Furthermore, the same department executes most purchasing routines leading to a high level of standardization.

We identified manufacturing and service startups with a *Full department* in the data. The manufacturing startup was involved in new product development and had an in-house manufacturing facility and many suppliers. Two service startups had many suppliers, and the spending was high. One of the cases had purchasers divided into direct and indirect purchasing structures described by Bals *et al.* (2018). The second case had a category structure, as described in the literature. In the Greiner Growth Model (Greiner, 1998), size determines companies' organizational structure. Also, the growth rate will impact size. Therefore, one possible explanation is that the first young startup operates at a higher growth rate than the second example of an older startup.

Data suggests that the purchasing structure in a *Full department* in startups can be similar to established companies. No significant difference was evident from our data. This finding contradicts the initial assumption that current models in the PSO literature may not fit startups. In short, evidence suggests that the literature for established companies may still apply to startups that use the *Full department*.

A *Full department* is recommended:

- to manufacturing startups to secure supply chain stability. Startups in the manufacturing sector may have a complex and interlinked supply chain with many suppliers. In addition, manufacturing startups may also be involved in new product development; and
- It is recommended for startups with a consistent product or service that can provide accurate forecasts and control spending:

I think a full department is necessary when you're dealing with planning budget, and you have a constant supply that cannot fail." Participant#1, Procurement Lead from a startup located in Brazil

To sum it up, the *Full department* has disadvantages and advantages. Disadvantages are that *Full department* organizations may not be scalable and can slow the startup. In addition, a *Full department* is expensive because this organizational design requires more people to control all purchases than the other three choices:

But I agree that having a full department is costly, and so you need to pay attention and the if the deliverables will guarantee the cost. Participant#17, Head of Innovation and Partnerships from a Brazilian supplier

Furthermore, due to a high level of purchasing process formalization and standardization, a *Full department* can become bureaucratic, which slows down the startup. In one participant's view, startups should avoid rigid administrative procedures that oppose startups' agile concept. These results match those overserved in the crisis of autonomy that requires more delegation during the development of a company (Greiner, 1998):

We are in the moment where it's getting bureaucratic. Having a full department is not efficient where we are going to, and that goes really in the other direction of the whole discussion of a startup. But the department as it is, it is slowing us down. Participant#13, Global Commodity Lead from a startup located in The United Kingdom

On the other hand, the advantages are that *Full department* organizations can provide the highest performance compared to the other three organizational alternatives in managing cost, operative excellence and adherence to the purchasing policies and process. Moreover, participants agree that a *Full department* is the dream of startup purchasers. A possible explanation is that most purchasers had previous experience working for large organizations in a *Full department* setting.

Therefore, we offer the following proposition:

- P5. Later-stage startups maintaining consistent sales can implement a *Full department* and improve purchasing performance regarding cost, operative excellence and ensuring adherence to the purchasing policies and process.

The following section details the operative excellence in startups and the connection with the five purchasing organizational types.

4.2 Implication for operative excellence

The second question in this research was: what is the impact of purchasing organization on operative excellence? The section below describes operative excellence in startups. It also explains how the five organizational models impact the five operative excellence antecedents: forecasting, payment habits, ordering process, quick decision-making and contact accessibility. Moreover, purchasing has increased its attention to information technology (Kumar Kar and K. Pani, 2014). Emerging technologies such as AI could improve purchasing processes (Schulze-Horn *et al.*, 2020). Consequently, it could potentially improve startups' operative excellence. Therefore, we also discuss the implications of emerging technologies such as AI and blockchain to operative excellence antecedents.

4.2.1 Forecasting (1). Buyers and suppliers must comply with the delivery schedule (Kumar Kar and K. Pani, 2014). Therefore, the supplier selection literature often focuses on how buyers evaluate suppliers' compliance regarding the delivery schedule. However, suppliers also assess the quality and reliability of buyers' adherence to schedules and forecasts. Forecasting of purchasing volumes/demands was discussed at length in the interviews. Sharing reliable forecasting with suppliers positively affects operative excellence (Vos *et al.*, 2016). Although, startups struggle to share forecasting with suppliers. For example, one of the startups illustrated that they usually share a nonbinding forecast based on historical startup sales. However, suppliers started to demand binding purchase orders (commitment) over time. Nevertheless, interviewees largely agreed that startups could not provide reliable forecasts to suppliers. One explanation for the startup's inability to provide reliable volume/demand forecasts to suppliers is that startups can have high but uncertain growth:

With such a high level of growth is not possible to forecast. Participant#4, Senior Purchaser from a startup located in The Netherlands

Furthermore, startups lack planning because it is difficult to get volume forecasts from the startup sales department. Moreover, startups also sometimes lack a realistic market view, limiting the startup's ability to provide reliable and systematic forecasts to suppliers.

Considering the specifics of the organizational models, all five seem to have the same limitation: the inability to provide volume/demand forecast to suppliers. However, *Outsourced purchasing* can be better at providing forecasts systematically because the contract manufacturing supplier performs this routine. Usually, they are a well-established company with a mature forecasting process. Nevertheless, forecast reliability can be as low as in the other three cases. One explanation is that the forecast/planning of volume/demands depends not on the organizational purchasing type but on startups' sales and marketing capabilities.

Turning to emerging technologies, AI could help startups improve their forecasting capabilities. AI can enhance business operations (Schulze-Horn *et al.*, 2020), and startups could use AI to predict future volumes/demands and provide better forecasts to suppliers.

4.2.2 Payments (2). Paying supplier invoices within the agreed-upon terms between the buying company and the supplier is critical in purchasing operations (Essig and Amann, 2009; Hüttinger *et al.*, 2012). However, many informants reported that late supplier payments are the norm in startups, attributing overdue payments to a lack of process and IT systems and not a lack of cash. For example, one participant revealed that they pay only 30% of the suppliers on time. In another example, the startup needs to pay the supplier in advance:

With some suppliers, it was like 50 % with the PO [Purchase Order] and then 50 % upon shipping. Participant#10, Co-Founder and chief operating officer (COO) from a startup located in Belgium

These findings are consistent with the literature suggesting that suppliers are concerned about the startup's ability to pay (Luo *et al.*, 2020). Also, startups suffered from COVID-19 financial impacts. As a result, startups lacked funds, delaying supplier payments and causing supplier relationship discontinuation (Sreenivasan and Suresh, 2021). However, late supplier payments are not a consensus among participants.

Considering specifics of the organizational models, suppliers are usually paid on time in *Outsourced purchasing* because the contract manufacturing supplier is responsible for Tier 2 supplier payments. However, late supplier payments may be the norm in the remaining organizational models.

Considering emerging technologies, blockchain can increase transaction transparency (Schiele *et al.*, 2022a). Consequently, blockchain could be a viable technology to increase transparency in the invoice payment process.

4.2.3 The ordering process (3). Ordering refers to placing orders to purchase goods and services from suppliers (Essig and Amann, 2009). A purchase order can be a manual process or automated by IT systems. Additionally, in recent years, electronic transaction capability (Kumar Kar and K. Pani, 2014; Pani and Kar, 2011) is a critical capability referred to as electronic catalog management, electronic order management and electronic financial settlements (Pani and Kar, 2011). Moreover, radio frequency identification (RFID) technology in SCM can also optimize the ordering process. RFID-generated data can improve accuracy and generate insights for demand planning (Unhelkar *et al.*, 2022).

Most interviewees reported having deficient ordering processes due to a lack of enterprise resource planning (ERP) systems, working with Microsoft Excel-based planning and lacking electronic transaction capability (Pani and Kar, 2011). Most startups also issued purchase orders manually or with a semiautomated Excel-based process:

We have a certain workflow system, but we do not have an ERP or other specific software to manage procurement activities. Participant#3, Procurement Manager from a startup located in Germany

Consequently, startups may often face challenges in managing their inventory due to deficiencies in their ordering processes, such as a lack of electronic transaction capabilities and ERP systems. These deficiencies can lead to stockouts, excess inventory and increased costs. Implementing an effective inventory control system can help startups optimize the ordering process. For example, Döngül *et al.* (2022) propose using sophisticated algorithms to solve an integrated location-allocation model with inventory control decisions improving planning and resulting in a better information flow from suppliers to customers.

However, one *Transactional-oriented* type of organization revealed they are trying to implement an ERP system because the biggest purchasing team challenge is managing supplier invoices. Another *Transactional-oriented* type of organization used "Slack," a business communication platform, to write purchasing requests. We also had one case implementing SAP software.

Considering the specifics of the organizational models, the ordering process is weaker in *Transactional-oriented* and *Strategic only* due to the lack of ERP systems. *Full-department* startups tend to have an ERP because they are usually bigger or engage in manufacturing. As a result, they have a better ordering process. *Outsourced purchasing* is the best because the contract manufacturing supplier will manage the ordering process using their ERP.

Turning to emerging technologies, blockchain can improve transparency in the entire supply chain (Delke *et al.*, 2022). Consequently, if startups become part of a supply chain that uses blockchain technology, it could increase transparency in the ordering process. Nevertheless, startups still lack ERP systems, and blockchain could be out of reach.

4.2.4 *Contact accessibility (4)*. Contact accessibility is the supplier's ability to access the buyer's contacts (Vos *et al.*, 2016). Suppliers and buyers exchange information frequently. To exchange information, suppliers must have a contact person in the startup. Nevertheless, suppliers may not be able to access startup contacts easily.

- if the supplier point of contact at startup changes frequently;
- if suppliers do not have a single point of contact; and
- if there is an intermediary between the supplier and the startup.

First, high turnover among purchasing personnel is a challenge for suppliers working with startups. The supplier's contact at the startup frequently changes because of the turnover among purchasers. For instance, in less than 12 months, one informant reported a 50% loss of purchasers, while two interviewees had already changed jobs since the interviews. More research is needed to understand why purchasing professionals may leave a startup company. Finally, interviewees diverged on purchasing personnel turnover. It was high, leading to problems according to some interviewees, while it was not a critical problem for others. More research is needed to determine if purchasing personnel turnover is high in startups and the impacts on contact accessibility.

Second, suppliers may not have a single point of contact with the startup. Considering the specifics of the organizational models, a point of contact may exist for payments in *Transactional-oriented*. However, the sourcing is managed by many people in a decentralized process, making it difficult for the supplier to find the correct contact. In *Strategic only*, the very few strategic suppliers managed by the strategic purchasing team will have a single point of contact. The remaining majority of suppliers will not easily access startup contacts. A *Full department* tends to have better contact accessibility than the other three purchasing organizational types because it has some level of organization (e.g. by category). As a result, suppliers will have reasonable access to startup contacts. Third, in *Outsourced purchasing*, there is an intermediary between the supplier and the startup. Hence, Tier 2 suppliers will not directly contact the startup, making communication less efficient.

Considering emerging technologies, AI could power interactive communication bots in purchasing (Delke *et al.*, 2022). Accordingly, startups could use emerging technologies to improve contact accessibility by using bots to enhance supplier communication.

4.2.5 *Quick decision-making (5)*. Quick decision-making is a transparent and simple internal process (Hüttinger *et al.*, 2014) that enables buyers to provide immediate feedback to supplier requests. Startups have agile sourcing and contracting processes, which suppliers appreciate. Processes are simple because startups lack formality (Ghosh *et al.*, 2019). However, quick decision-making results from a lack of planning and growth-related uncertainties. This situation leads to startups having many urgent demands. As a result, startups tend to react fast internally.

Nevertheless, some interviewees reported becoming more formal as part of startup development, slowing the decision-making process. However, startups can quickly speed up the process if the demand is urgent and business-critical:

If it is business-critical, we can be quick, and I did hear from some suppliers, oh, that was quick. I mean, we didn't expect that the decision-making would be done so quickly. Participant#3, Procurement Manager from a startup located in Germany

Even with some formality, startups find ways to stay agile. For example, one interviewee mentioned using simplified contracts with suppliers, a one-page nondisclosure agreement and three-page supply agreements.

While quick decision-making can benefit startups regarding agile sourcing and contracting processes, it has potential risks. Startups must balance the urgent demands for supplier selection and best practices in supplier selection. For instance, incorporating risk and sustainability factors in their supplier selection process can benefit companies, as [Alikhani et al. \(2019\)](#) highlighted. Therefore, startups need to be aware of the potential risks, ensure that their supplier selection processes are comprehensive and consider sustainability and risk management.

Considering the specifics of the organizational models, we concluded that in the *Transactional-oriented* type, purchasers do not have much authority; however, they have easy access to the decision-makers, usually the founder/CEO. In *Strategic only*, startup management empowers the purchasers to make quick decisions. In *Outsourced purchasing*, Tier 2 suppliers will not have direct contact with the startup, so they must deal with an intermediary party, making the decision process slower. Finally, participants reported that a *Full department* is slow due to rigid purchasing processes and policies.

Considering emerging technologies, AI-based decision-making ([Schulze-Horn et al., 2020](#)) can facilitate supplier selection ([Delke et al., 2022](#)). Therefore, startups can leverage AI to improve decision-making through a faster supplier selection process.

5. Discussion

This study explored purchasing organization and operative excellence in startups. This analysis demonstrates how startups organize their purchasing activities to improve operative excellence and become attractive customers. This paper found that startups organize the purchasing function in four ways: *Transactional-oriented*, *Strategic only*, *Outsourced purchasing* and *Full department*. Moreover, we conceptualized a fifth option, *Partial outsourcing*. Each of the five organizational types has advantages and disadvantages regarding operative excellence. Nevertheless, data suggest that *Outsourced purchasing* and the *Full department* may have higher operative excellence than *Transactional-oriented* and *Strategic only* ([Table 2](#)). As a result of purchasing organization advantages and disadvantages, startups should select the appropriate design to achieve the desired level of operative excellence while balancing the department size, process formalization and standardization.

Factor	Lower operative excellence		Higher operative excellence		Partial outsourcing
	Transactional-oriented	Strategic only	Outsourced purchasing	Full department	
(1) Forecasting	(- -)	(- -)	(-)	(- -)	Not evaluated
(2) Payment habits	(+)	(- -)	(++)	(+)	Not evaluated
(3) Ordering process	(-)	(- -)	(++)	(+)	Not evaluated
(4) Contact accessibility	(-)	(+)	(- -)	(++)	Not evaluated
(5) Quick decision-making	(+)	(++)	(- -)	(-)	Not evaluated

Note: The operative excellence comparison between each type ranges from high strength (++) to high weakness (- -)

Source: Authors' own creation

Table 2.
Operative excellence strengths and weaknesses of the five organizational types

We also unveiled operative excellence in startups providing rich detail regarding forecasting, payment habits, ordering process, contact accessibility and quick decision-making. We found that startups may have low operative excellence facing many challenges, such as sharing volume/demand forecasts, paying suppliers on time and lacking ERP systems leading to manual purchase orders.

5.1 Contributions to literature

This work makes four contributions to literature.

- (1) We introduce startups as a new, previously overlooked unit of analysis that contributes to existing knowledge of POS (Bals *et al.*, 2018) by providing a framework that extends organizational models for the particular case of startups to organize purchasing activities.
- (2) We contribute to the attractiveness theory (Hüttinger *et al.*, 2014) by introducing purchasing organization as a mechanism to increase operative excellence. This research also advances the emerging research stream of CA in startups (La Rocca and Snehota, 2021).
- (3) This work introduces a new causal mechanism. This work is the first to connect the purchasing organization with the operative excellence literature. Before this work, the two research streams had been studied in isolation. This paper joined them by proposing operative excellence as an outcome of purchasing organization; and
- (4) we contribute to entrepreneurship literature by explaining how to organize purchasing activities in startups.

5.2 Practical implications

The findings have practical implications.

- We offer entrepreneurs a framework to organize startup purchasing activities. Startups can now use the purchasing organization framework to choose what type best fits their needs. We also offer guidance on selecting each organizational model based on advantages and disadvantages.
- Startups' purchasing managers can now know the advantages of each purchasing organization model. They can work to mitigate the disadvantages of each purchasing organization model. For example, startups choosing to outsource should be aware of principal-agent problems and implement mechanisms to prevent suppliers' opportunism.
- Entrepreneurs should be aware of supplier attraction factors and supplier perception of the easiness of doing business with startups. Also, some practices can send the wrong message to the supplier network. For example, delayed supplier payments can signal startup financial instability. Therefore, startups should pay attention to operational processes like paying suppliers on time and signaling credibility to the suppliers' network.
- Startups could satisfy suppliers by improving the forecasting process of purchasing volumes, promoting the communication between purchasing and marketing departments and promoting the interaction between startup marketing departments and suppliers coordinated by purchasing.
- Startups could improve SS by improving contact accessibility. Startups may face personnel turnover issues; therefore, startups could build a list of multiple internal contacts and share it with suppliers. As a result, the supplier can have the means to contact the startup if they lose contact with the supplier's usual counterpart at the startup.

5.3 Limitations and further research

Despite the sample size limitations of a qualitative study, such as our World Café and interviews, we built variation into our research design to maximize the generalizability of the results. A natural progression of this work is to conduct quantitative research to improve generalizability. For example, a large-scale startup survey could determine the relationship strength between organizational models and operative excellence.

We also limited our study to purchasing structure, purchasing organization characteristics and purchasing operational process. We did not include purchasing skills, for example. A further study could assess the purchasing skills required to work for a startup. In addition, we did not extensively explore the startup reasons for implementing a purchasing department. Additional work could explore what type of startups want to implement or expand a purchasing department. Finally, our research linked purchasing organizations indirectly to the cycle of PC through operative excellence. Further research could explore the direct impacts of purchasing organizations on CA, SS and PC status.

Also, a further study could determine the causes of employee turnover in the startup's purchasing function. Moreover, additional work could be undertaken to explore the purchaser's motivation to work for startups and employee retention. Furthermore, researchers could explore further startup growth in different development stages and how the organizational purchasing design may change to address evolving needs regarding operative excellence and flexibility. A final direction is to explore the impact of emerging technologies, such as AI and blockchain, on startup purchasing processes. We did not ask informants about startups' current stage of adoption of such technologies. Therefore, researchers could address the same research problem of improving the startup operative excellence by adopting the technology angle instead of purchasing organization. For instance, how AI-driven procurement systems will reshape purchasing process and improve operative excellence?

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Appendix

Organizing their purchasing activities

ID	Data collection method	Company	Country	Industry type	Job title	Role	Gender	Years of experience	Education
#1	Interview and World Café	Startup 1	Brazil	Service	Procurement lead	Buyer	Female	12	BSc
#2	Interview and World Café	Startup 2	The Netherlands	Manufacturing	Procurement manager	Buyer	Male	6	BSc
#3	Interview and World Café	Startup 3	Germany	Service	Procurement manager	Buyer	Male	29	BSc
#4	Interview and World Café	Startup 4	The Netherlands	Manufacturing	Senior purchaser	Buyer	Male	15	MSc
#5	Interview and World Café	Startup 5	Brazil	Service	Procurement and construction manager	Buyer	Female	8	BEng
#6	Interview	Startup 6	Brazil	Service	Strategic sourcing head	Buyer	Female	15	MBA
#7	Interview	Startup 7	France	Manufacturing	Head of supply chain	Buyer	Male	16	MSc
#8	Interview	Startup 8	Brazil	Service	Procurement lead	Buyer	Male	9	BSc
#9	Interview	Startup 9	Brazil	Service	Finance director	Buyer	Female	18	MBA
#10	Interview	Startup 10	Belgium	Manufacturing	Cofounder and COO	Buyer	Male	36	MSc
#11	World Café	Supplier 1	Hungary	Manufacturing	Business unit manager	Supplier	Male	11	MBA
#12	World Café	Supplier 2	Germany	Service	Account executive	Supplier	Male	21	BSc
#13	World Café	Startup 11	UK	Manufacturing	Global commodity lead	Buyer	Male	7	MSc
#14	World Café	Startup 12	The Netherlands	Manufacturing	Sourcing specialist	Buyer	Female	16	MSc
#15	World Café	Supplier 3	The Netherlands	Manufacturing	Sales manager	Supplier	Male	33	BSc
#16	World Café	Startup 13	Brazil	Service	Head of procurement	Buyer	Male	10	MBA
#17	World Café	Supplier 4	Brazil	Service	Head of innovation and partnerships	Supplier	Female	23	MBA
#18	World Café	Startup 14	USA	Service	Head of procurement	Buyer	Male	33	BSc
#19	World Café	Startup 15	Germany	Service	Supply chain management director	Buyer	Male	31	MBA
#20	World Café	Supplier 5	The Netherlands	Manufacturing	Sales manager	Supplier	Male	26	BSc

Table A1.
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