A longitudinal study on logistics strategy: the case of a building contractor

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Abstract

Purpose – Contingency studies within logistics and supply chain management have shown a need for longitudinal studies on fit. The purpose of this paper is to investigate the logistics strategy from a process of establishing fit perspective.

Design/methodology/approach – A large Swedish building contractor's logistics strategy process was analysed using a longitudinal single-case study for a period of 11 years (2008–2019).

Findings – The case study reveals three main constraints to logistics strategy implementation: a dominant purchasing organisation, a lack of incentives and diverging top-management priorities. This suggests that logistics strategy fit is not a conscious choice determined by contextual factors.

Research limitations/implications – Establishing fit is a continuous cycle of regaining fit between the logistics context and logistics strategy components. Fit can be achieved by a change to the logistics context or to logistics strategy components.

Practical implications – Logistics managers may need to opt for satisfactory fit in view of the costs incurred by changing strategy versus the benefits to be gained from a higher degree of fit.

Originality/value – This paper adopts a longitudinal case design to study the fit between the logistics context and strategy, adding to the body of knowledge on organisational design and strategy in logistics and supply chain management.

Keywords Construction logistics, Strategy process, Strategic fit, Organisational structure, Project-based organisations

Paper type Research paper

Introduction

This paper addresses the logistics strategy process in building contractor organisations. Building contractors are project-based organisations and are typically decentralised where projects are managed locally with little connection to the permanent organisation (Dubois and Gadde, 2002). Consequently, activities at the operational level seldom follow strategies formulated at the corporate level (Miterev *et al.*, 2017) and there is typically little connection between logistics plans at these levels (Elfving, 2021), which in turn causes material flow-related problems at the operational level (Thunberg and Fredriksson, 2018). However, a corporate/company-level logistics plan (i.e. a logistics strategy) can be a means of improving efficiency at the project level by reorganising logistics activities, leading to better resource

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utilisation and labour productivity (Dubois *et al.*, 2019). Addressing the issue of formulating and implementing a logistics strategy in a building contractor organisation can thus yield insights into how to establish the necessary prerequisites for managing logistics in building projects.

In comparison to production systems and supply chains in manufacturing, construction has more complex interdependencies between production and supply activities (Bankvall *et al.*, 2010). There is also a lack of adequate planning and control of materials and information flows; this leads to poor coordination between contractors and sub-contractors, which in turn gives rise to material flow issues (Thunberg *et al.*, 2017). Previous studies indicate that better planned material flows in construction projects can lead to reductions in total project costs by increasing efficiency in transportation, material handling and production tasks on site (e.g. Janné and Rudberg, 2022). However, logistics is rarely addressed holistically in projects and instead the main contractor and sub-contractors manage their own material flows (Dubois *et al.*, 2019). One effect of this is that planning methods are misaligned with material flow characteristics, leading to congestion on the site and poor resource utilisation (Sezer and Fredriksson, 2021). There is thus a need to consider contextual aspects that influence how logistics is organised, that is a contingency approach to logistics (Marchesini and Alcântara, 2016). The main contractor is typically highlighted to be in the position to address these planning-related issues, but it requires that logistics is addressed at a strategic level (Thunberg and Fredriksson, 2018).

Despite the existing research on logistics and supply chain strategy and structure (e.g. Sabri, 2019; Feizabadi *et al.*, 2021), the process of establishing the logistics strategy and structure is seldom addressed. A central concept within logistics and supply chain strategy is "fit", which refers to aligning strategy and structure elements with internal and external contingencies, such as market and operations characteristics, respectively (Chow *et al.*, 1995). The concept of fit in logistics and supply chain research is typically considered from a content perspective (e.g. Nakano, 2015; Sabri, 2019; Feizabadi *et al.*, 2021), but this disregards how fit is established. Mintzberg (1979) argues that it is insufficient to describe fit based solely on strategic and structural elements because they do not represent the strategy as it is pursued. To understand how fit is established, one must look beyond strategic and structural elements to capture the process behind the realisation of the strategy.

Dynamic approaches to fit challenge the content of fit perspective (Venkatraman and Camillus, 1984) and suggest that fit is the outcome of an unpredictable process characterised by internal and external pressures that are involved in reshaping the organisation and its strategy (Child, 1972; Donaldson, 1987). For instance, in the case of construction, logistics practices are characterised by low maturity and the absence of a strategic approach to logistics (Janné and Rudberg, 2022), despite the emergence of new methods, tools and organisational forms for managing logistics in construction projects (Dubois *et al.*, 2019). This indicates that the development and deployment of logistics practices are not necessarily a conscious choice determined solely by their fit with the logistical context, which is postulated by the content of fit perspective. The literature on fit within logistics and supply chain management therefore needs to be expanded to encompass a more dynamic approach. The purpose of this paper is to investigate logistics strategy from a process of establishing fit perspective.

Dynamic approaches to fit deal with what triggers a change to strategy and/or structure with the aim to regain fit (Child, 1972; Donaldson, 1987). However, the logistics strategy and supply chain fit literature does not address this topic or explain what leads to fit. Hence, this paper poses the following research question:

RQ1. What factors influence the adjustment of a logistics strategy with the aim to regain fit in a building contractor organisation?

The content of fit perspective assumes that there is a natural drive within organisations to establish fit. However, the process of establishing fit perspective rejects this assumption and instead questions whether a theoretically ideal fit is feasible in all cases. For instance, adjusting the strategy to its context can be costly and the future benefits must exceed the costs of this adjustment (Luo and Donaldson, 2013; Gligor, 2017). Furthermore, bounded rationality, managerial discretion (or a lack thereof), institutional factors and the personal views and motives of decision makers can further influence the outcomes of the strategy process (Howard *et al.*, 2007). Therefore, this paper poses a second research question:

RQ2. What are the implications for a building contractor pursuing a satisfactory fit or a misfit in their logistics strategy?

The study is based on a longitudinal case study of a large contractor's logistics strategy process, which is examined through the lens of contingency theory. The case is, to the authors' knowledge, one of few deliberate logistics strategy processes in construction, where a wide range of strategy contents are addressed. In contrast, most logistics initiatives in construction are limited to one or a few logistics strategy components with an emphasis on the operational level. The longitudinal case design used in this study thereby provides unique insights into the process of establishing fit in a large building contractor organisation.

The paper contributes to research within organisational design and strategy in logistics and supply chain management. In particular, the study illustrates how fit is established in a large construction company. Project-based production is rarely considered in studies of functional strategies, such as logistics strategies. The paper also highlights managerial factors, and their potential influence on the strategy process, which must be considered in order to create necessary prerequisites for managing logistics in construction projects.

The paper is structured as follows: first a theoretical background to contingency theory in logistics and supply chain management is presented. Next, the research design and method are described. This is followed by a case description and analysis of the case. The paper ends with a discussion and conclusions, including the limitations of the study and suggestions for further research.

Contingency theory in logistics and supply chain management

The strategy–structure–performance paradigm

The leading stream within contingency theory has been the strategy–structure–performance paradigm (Chandler, 1962; Galunic and Eisenhardt, 1994). Early adoptions of the strategy–structure–performance paradigm in logistics research focused on intraorganisational issues, that is the fit between the firm's strategy, the organisation of logistics and the effects of fit on performance (Chow *et al.*, 1995). Later research has adopted the contingency theory lens to study fit at an interorganisational supply chain level of analysis (Nakano, 2015; Sabri, 2019; Feizabadi *et al.*, 2021).

These advancements have been valuable for logistics and supply chain management research in explaining which logistics organisation and supply chain structures are feasible under certain circumstances. Similarly, in the operations management domain, contingency theory has been successful in providing an understanding of which operations management practices are effective under certain conditions (Sousa and Voss, 2008). However, despite the valuable insights gained from using contingency theory as a theoretical lens in logistics and supply chain management research, there has been debate regarding the definition of fit within the logistics domain (Hallavo, 2015). Much of this debate stems from problems with contingency theory itself, that is, the tendency to apply reductionistic theoretical models that have provided inconclusive empirical results (Galunic and Eisenhardt, 1994; Van De Ven *et al.*, 2013; Turkulainen, 2022). To respond to this critique, major advancements in contingency theory have been made through the configurational view (CV) and the information processing view (IPV).

The configurational and information processing views on fit

The CV and IPV are complementary developments of contingency theory. The CV addresses the traditional reductionist approach and advocates a more holistic perspective with the use of multivariate studies of several contingency variables and organisation design elements (Meyer *et al.*, 1993; Van De Ven *et al.*, 2013). On the other hand, the IPV addresses the vague definition of fit by explicating fit as the match between information processing (IP) requirements and IP capacity (Galbraith, 1974). Both advancements in contingency theory have shown potential for logistics and supply chain management. The configurational view offers a more holistic picture of supply chains, which has been studied using multivariate analysis of contingency variables and structural variables (Feizabadi *et al.*, 2021). IPV has been useful for analysing fit at both an intraorganisational and an interorganisational (supply chain) level (Busse *et al.*, 2017; Aben *et al.*, 2021). Combined, the CV and IPV provide a solid lens for logistics and supply chain management researchers to determine under what conditions the different organisational configurations are feasible. However, to use these views in logistics and supply chain management research, the contingency variables need to be adapted to the specific empirical context (Koskela and Ballard, 2012; Turkulainen, 2022).

Dynamic approaches to fit

The strategy–structure–performance paradigm does not account for how strategy and structure changes (Galunic and Eisenhardt, 1994). Although the CV and the IPV are considered advancements on the reductionist approach in contingency theory, they also assume a static view on strategy and structure (Donaldson, 1987). Therefore, the static approaches within the contingency theory place less emphasis on what is happening within the structure and how strategies unfold and are realised (Mintzberg, 1979). This cross-sectional approach has been the main subject of criticism against the contingency theory, which is mainly related to its lack of relevance for dynamic environments where strategy and structure are prone to frequent change (Galunic and Eisenhardt, 1994). In response to this criticism, dynamic approaches to fit focuses on the sequence of events that reinforce an existing configuration, creates a new configuration, sustain an existing configuration or that removes old core elements of a configuration that have become obsolete (Siggelkow, 2002).

Two advancements in contingency theory addresses the issue of only considering fit at one point in time: strategic choice (Child, 1972) and the SARFIT (structural adaption to regain fit) model (Donaldson, 1987). There is considerable overlap between the two views, but they differ in that strategic choice places more emphasis on a dominant coalition (e.g. senior management) with a certain degree of discretion in strategic decisions. This implies that fit can be achieved by either responding to contingencies through organisational adaptation or by changing the contingencies *per se*, depending on the preferences of the dominant coalition or their degree of discretion (Montanari, 1978). SARFIT, on the other hand, emphasises performance (or a lack thereof) as the main trigger for organisational adaptation rather than the discretion and preferences of the dominant coalition (Donaldson, 1987).

Another stream that falls under the dynamic approaches is that of dialectics and paradoxes that emphasises the importance of internal tensions and contradictions as triggers for strategic renewal. Within this stream, internal misfits of an organization are means of strategic change, rather than temporary dysfunctional states of a configurations (Farjoun and Fiss, 2022). Misfits are thus a normal part of any organization and should be viewed as an opportunity to shift towards a different strategy configuration or to reinforce an existing one.

The majority of contingency research within logistics and supply chain management does however use cross-sectional research designs (Doering *et al.*, 2019; Danese *et al.*, 2020). Several researchers within logistics and supply chain management highlight the need for longitudinal studies (Sabri, 2019; Feizabadi *et al.*, 2021). Although they are rare, dynamic approaches to fit in logistics and supply chain management have been used, for example through the lens of strategic choice or SARFIT. For instance, Howard *et al.* (2007) draw on strategic choice combined with institutional theory to explain a failed implementation of supply practices at an engine plant. Another example is Silvestre *et al.* (2020) who use the SARFIT model to analyse the implementation of supply chain sustainability practices. Furthermore, dialectics and paradoxes are emphasized by Sandberg (2017) who suggests that these advancements in organizational research can benefit the logistics domain. Table 1 provides a synthesis of streams within contingency research.

A contingency approach to logistics strategy in building construction

While contingency theory is useful in the logistics and supply chain management domain, it is too generic in its original form to provide unique insights for researchers and practitioners (Koskela and Ballard, 2012). As such, the sources of IP requirements need to be adapted to the construction setting and viewed from a logistics perspective. In logistics research, uncertainty stems from the characteristics of material and information flows, which are determined by: demand characteristics, product characteristics, the design of production system, the supply chain structure and formalisation (c.f., Christopher, 1986; Chow *et al.*, 1995; Klaas and Delfmann, 2005). These are determinants of IP requirements. IP capacity is determined by the organisational structure and the need to match the level of IP requirements to achieve fit (Galbraith, 1974). The following paragraphs define the sources of IP requirements and capacity, starting with the contextual factors (demand characteristics, the degree of pre-engineering and the production system), to be followed by the logistics strategy content (structure and process components).

Demand characteristics relate to the heterogeneity among clients, determining what types of buildings to produce. The requirements of the target market(s) are typically described using competitive priorities (cost, quality, flexibility and delivery) (Maylor *et al.*, 2015).

The *degree of pre-engineering* refers to the degree of standardisation in the product offering, reflecting the demands of clients, and is operationalised by the contractor's competitive priorities (Jonsson and Rudberg, 2015). A flexible product offering typically entails an increase in bill-of-materials levels, which in turn increases the complexity for inventory management and delivery planning (Flynn and Flynn, 1999). In engineer-to-order situations, product standardisation is mainly determined by the amount of engineering work that is performed prior to customer order, which can be divided into three categories (Wikner and Rudberg, 2005):

(1) Engineer-to-stock (ETS): The product is designed prior to customer order.

(2) Adapt-to-order (ATO): An existing product design is modified according to customer order.

(3) Engineer-to-order (ETO): The product is engineered from scratch, offering broad customisability.

The *production system* characteristics determine how the product is to be produced, that is the type of production process and production technology that is to be used. For a building contractor, this entails choosing a suitable production system, which produces outcomes in congruence with competitive priorities (Jonsson and Rudberg, 2015). In general, the lower the degree of pre-engineering (e.g. ETO), the higher the coordination needs to handle the complexity from non-routine engineering tasks (Shurrab *et al.*, 2022). This influences both upstream and downstream processes in terms of their degree of task interdependency

Stream	Rationale	Conceptualization of fit	Representative paper(s)	Examples from logistics and supply chain management
Strategy–Structure–Performance	Rejects the "one size fits all" argument in favour of "contingency determinism", i.e. that strategy determines structure	Static: Strategy drives the development of suitable organizational structure and processes	Chandler (1962)	Nakano (2015), Gligor (2017)
Information Processing View	Addresses deficiencies in the conceptualization of fit. Explicates fit by portraying organizations as information processing systems	Static: Fit indicates that a firms information processing requirements (determined by contingency variables) are matched by its information processing capacity (determined by organizational structure and processes)	Galbraith (1974)	Busse *et al.* (2017), Luo and Yu (2016), Aben *et al.* (2021)
Configurational View	Addresses criticism of contingency theory for being reductionist and limited to bivariate studies	Static: Fit indicates a constellation of several commonly occurring variables of contextual factors and organizational structure	Meyer *et al.* (1993)	Sabri (2019), Feizabadi *et al.* (2021)
Strategic Choice	Rejects "contingency determinism", i.e. that contextual factors determine organizational structure. Strategic choices by a dominant coalition that influences fit	Dynamic: Dominant coalition (e.g. senior management) can make changes to contextual factors and/or organizational structure to establish fit based on personal preferences, performance, institutional factors etc.	Child (1972)	Howard *et al.* (2007)
SARFIT	Rejects "contingency determinism" and partially strategic choice in favour of performance as the main driver for a change of organizational structure to regain fit	Dynamic: Misfits lead to poorly functioning organizations, which in turn leads to poor performance. This puts pressure on reorganizing to regain fit to improve performance	Donaldson (1987)	Silvestre *et al.* (2020)
Dialectics and paradoxes	Rejects the assumption that misfits are always dysfunctional and criticise previous dynamic approaches for their lack of attention to how strategic change occurs. Misfits (or "contradictions" and "tensions" as they are called) are regarded as important drivers of strategic change	Dynamic: Organizations are everchanging and thus fit cannot be viewed as a state of equilibrium. Internal tensions always exist to some extent and these need to be deliberately managed and balanced	Farjoun and Fiss (2022)	Sandberg (2017)

Table 1.
Streams within contingency theory and their applications within logistics and supply chain management

(pooled, sequential and reciprocal), task predictability and problem analysability (Miles *et al.*, 1978; Cannas *et al.*, 2019). The degree of pre-engineering is thus associated with the choice of production system, which must accommodate for the type of product (Cannas *et al.*, 2019). Jonsson and Rudberg (2015) classify four different production systems in housebuilding:

(1) Component Manufacture and Sub-Assembly (CM&SA): Production activities are carried out on-site with a flexible sequence of operations and reciprocally interdependent activities, leading to a high level of process time and flow variability.

(2) Prefabrication and Sub-Assembly (PF&SA): Prefabricated panel elements that are assembled on site along with other sub-assemblies. Contains a flexible sequence of operations and reciprocally interdependent activities, leading to a high to medium level of process time and flow variability.

(3) Prefabrication and Pre-Assembly (PF&PA): Sub-assemblies are pre-assembled to prefabricated panel elements, leading to fewer materials to be delivered to the site and fewer operations. Contains a flexible sequence of operations and reciprocally interdependent activities, leading to a medium level of process time and flow variability.

(4) Modular building (MB): Volumetric modules are prefabricated in an off-site factory which has a production line or batch flow layout. Remaining assemblies on-site are reduced but still have a flexible sequence of operations and reciprocally interdependent activities.

Structural components include the logistics organisation structure and the supply chain structure. The logistics organisation structure determines the level of IP capacity, where centralisation is the degree to which logistics decision-making authority is concentrated to a single unit (Pfohl and Zöllner, 1997). Supply chain structure refers to the geographical dispersion and relationships with suppliers (Voordijk *et al.*, 2006). The supply chain structure has implications for the complexity of production and logistics tasks. In particular, the number and type of relationships with suppliers influence the degree of uncertainty in delivery reliability and quality (Flynn and Flynn, 1999). Construction logistics centres can be used to reduce the number of deliveries to the construction site or as short-term storage for just-in-time deliveries (Janné and Fredriksson, 2022). Moreover, the contractor can engage in long-term relationships with suppliers that enable better alignment between logistics solutions and on-site production (Bildsten, 2014).

Process components refers to the administrative and operational logistics processes (Klaas and Delfmann, 2005). Administrative logistics processes are associated with information processing, coordination, reporting and control (e.g. order processing) and operational logistics processes are associated with the execution of logistics tasks (e.g. transportation and material handling). IP requirements are reduced by formalising administrative and operational processes, that is when processes and procedures for performing logistics activities are explicitly formulated (Chow *et al.*, 1995).e.

Research design and method

Research design

To study logistics strategy from the perspective of the process of arriving at fit, the overall research approach needed to accommodate for temporal sequences between events and how they lead to strategy process outcomes. The research was based on a literature review and a longitudinal single-case study. The literature review focused on four literature areas: (1) cross-sectional contingency theory literature, (2) longitudinal/dynamic perspectives on fit,

(3) contingency theory applications to logistics and supply chain management and (4) construction logistics literature. These areas were chosen in line with recommendations by Voss *et al.* (2002) to establish a focus early in the research process, whereby the researchers can identify constructs and their presumed relationships. The empirical part of this study was a single-case study of a large Swedish construction company's logistics strategy process. The single-case design was selected to examine the company's logistics strategy process over a period of 11 years, thus making it possible to study the case over time as a longitudinal study (Yin, 2018). In 2008, the company initiated a project to develop a logistics strategy and tested the strategy through a total of eight pilot projects split into three phases. Phase 1 involved one project, phase 2 involved six projects and phase 3 involved one project. The project spanned over seven years and was discontinued in the middle of 2016, but the research study also includes the years 2016–2019 to cover potential outcomes of the project after its termination.

Case selection

The case selection is motivated by accessibility to the company and by the acquisition of information on an unusual case (Flyvbjerg, 2006). The authors had access to extensive documentation and key agents in the logistics strategy process. This contributed with rich information covering a long period, which enabled the longitudinal case design. Furthermore, while the building contractor was regarded as a typical large general contractor in Sweden, deliberate efforts to address logistics holistically at the corporate level among these types of contractors are uncommon. It is thus the logistics strategy process that makes the case unusual, and not the contractor's general characteristics. The case was however selected for theoretical reasons (Eisenhardt, 1989) based on the contractor's general characteristics in terms of size (large), target market (broad/local), production system (CM&SA) and degree of pre-engineering (ETO). Therefore, in line with recommendations by Ketokivi and Choi (2014), regarding using cases for theory elaboration, the case's characteristics and empirical data provided a basis for analytical generalisation. Finally, the phenomenon of the strategy process and the process of arriving at fit is favourably studied by analysing process data (Van De Ven, 1992; Langley, 1999). Therefore, the third reason behind the case selection was the opportunity to access process data that described decisions, activities and events that exemplify the unpredictable process of establishing fit.

Data collection

The data included both primary and secondary data (see Table 2). The primary data was of two types: participatory observation and semi-structured interviews. For participatory observation, one of the researchers participated in three pilot project kick-offs and performed three planned site visits at each pilot project. The interviews were held with key persons involved in the strategy process and were conducted in retrospect of the strategy process. A pilot interview was first conducted with the current logistics developer at the company, providing insights into the company's experience from the project. The insights from the pilot interview were used as input for the interview guide that was later used to interview the former logistics manager and the project manager, who were the key persons behind the company's logistics strategy and the pilot projects. The interviews were used to verify the researchers' analysis of the archival data, and a total of six interviews were held before the researchers' interpretation of the archival data had been verified. The secondary data comprised internal documentation containing summaries of the pilot projects, descriptions of the logistics strategy, records and presentations from strategy meetings, implementation plans and formal directives that were developed for central purchasing and logistics. This documentation was provided to one of the researchers who observed the strategy process

Data	Data collection method	Time period covered	Comments
6 interviews	Semi-structured interviews	2008–2019	• Logistics developer: 2 interviews in February and March 2021, respectively, 90 min each • Logistics manager: 3 interviews in March (60 min), April (90 min) and June (60 min) 2021 • Project manager: 1 interview in April 2021, 90 min
2 project time plans	Archival data from pilot project time plans	2009–2012	Details regarding pilot projects and implementation plans
9 project reports	Archival data with reports issued during the project	2008–2019	Reports continuously issued over 2008–2019
3 Annual reports	Publicly available annual reports from 2010 to 2012	2010–2012	Financial measures and comments from top management
10 planning and follow-up meetings	Archival data with presentations, agendas, and decision protocols	2008–2013	Details regarding logistics strategy content, pilot projects and implementation plans
7 instructional documents	Archival data with instructions for site managers, purchasing, delivery planners etc.	2010–2013	Descriptions of logistics processes aimed at different organizational members
2 pilot project kick-off/start up meetings	Researcher observation and notetaking	2011–2014	Observational participation during full day meetings with representation from all main participants for pilot project 2 and 3, respectively
3 site visits	Researcher observation, unstructured interviews and notetaking	2010–2016	Planned site visits at pilot project 1, 2 and 3, respectively. Unstructured interviews with site managers, foremen, project participants and site personnel. Walk around at site and full day observation of site activities
3 student theses	Master thesis projects/reports covering pilot project 1, 2 and 3, respectively	2010–2015	Containing information on pilot project 1, 2 and 3, with thesis 3 covering the full-scale implementation of the final logistics strategy outlined in the main project report in 2013

Table 2.
Data collection methods

from start to finish but did not take active part in formulating and implementing the strategy. The documentation covered the project from its initiation in 2008 to a final report issued in 2014. Besides internal documentation, publicly available information such as reports, trade magazines, annual reports and thesis works were used for background information to establish a sense of when and in what sequence certain activities in the strategy process took place. In total, the interviews, documentation and publicly available information covered decisions, activities and events from 2008 to 2019.

Analysis

This study adopted a two-step approach for the analysis. The first step concerned creation of the visual map (Figure 1), where activities, events and decisions that formed part of the logistics strategy process were structured in the form of an illustrative time plan representing the sequence and timing of events in the strategy process. In this first step, a tentative visual

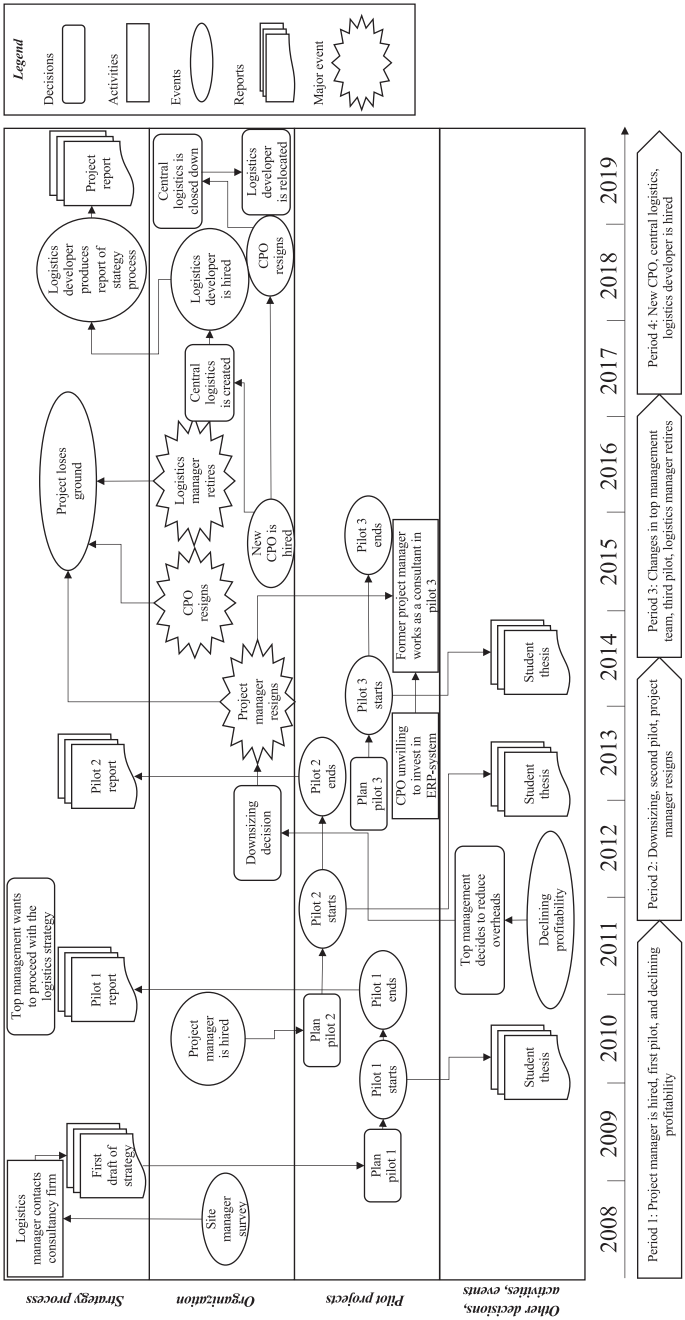

Figure 1.
Visual map of the logistics strategy process between 2008 and 2019

map was created based on analysis of the secondary data through a document analysis. The document analysis covered a total of 31 documents provided by the case company (see Table 2) and followed an iterative process of skimming, detailed examination and interpretation (Bowen, 2009). The result was a visual map of critical events that occurred between 2008 and 2019 (Figure 1). Langley (1999) recommends this approach for the "sense-making" part of process studies to overcome the extensiveness that characterises process data. The visual mapping approach is suitable as an intermediary analysis technique and enables researchers to retain strategy process data as a sequence of events. These events then provide grounds for explaining underlying causes for strategy process outcomes (Van De Ven, 1992). For instance, a particular decision by top management was related to the implementation phase, while the managers' predispositions were related to the strategy formulation. The visual map was thus used to describe the strategy process as it unfolded, including the decisions, activities and events that influenced strategic choice during strategy implementation.

The second step in the analysis concerned validating the tentative visual map and connecting decisions, activities and events to strategy process outcomes, which explained what influenced the logistics strategy implementation. This second step was based on the procedures for thematic analysis: open coding, axial coding and selective coding (Flick, 2018). The researchers used NVivo to generate codes and themes based on the interview transcripts and documentation. First, a total of 82 open codes were formed based on the interview transcripts and documentation. Second, the 82 open codes were reduced to 15 axial codes that represented identified constraints to strategy implementation (see right side of Table 3) that were linked to a specific logistics strategy component (see left side of Table 3). Third, three selective codes were identified based on the 15 axial codes: (1) a dominant purchasing organisation, (2) a lack of incentives and (3) diverging top management priorities. These three themes constituted the main constraints to implementation of the logistics strategy. Finally, the building contractor's initial state, expected outcomes and actual outcomes were compared, which enabled the researchers to infer the implications for fit of the realised outcomes (see Table 4).

Case study description

The company is a large contractor operating in the Nordic countries with a focus on the Swedish construction industry. The logistics strategy process is illustrated in Figure 1, and includes important decisions, activities, events and reports. The following paragraphs summarise the logistics strategy process in chronological order.

As a response to the low productivity levels and growth in the construction industry, the company's logistics manager sent out a survey to site managers in the beginning of 2008 to map how much time was spent on purchasing- and logistics-related tasks in projects. The survey indicated that the company had substantial potential to reduce waste in these areas. This convinced the logistics manager to develop a logistics strategy for the company. The logistics manager contacted a consultancy firm the same year which produced a first draft of the logistics strategy. In 2009, the logistics manager planned the first pilot project to further explore the potential benefits of a corporate-level logistics strategy. Towards the end of 2009, they initiated pilot 1, which had a narrow focus on transportation and material handling of make-to-order materials. Pilot 1 was completed in the end of 2010.

A project manager was hired in the autumn of 2010 and became responsible for planning and executing pilot 2. The pilot, which comprised seven projects, started in 2011 and was finished in 2013. The purpose of pilot 2 was more in line with the first draft of the logistics strategy developed by the consultancy firm, addressing how to supply multiple projects using the same logistics operations platform, how to organise logistics to achieve economies

Identified logistics strategy components	Expected outcomes	Realized outcome	Identified constraints towards strategy implementation (data source within parentheses: D = documentation, LM = logistics manager, PM = project manager, LD = logistics Developer)
Structure components			
Centralized logistics	Centralized development of logistics operations platform	Existed between 2016 and 2019	New purchasing manager left (started in 2016) (LM), Top management did not understand the strategy (PM), Logistics was part of the purchasing organization (D, LM, PM, LD)
Regional planning units	Aggregation of materials and distribution planning (MTS materials)	Not realized	Top management did not understand the strategy (PM), Regional managers were not committed to change current way of working (LM)
ERP-system	Connecting central/regional and project planning levels	Not realized	Central organization was reluctant to carry initial investment costs (LM, PM), Top management did not understand the strategy (PM)
Distribution terminals	Inventory buffers of MTS materials in each region to increase flexibility, minimize number of deliveries, achieve economies of scale	Not realized	Site managers only experienced the incurred cost of distribution terminals (PM), Central organization was reluctant to carry initial investment costs (LM, PM)
Process components			
Design and engineering	Routines to improve planning, supplier selection and accuracy of information	Not realized	Top management did not understand the strategy (PM), Low degree of standardization in design and engineering solutions (D, LM)
Site logistics	Site disposition plan, roles and responsibilities, delivery planning, goods reception	Not realized	Material handling on site was not considered logistics (PM), Purchasers were not aware of material flow problems on site (LM, PM)
Marking and labelling of goods	Ensure correct and informative packaging labels	Not realized	Site managers only experienced the purchasing cost but not the savings of labelling goods (PM), Lack of scale perceived by suppliers (PM)
Delivery planning and transports	Increased control of delivery times and reduce disturbances on production activities	Not realized	Logistics was part of the purchasing organization (D, LM, PM), transport costs were not visible to project purchasers (included in purchasing costs) (D, LM)
Supplier development policies	Continuous improvements to supply logistics	Not realized	Insufficient logistics capabilities within purchasing organization (D, LM, PM), Long-term supply agreements were not used by project purchasers (PM), Purchasing organization’s incentives drove focus on purchasing costs over total costs (D, LM, PM), Logistics was part of the purchasing organization (D, LM, PM)

Table 3.
Influencing factors on the logistics strategy process outcomes

Table 4. Implications for logistics strategy fit

Contextual factors and logistics strategy components	Literature findings			Case study findings	
	Description	Implications for fit	Key references	Realized outcome	Implications for fit
Contextual factors					
Demand characteristics	Number, size, knowledge, behaviour and heterogeneity among clients	Determines suitable degree of product standardization and pre-engineering through competitive priorities	Shurrab *et al.* (2022), Maylor *et al.* (2015)	Remained unchanged. Projects were of local character with a high heterogeneity among clients	Products and productions system were adaptable to each client's requirements and the company mainly competes with smaller local actors
Degree of pre-engineering	No. product variants, BOM structure complexity (depth and breadth), and amount of engineering work performed prior to customer order impacting production and supply variability	IP requirements are generated from the late design changes	Cannas *et al.* (2019), Shurrab *et al.* (2022), Wikner and Rudberg (2005), Flynn and Flynn (1999), Christopher (1986)	Low use of standardized products and pre-engineered components. BOM structure changes from project to project	High level of IP requirements due to low amount of information possessed prior to task execution (DTO: low degree of pre-engineering)
Production system	Degree of off-site assembly (CM&SA, PF&SA, PF&PA or MB) impacting production and supply variability	IP requirements are generated from production variability (process time and flow variability)	Shurrab *et al.* (2022), Cannas *et al.* (2019), Jonsson and Rudberg (2015), Wikner and Rudberg (2005), Christopher (1986)	Mainly CM&SA production systems with high levels of production variability in projects	High level of IP requirements due to due to low amount of information possessed prior to task execution (high level of production variability)
Structure components					
Organizational structure	• Centralization: logistics tasks are either concentrated to a single unit or distributed in the organization • Division of labour: administrative and physical logistics tasks performed by general-purpose or specialized personnel	Determines level of IP capacity of logistics organization during task performance	Galbraith (1974), Klaas and Delfmann (2005), Flynn and Flynn (1999), Chow *et al.* (1995), Christopher (1986)	• Centralization: Site management had control over logistics tasks. No involvement from a central unit in projects • Division of labour: site management mainly administered purchasing, call-offs, deliveries, goods reception and invoicing. Material handling was mainly carried out by construction workers	High level of IP capacity generated from decentralized organizational structure. IP requirements reduced due to reduced division of labour

(*continued*)

Table 4.

Contextual factors and logistics strategy components	Literature findings			Case study findings	
	Description	Implications for fit	Key references	Realized outcome	Implications for fit
Supply chain structure	Number of suppliers and supplier relationships impacting delivery reliability and quality	IP requirements are generated from supply variability	Janné and Rudberg (2022), Bildsten (2014), Klaas and Delfmann (2005)	Mainly arms-length relationships with local suppliers of building materials. Direct deliveries to construction sites from materials suppliers	High level of IP requirements generated from short-term, market-based supplier relationships. Direct deliveries from many suppliers to construction sites
Process components					
Administrative processes	Formalized procedures for information processing, coordination and control activities, e.g.: demand management, inventory and order management, order processing, distribution and transportation planning	Determines level of IP requirements generated from level of formalization	Klaas and Delfmann (2005)	Formalized logistics processes were never implemented, and logistics tasks were handled in a problem-solving manner. Administrative processes were seldom considered by site management	High level of IP requirements due to low amount of information possessed prior to task execution (lack of administrative routines and information system)
Operational processes	Formalized procedures for physical activities, e.g.: on-site material handling, transportation, warehouse operations	Determines level of IP requirements generated from level of formalization	Klaas and Delfmann (2005)	Formalized logistics processes were never implemented, and logistics tasks were handled in a problem-solving manner. Construction workers and supervisor typically carried out goods reception and material handling	High level of IP requirements due to low amount of information possessed prior to task execution (absence of established material handling and goods reception procedures)

of scale and the potential benefits of increased standardisation and centralisation of logistics tasks. However, at this time the company experienced declining profitability in their housebuilding business unit. Consequently, top management decided that they would reduce overhead costs by downsizing the central organisation. So, as pilot 2 progressed as expected and finished with promising results, the project manager who had only been employed for two years was at risk of being dismissed, which led to him resigning voluntarily in the end of 2013.

Pilot 3 began in the autumn of 2013 with the former project manager now working as a consultant. Until this point in time, the strategy process seemed to be progressing well. However, the Chief Purchasing Officer (CPO) had been sceptical towards some of the investments proposed by the logistics manager and the now former project manager. For instance, the CPO and the logistics manager could not agree upon which ERP system to purchase, with the result that they did not purchase an ERP system at all. Instead, the former project manager had to manually make material requirements plans, delivery plans and produce packing, labelling and unloading instructions for suppliers and haulage contractors. Therefore, they could not use the learnings from the pilot in future projects. Furthermore, while pilot 3 was underway, the CPO resigned in the first half of 2015. The CPO had been an important spokesperson for the logistics strategy in the top management team, but his and the project manager's resignation meant that the strategy work was losing ground in the company. A new CPO was hired in the end of 2015, who was positive towards the logistics strategy. However, the CPO had not been involved and the logistics manager was now approaching retirement. The logistics strategy had already lost support throughout the organisation, and the process came to an end when the logistics manager retired in 2016.

In 2017, although the logistics manager and the project manager were no longer working at the company, the new CPO established a central logistics unit, which belonged to the central purchasing department. Despite there being no plan for developing a logistics strategy on the same scale as intended by the logistics manager, the new CPO hired several people to continue developing methods, tools and processes at a central level, one of them being the logistics developer. The logistics developer was hired in the beginning of 2018 and began gathering information on what had been done previously in terms of logistics development. In the beginning of 2019, the logistics developer produced a report summarising the logistics strategy process from 2008 onwards. Apart from a summary, the report included recommendations on which areas of logistics to focus on in the short and long term. However, central logistics was closed in 2019 when the CPO resigned. The logistics developer was then relocated to a support function focusing on technical support to projects.

Case study findings

Constraints to logistics strategy implementation

This section addresses RQ1: *"What factors influence the adjustment of a logistics strategy with the aim to regain fit in a building contractor organisation?"*. The interviews and the internal project documentation reveal constraining factors to the implementation of the logistics strategy. These constraints are detailed in Table 3. The identified constraints can be summarised as: (1) lack of a formal logistics organisation and thus formal authority of the logistics manager, (2) lack of incentives to change among internal stakeholders and (3) divergence in top management priorities.

Regarding the first issue, the logistics manager stated that *"the biggest problem was that we (logistics) belonged to purchasing"*. The central purchasing organisation lacked fundamental logistics expertise, for example of the total cost concept, lot sizing and transport planning. Consequently, site managers were reluctant to use framework agreements from central purchasing since they caused problems for transports and on-site logistics. The logistics manager added that purchasers were not aware of what was happening in projects, even though they had a company policy that required purchasing to evaluate supplier performance after project completion.

Besides purchasing, the interviewees indicated that site managers were not reluctant towards the strategy *per se*, but they lacked incentives to use centrally developed logistics solutions. For instance, the site managers' bonuses were based on project performance (i.e. time, budget and quality), which meant that they did not want to bear additional costs for material handling and marking and labelling of goods. Thus, there were no incentives for site managers to pay for distribution terminals and the ERP system because it was perceived as an additional risk to the project's budget. In addition, the project manager believed that they lacked an internal business model for how to allocate investment costs between the central organisation and projects. The project manager suggested that the central organisation should have taken the investments costs and that projects would pay a license fee, for example for using the ERP system.

Diverging top management priorities manifested themselves in several ways, but were most prominent between 2013 and 2016. Top management had in fact been positive towards the strategy in the first couple of years, but changes in the team's composition led to a more sceptical attitude. For instance, the CPO's resignation entailed that the logistics manager had to find a new way to gain top management support. After pilot 2 was completed in 2013, the CPO did little to gain support from the rest of the top management team, which the logistics and project manager perceived as originating from a lack of logistics expertise. For instance, the project manager stated: *"We always needed to go via purchasing . . . and when you have a CPO in the top management team that does not understand this (logistics), there will not be any change"*. The project manager also raised the need for a supply chain manager, or a supply chain department, with knowledge about what logistics means for operations and the ability to explain this to top executives.

Fit, satisfactory fit and misfit

This section addresses RQ2: *"What are the implications for a building contractor pursuing a satisfactory fit or a misfit in their logistics strategy?"*. The implications of strategic logistics decisions identified in the literature were compared with the case study findings to investigate what could explain the building contractor's lack of fit, despite their ambitious logistics strategy (Table 4). This comparison revealed that the logistics manager and project manager had not attempted to make significant changes that would lead to a change in the contractor's overall business strategy. However, there were attempts to increase the degree of pre-engineering and to move towards a PF&SA production system, but this remained unchanged. The predominant use of the CM&SA production system in projects thus entailed high IP requirements, which subsequently had to be matched with IP capacity to establish fit.

The analysis of the structural components reveals that the organisational structure generated high levels of IP capacity, since the central logistics department and regional planning units were unrealised. The contractor's logistics was thus managed in a decentralised organisational structure with low division of labour, thus generating a high level of IP capacity. This corresponds to the high degree of production and supply variability generated by the degree of pre-engineering, the production system and the supply chain. The high IP capacity generated from the organisational structure therefore matches the high IP requirements, which indicates a fit between the contextual factors and the structural components.

However, the analysis of the process components indicates that the company had an underfit logistics strategy (i.e. that IP requirements exceeded IP capacity). None of the logistics strategy process components were realised (Table 3), which was in favour of ad hoc problem solving by site management and construction workers without formalised administrative and operational logistics processes. The low degree of formalisation in the administrative and operational logistics processes thus generated high IP requirements in addition to what was generated from the degree of pre-engineering, the production system and the supply chain structure. In other words, the lack of formalised routines in the five process components (Table 3) generated uncertainty and complexity in addition to the low degree of pre-engineering, the CM&SA production system and the geographically dispersed supply chain structure. The low degree of formalisation is apparent in pilot 3, where the former project manager worked as a consultant to manually solve administrative logistics tasks.

Discussion

The case study findings reveal that fit is not necessarily determined by contextual factors as postulated by previous contingency studies within logistics and supply chain management (Sabri, 2019; Feizabadi *et al.*, 2021). Lacking performance and strategic choice both influence the pursued strategy, and thus, they mediate the fit between context and strategy. Howard *et al.* (2007) present similar findings in a case study of the implementation of supply practices at an engine plant, where the implementation plans received inadequate attention from top management and where unfortunate timing halted the process. Likewise, the case study findings here reveal that the downsizing decision at the building contractor unfortunately coincided with the intended implementation period starting in 2012. In a study of a similar building contractor, Elfving (2021) highlights timing as a critical determinant in the implementation of standardised logistics solutions. In this case, the financial crisis triggered a downsizing decision at the building contractor, which meant that only one logistics solution remained. Furthermore, Elfving (2021) discusses other aspects related to timing, such as the importance of the maturity of a company and ensuring that top management priorities align with the intended strategy process outcomes to enable implementation of the strategy.

In our case study, top management were initially supportive of the logistics strategy, but it lost ground when the CPO resigned. Although there is no concrete evidence in the case study findings regarding what triggered the downsizing decision, the reluctance to invest in an ERP system and to make changes to the organisational structure coincides timewise with the decision to cut overhead costs. However, this situation could have been avoided had the logistics manager, the project manager and the CPO been able to agree upon a satisfactory ERP system. Research on strategic consensus highlights this issue and indicates that shared reasoning and consistency in decision making over time are important parts of the strategy process (Mirzaei *et al.*, 2016). In the case study, the logistics manager had to negotiate with stakeholders at a variety of hierarchical levels, including top management, regional managers and site managers. Reaching strategic consensus between all these levels requires time, timing and consistency in decision-making (c.f. Ruffini *et al.*, 2000; Mirzaei *et al.*, 2016; Elfving, 2021), and may result in settling for a satisfactory fit.

The case study findings support two of the dynamic approaches to fit identified in the literature: strategic choice (Child, 1972) and SARFIT (Donaldson, 1987). For strategic choice, our findings reveal that managerial discretion was constrained by several factors, such as support among top management, incentives in the line organisation, the educational and professional background of internal stakeholders and company politics. This contrasts with cross-sectional studies of logistics strategy and supply chain fit which focus on outcomes over the process of establishing fit. The case study findings are more in line with the suggestions of Ruffini *et al.* (2000) that the building contractor's logistics strategy is codetermined by contextual factors and the level of discretion decision makers have to establish fit. The main thesis of this paper is that contextual factors do not directly determine the logistics strategy. The authors propose that strategic choice influences both contextual factors and logistics strategy content, where the antecedents to strategic choice are managerial discretion and the predisposition of managers. Since contextual factors (i.e. the degree of pre-engineering and the production system) are not static over time, there will be a process of regaining fit, where the outcome (fit/misfit) is dependent on strategic choice. This line of reasoning falls under the notion of dynamic fit put forward by Zajac *et al.* (2000) who treat fit as an ongoing process of regaining fit, either by making modifications to contextual factors, strategy or both. In other words, the logistics strategy process can be driven by a change in demand and production characteristics requiring an increase/reduction in the degree of pre-engineering and a change of production system (reduction/increase in IP requirements) and/or logistics driven by reconfiguring logistics strategy components (reduction/increase in IP capacity). The former is driven by the logistics strategy, where logistics is a source of competitive advantage. The logistics strategy triggers a change to product and/or process characteristics, which resembles the inside-out approach. In the latter, the logistics strategy is a means of pursuing the corporate/business strategy, which resembles the outside-in approach.

However, the competing model SARFIT was also supported by the case study findings. The main reason why the logistics strategy process was initiated at all was poor logistics performance stemming from a misfit between the logistics strategy and contextual factors. The logistics manager attempted to change the logistics strategy to accommodate the existing context and did not target the contextual factors alone. This highlights an important nuance between strategic choice and SARFIT. Strategic choice assumes managers can manipulate the context, the strategy or both. SARFIT, on the other hand, questions whether organisations will change their context without adjusting their strategy (Donaldson, 1987). Therefore, while strategic choice may involve making adjustments to contextual factors, it will not be without some changes to be made to the organisation's strategy. However, it should be noted that neither of these two theoretical models alone can explain how fit is established. The application of each of these theoretical models as lenses to analyse the logistics strategy process yielded support from the case study findings, but the two contradict each other. Therefore, the two models can potentially be combined, although this is beyond the scope of this paper.

Besides the reason why strategic change occurs in the first place, studies focusing on the content of fit within logistics and supply chain management fail to explain why a misfit can endure over a longer period of time. Luo and Yu (2016) address this issue and contend that it is not simply a matter of differentiating between fit and misfit. For instance, they argue that misfit caused by an underfit (i.e. when IP requirements exceed IP capacity) has more detrimental performance implications than an overfit (i.e. when IP capacity exceeds IP requirements). It is thus preferable to pursue an overfit strategy, if for some reason fit is impossible to achieve. In essence, the decision to retain a misfit or adjust the strategy to regain fit comes down to the cost of incurring change vis-á-vis living with the misfit (Gligor, 2017). Although it is difficult to determine the costs incurred by the building contractor's logistics strategy process, it is obvious that it ultimately did not pay off. In retrospect, a rational conclusion through the lens of contingency theory would be to not pursue the intended logistics strategy at all and live with the misfit if the pre-existing misfit was not too detrimental for performance.

From the perspective of the building contractor, the logistics strategy process cannot only be viewed as a means of changing the organisational structure to cope with uncertainty (lack of IP capacity) or establish formalised processes (reduce IP requirements). It needs to encompass the contextual factors, including demand characteristics (e.g. by changing project selection strategy), the degree of pre-engineering (i.e. moving the customer order decoupling point) and the choice of production system. This is in line with previous research on logistics strategy, which highlights the need to establish fit between product and process characteristics and the logistics strategy and structure. For instance, Christopher (1986) argues that different positions in the product/process matrix require different ways of organising logistics activities, and thus the product/process characteristics determine the feasibility of a particular logistics strategy. A configuration of logistics strategy structure and process components can therefore be integrated with Jonsson and Rudberg's (2015) version of the product/process matrix, which is adapted to the project-based production of housebuilding. Different positions in the matrix represent variations in product and process characteristics and each position has an ideal configuration of logistics strategy content. However, it is important to note that such ideal configurations are static over time. Building contractors need to continuously adapt their logistics strategy to its contextual factors, and vice versa. This is in line with the dialectical and paradox-based views on fit suggest that strategic change is not about achieving an optimal configuration, but about a continuous act of balance between tensions in the organisation (Sandberg, 2017).

Application of the strategic choice and SARFIT models, respectively, comes with different implications for building contractors. Strategic choice implies that there are three different routes towards establishing fit: (1) the logistics strategy can be adjusted to suit the contextual factors (demand characteristics, the degree of pre-engineering and the production system); (2) demand characteristics, the degree of pre-engineering and the production system can be adjusted to the logistics strategy and (3) a combination of (1) and (2). SARFIT, on the other hand, suggests that the logistics manager's discretion in adjusting any of the contextual factors (demand characteristics, the degree of pre-engineering and the production system) is limited, at least to the extent that changing the degree of pre-engineering and/or the production system will have any effect on strategic fit. Thus, SARFIT rules out the second option described previously in favour of options one and three.

Conclusions

The purpose of this paper was to investigate logistics strategy from a process of establishing fit perspective. The paper contributes to the body of knowledge on organisational design and strategy in logistics and supply chain management. The first research question is answered by identifying factors that constrain logistics strategy implementation (Table 3). In addition, the implications for fit are addressed through answering the second research question (Table 4). The study thus builds upon cross-sectional studies within this research area by elaborating on the process of establishing fit. The following sub-sections discuss the research implications, the limitations of the study and suggestions for further research.

Research implications

Previous research emphasises that fit creates superior performance, where fit is defined as the match between IP requirements and capacity. However, this would assume that a building contractor's contextual factors, logistics strategy and performance levels remain stable over time with limited need for strategic change, which is seldom the case even in industries with low clock speeds, such as construction. Add to this the fact that strategic decision makers do not always possess sufficient decision-making authority to pursue an ideal configuration, such as in the case of the building contractor's logistics manager. Contextual factors are thus important to consider, but they do not determine the logistics strategy. The contingency determinism argument should therefore be rejected. However, this is not to de-emphasise the importance of fit; different combinations of product and process characteristics have different theoretically ideal configurations of logistics strategy components.

Managerial implications

The findings indicate that managers may need to strive for satisfactory fit rather than attempting to establish an ideal form of fit. The factors constraining managerial discretion in this study (Table 3) can potentially be found in similar companies (project-based ETO companies). These can be used to map stakeholder demands and their willingness to compromise their demands to determine which structure and process components are possible to implement. Furthermore, the study distinguishes between logistics strategy structure and process components (Table 4). This distinction can be used to identify relevant logistics strategy components, but the components identified in the case study (Table 3) may look different for other building contractors and for companies in other ETO industries. Logistics and supply chain managers in other companies thus need to identify relevant structure and process components.

Limitations and further research

The contextual factors and logistics strategy components examined here are specific to construction and cannot be directly generalised to other industries. The peculiarities of construction, such as fixed position, temporary production systems and temporary project organising imply that the principles from other industries cannot be adopted without consideration of these peculiarities because the sources of uncertainty are different from manufacturing. However, future studies on logistics strategy implementation in other project-driven industries (e.g. ETO manufacturing) would be of interest for comparing with the results of this study. Large-scale surveys can preferably be employed to test which of the two models, strategic choice or SARFIT, can best explain the variance in firm performance. Furthermore, the authors suggest further conceptual studies to explore how the two models can be integrated into a single holistic framework.

The single-case design poses some limitations to generalisability. The logistics strategy components (Table 3) are specific to the building contractor in the case study. Further studies on other types of building contractors (e.g. industrialised housebuilders) and ETO contexts are needed to define generic logistics strategy components for ETO companies. In addition, the case study findings indicate that the middle management levels of building contractors may be overlooked in the construction logistics research domain. Regional and area managers have a high level of authority and oversee multiple projects simultaneously. The findings indicate that they were a constraining factor to logistics strategy implementation, but this needs to be investigated further.

References

Aben, T.A., Van Der Valk, W., Roehrich, J.K. and Selviaridis, K. (2021), “Managing information asymmetry in public–private relationships undergoing a digital transformation: the role of contractual and relational governance”, *International Journal of Operations and Production Management*, Vol. 41 No. 7, pp. 1145-1191.

Bankvall, L., Bygballe, L.E., Dubois, A. and Jahre, M. (2010), “Interdependence in supply chains and projects in construction”, *Supply Chain Management*, Vol. 15, pp. 385-393.

Bildsten, L. (2014), “Buyer-supplier relationships in industrialized building”, *Construction Management and Economics*, Vol. 32, pp. 146-159.

Bowen, G.A. (2009), “Document analysis as a qualitative research method”, *Qualitative Research Journal*, Vol. 9 No. 2, pp. 27-40.

Busse, C., Meinlschmidt, J. and Foerstl, K. (2017), “Managing information processing needs in global supply chains: a prerequisite to sustainable supply chain management”, *Journal of Supply Chain Management*, Vol. 53, pp. 87-113.

Cannas, V.G., Gosling, J., Pero, M. and Rossi, T. (2019), "Engineering and production decoupling configurations: an empirical study in the machinery industry", *International Journal of Production Economics*, Vol. 216, pp. 173-189.

Chandler, J.A.D. (1962), *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*, MIT Press, Cambridge, MA.

Child, J. (1972), "Organizational structure, environment and performance: the role of strategic choice", *Sociology*, Vol. 6, pp. 1-22.

Chow, G., Heaver, T.D. and Henriksson, L.E. (1995), "Strategy, structure and performance: a framework for logistics research", *Logistics and Transportation Review*, Vol. 31, p. 285.

Christopher, M. (1986), "Implementing logistics strategy", *International Journal of Physical Distribution and Materials Management*, Vol. 16, pp. 52-62.

Danese, P., Molinaro, M. and Romano, P. (2020), "Investigating fit in supply chain integration: a systematic literature review on context, practices, performance links", *Journal of Purchasing and Supply Management*, Vol. 26, 100634.

Doering, T., Suresh, N.C. and Krumwiede, D. (2019), "Measuring the effects of time: repeated cross-sectional research in operations and supply chain management", *Supply Chain Management: An International Journal*, Vol. 25 No. 1, pp. 122-138.

Donaldson, L. (1987), "Strategy and structural adjustment to regain fit and performance: in defence of contingency theory", *Journal of Management Studies*, Vol. 24, pp. 1-24.

Dubois, A. and Gadde, L.-E. (2002), "The construction industry as a loosely coupled system: implications for productivity and innovation", *Construction Management and Economics*, Vol. 20, pp. 621-631.

Dubois, A., Hulthén, K. and Sundquist, V. (2019), "Organising logistics and transport activities in construction", *The International Journal of Logistics Management*, Vol. 30, pp. 320-340.

Eisenhardt, K.M. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14, pp. 532-550.

Elfving, J.A. (2021), "A decade of lessons learned: deployment of lean at a large general contractor", *Construction Management and Economics*, Vol. 40, pp. 548-561.

Farjoun, M. and Fiss, P.C. (2022), "Thriving on contradiction: toward a dialectical alternative to fit-based models in strategy (and beyond)", *Strategic Management Journal*, Vol. 43, pp. 340-369.

Feizabadi, J., Gligor, D. and Alibakhshi, S. (2021), "Strategic supply chains: a configurational perspective", *The International Journal of Logistics Management*, Vol. 32, pp. 1093-1123.

Flick, U. (2018), *An Introduction to Qualitative Research*, Sage, London.

Flynn, B.B. and Flynn, E.J. (1999), "Information-processing alternatives for coping with manufacturing environment complexity", *Decision Sciences*, Vol. 30, pp. 1021-1052.

Flyvbjerg, B. (2006), "Five misunderstandings about case-study research", *Qualitative Inquiry*, Vol. 12, pp. 219-245.

Galbraith, J.R. (1974), "Organization design: an information processing view", *Interfaces*, Vol. 4, pp. 28-36.

Galunic, D.C. and Eisenhardt, K.M. (1994), "Renewing the strategy-structure-performance paradigm", *Research in Organizational Behavior*, Vol. 16, p. 215.

Gligor, D. (2017), "Re-examining supply chain fit: an assessment of moderating factors", *Journal of Business Logistics*, Vol. 38, pp. 253-265.

Hallavo, V. (2015), "Superior performance through supply chain fit: a synthesis", *Supply Chain Management: An International Journal*, Vol. 20 No. 1, pp. 71-82.

Howard, M., Lewis, M., Miemczyk, J. and Brandon-Jones, A. (2007), "Implementing supply practice at Bridgend engine plant: the influence of institutional and strategic choice perspectives", *International Journal of Operations and Production Management*, Vol. 27, pp. 754-776.

Janné, M. and Fredriksson, A. (2022), "Construction logistics in urban development projects–learning from, or repeating, past mistakes of city logistics?", *The International Journal of Logistics Management*, Vol. 33, pp. 49-68.

Janné, M. and Rudberg, M. (2022), "Effects of employing third-party logistics arrangements in construction projects", *Production Planning and Control*, Vol. 33, pp. 71-83.

Jonsson, H. and Rudberg, M. (2015), "Production system classification matrix: matching product standardization and production-system design", *Journal of Construction Engineering and Management*, Vol. 141, 05015004.

Ketokivi, M. and Choi, T. (2014), "Renaissance of case research as a scientific method", *Journal of Operations Management*, Vol. 32, pp. 232-240.

Klaas, T. and Delfmann, W. (2005), "Notes on the study of configurations in logistics research and supply chain design", *Supply Chain Management: European Perspectives*, Vol. 11, pp. 12-36.

Koskela, L. and Ballard, G. (2012), "Is production outside management?", *Building Research and Information*, Vol. 40, pp. 724-737.

Langley, A. (1999), "Strategies for theorizing from process data", *Academy of Management Review*, Vol. 24, pp. 691-710.

Luo, B.N. and Donaldson, L. (2013), "Misfits in organization design: information processing as a compensatory mechanism", *Journal of Organization Design*, Vol. 2, pp. 2-10.

Luo, B.N. and Yu, K. (2016), "Fits and misfits of supply chain flexibility to environmental uncertainty: two types of asymmetric effects on performance", *The International Journal of Logistics Management*, Vol. 27 No. 3, pp. 862-885.

Marchesini, M.M.P. and Alcântara, R.L.C. (2016), "Logistics activities in supply chain business process: a conceptual framework to guide their implementation", *The International Journal of Logistics Management*, Vol. 27, pp. 6-30.

Maylor, H., Turner, N. and Murray-Webster, R. (2015), "It worked for manufacturing. . .!": operations strategy in project-based operations", *International Journal of Project Management*, Vol. 33, pp. 103-115.

Meyer, A.D., Tsui, A.S. and Hinings, C.R. (1993), "Configurational approaches to organizational analysis", *Academy of Management Journal*, Vol. 36, pp. 1175-1195.

Miles, R.E., Snow, C.C., Meyer, A.D. and Coleman, H.J. Jr. (1978), "Organizational strategy, structure, and process", *Academy of Management Review*, Vol. 3, pp. 546-562.

Mintzberg, H. (1979), *The Structure of Organizations: A Synthesis of the Research*, Prentice-Hall, Eaglewoods Cliff, New Jersey.

Mirzaei, N.E., Fredriksson, A. and Winroth, M. (2016), "Strategic consensus on manufacturing strategy content: including the operators' perceptions", *International Journal of Operations and Production Management*, Vol. 36, pp. 429-466.

Miterev, M., Mancini, M. and Turner, R. (2017), "Towards a design for the project-based organization", *International Journal of Project Management*, Vol. 35, pp. 479-491.

Montanari, J.R. (1978), "Managerial discretion: an expanded model of organization choice", *Academy of Management Review*, Vol. 3, pp. 231-241.

Nakano, M. (2015), "Exploratory analysis on the relationship between strategy and structure/ processes in supply chains: using the strategy-structure-processes-performance paradigm", *The International Journal of Logistics Management*, Vol. 26, pp. 381-400.

Pfohl, H.C. and Zöllner, W. (1997), "Organization for logistics: the contingency approach", *International Journal of Physical Distribution and Logistics Management*, Vol. 27, pp. 306-320.

Ruffini, F.A., Boer, H. and Van Riemsdijk, M.J. (2000), "Organisation design in operations management", *International Journal of Operations and Production Management*, Vol. 20, pp. 860-879.

Sabri, Y. (2019), "In pursuit of supply chain fit", *The International Journal of Logistics Management*, Vol. 30, pp. 821-844.

Sandberg, E. (2017), "Introducing the paradox theory in logistics and SCM research–examples from a global sourcing context", *International Journal of Logistics Research and Applications*, Vol. 20, pp. 459-474.

Sezer, A.A. and Fredriksson, A. (2021), "Paving the path towards efficient construction logistics by revealing the current practice and issues", *Logistics*, Vol. 5, p. 53.

Shurrab, H., Jonsson, P. and Johansson, M.I. (2022), "A tactical demand-supply planning framework to manage complexity in engineer-to-order environments: insights from an in-depth case study", *Production Planning and Control*, Vol. 33 No. 5, pp. 462-479.

Siggelkow, N. (2002), "Evolution toward fit", *Administrative Science Quarterly*, Vol. 47, pp. 125-159.

Silvestre, B.S., Silva, M.E., Cormack, A. and Thome, A.M.T. (2020), "Supply chain sustainability trajectories: learning through sustainability initiatives", *International Journal of Operations and Production Management*, Vol. 40 No. 9, pp. 1301-1337.

Sousa, R. and Voss, C.A. (2008), "Contingency research in operations management practices", *Journal of Operations Management*, Vol. 26, pp. 697-713.

Thunberg, M. and Fredriksson, A. (2018), "Bringing planning back into the picture–How can supply chain planning aid in dealing with supply chain-related problems in construction?", *Construction Management and Economics*, Vol. 36, pp. 425-442.

Thunberg, M., Rudberg, M. and Karrbom Gustavsson, T. (2017), "Categorising on-site problems: a supply chain management perspective on construction projects", *Construction Innovation*, Vol. 17, pp. 90-111.

Turkulainen, V. (2022), "Contingency theory and the information processing view", in *Handbook of Theories for Purchasing, Supply Chain and Management Research*, Edward Elgar Publishing, pp. 248-266.

Van De Ven, A.H. (1992), "Suggestions for studying strategy process: a research note", *Strategic Management Journal*, Vol. 13, pp. 169-188.

Van De Ven, A.H., Ganco, M. and Hinings, C.R. (2013), "Returning to the Frontier of contingency theory of organizational and institutional designs", *Academy of Management Annals*, Vol. 7, pp. 393-440.

Venkatraman, N. and Camillus, J.C. (1984), "Exploring the concept of 'fit' in strategic management", *Academy of Management Review*, Vol. 9, pp. 513-525.

Voordijk, H., Meijboom, B. and De Haan, J. (2006), "Modularity in supply chains: a multiple case study in the construction industry", *International Journal of Operations and Production Management*, Vol. 26, pp. 600-618.

Voss, C., Tsikriktsis, N. and Frohlich, M. (2002), "Case research in operations management", *International Journal of Operations and Production Management*, Vol. 22, pp. 195-219.

Wikner, J. and Rudberg, M. (2005), "Integrating production and engineering perspectives on the customer order decoupling point", *International Journal of Operations and Production Management*, Vol. 25, pp. 623-641.

Yin, R.K. (2018), *Case Study Research: Design and Methods*, 6 ed., SAGE, Thousand Oaks, California.

Zajac, E.J., Kraatz, M.S. and Bresser, R.K. (2000), "Modeling the dynamics of strategic fit: a normative approach to strategic change", *Strategic Management Journal*, Vol. 21, pp. 429-453.

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