Design Study of Milking Machine Based on Topology Approach and Fluid Dynamic Analysis

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Abstract
Supply chain management integrates activities through improved supply chain relationships to achieve sustainable competitive advantage. The major objective of the study is to review academic articles published previously concerning the relationship between supply chain management practices and competitive advantage to indicate a direction that could need further research. This review adopts the systematic literature review approach to identify studies conducted between 2002 and 2022. The review focused on summarizing the studies’ major aspects and analyzing them by identifying themes. The paper identified the 25 most impactful studies in this area. The finding indicates that most studies were empirical studies and used a quantitative research approach with an explanatory research design. The analysis of the papers demonstrated that the Resource-based Theory, Dynamic capability Theory, Resource dependency Theory, Relational view, Knowledge–based Theory, and System Theory are among the major theories used as a foundation for the studies. Supply chain management dimensions such as strategic supplier partnership, customer relationship, information sharing, quality of information, and postponement are used to measure supply chain management practices. Furthermore, price/cost, product innovation, time to market, delivery, and dependability are used to predict competitive advantage. A review can synthesize research findings and identify areas where further research is needed. Thus, this study contributed to the body of literature by indicating gaps or limitations for future researchers.

Keywords supply chain management, competitive advantage, systematic review

INTRODUCTION
In a highly competitive business environment, there is increased attention on creating and delivering value to the customer. Most business organizations due attention to providing and delivering products and services that are more valuable compared to their competitors (Bakar & Hamid, 2011; Maat et al., 2020 & Tukamuhabwa et al., 2021). This highly competitive business environment needs to adopt sufficient supply chain management (SCM) practices to gain a competitive advantage (Tukamuhabwa et al., 2021).

Supply chain management (SCM) is a concept that was born and gained acceptance in the 1980s. The history of the conception of supply chain management begins with two fragmented company business practices (purchasing and distribution), then developed into the concept of logistics, and became perfect with the birth of the concept of supply chain management (Islam et al., 2021). According to Handfield RB, Nichols (1999) cited in (Seuring & Mu, 2008), the supply chain encompasses all activities associated with the flow and transformation of goods from raw materials...
Supply chain management (SCM) is the integration of these activities through improved supply chain relationships to achieve sustainable competitive advantage. In line with this Christopher, 1998 defines supply chain management as “the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole”. Supply chain management is a set of activities that cover organizational functions from the ordering and receipt of raw materials, raw material handling, and manufacturing of products, to the distribution and delivery of the final product to the customer (Maqbool et al., 2014). Moreover, a supply chain is a physical network, as all companies play roles and collaborate in supplying raw materials, producing products, and distributing them to end-users (Tukamuhabwa et al., 2021).

Supply chain management practices improve profitability, customer response, and the ability to deliver value to the customers and also improve the interconnection and interdependence among firms (Bakar & Hamid, 2011). Likewise, effective SCM has become a potentially valuable method of securing the competitive advantage of the organization (Bratić, 2011; Tukamuhabwa et al., 2021 & Islam et al., 2021). Literature indicated the most common dimensions or factors in the measurement of SCM practices are strategic supplier partnership, information sharing, quality of shared information, customer relationship management, and Total Quality Management (Bakar & Hamid, 2011; Maat et al., 2020; & Islam et al., 2021).

Competitive advantage is a company’s ability to create a unique efficient and lasting position over competitors (Linda & Thabrani, 2021). It consists of the capabilities that enable an organization to differentiate itself from its competitors (Tukamuhabwa et al., 2021). Numerous organizations have started to recognize that SCM is essential to building a sustainable competitive advantage for their products and/or services in an increasing market (Li et al., 2016). Firm competitive advantage can be measured in price/cost, quality, delivery dependability, product innovation, and time to market (Maqbool et al., 2014 & Maat et al., 2020). SCM practices have an impact on competitive advantage (Linda & Thabrani, 2021). According to (Bakar and Hamid, 2011), the final user or customer in the marketplace today is determined by the success or failure of a firm supply chain management practices. Getting the right product, at the right price, at the right time to the customer is not only improved competitive success but also the key to survival.

Besides companies acknowledging the role of SCM practices to gain competitive advantage, several previous researchers investigated the topic focused on different sectors (Bakar & Hamid, 2011; Maqbool et al., 2014; Linda & Thabrani, 2021 & Islam et al., 2021). It is important to synthesize the literature to get an understanding of the research topic (Chen, 2018).

Therefore, this study conducted a literature review on the relationship between supply chain management (SCM) practices and competitive advantage (CA) that have been investigated by various researchers to identify main themes. The study adopted a systematic literature review approach, which is important for synthesizing concepts to identify numerous studies conducted between 2002 and June 2022. The major objective of the study was to review academic articles published previously concerning the relationship between supply chain management practices and competitive advantage to indicate future research direction or gaps that could need further research. Hence, this review addresses the following questions:

1. What are the methodological approaches used to investigate the relationship between supply chain management practices and competitive advantage?
2. What are the theories used in the investigation of supply chain management practices and competitive advantage?
3. What are the supply chain management practices factors or constructs used to measure competitive advantage?

After this brief introduction section, the rest of the study is organized as follows. Section 2 discusses the review of literature on SCM practices and CA, Section 3, explains the methodology of the study, and Section 4 discusses the result of the review, and the conclusion provided at the last of the paper.

LITERATURE REVIEW

Supply chain management
In today’s era of globalization, supply chain management (SCM) is a fundamental concept. In free trade, there is competition between companies (Linda & Thabrani, 2021). SCM deals with the capabilities put onto organizations through the influences of a globalized world with its characteristics of highly vulnerable logistic networks, globalized competition, and almost instant information-sharing capabilities (Beske, 2012).

Supply chain management is an activity of managing raw materials, process, finished and semi-finished products, product distribution, purchasing functions between suppliers and distributors, managing the relationship with suppliers, share level, information quality between suppliers and companies, and customer complaints to build a good long-term relationship with customers (Bratić, 2011; Maat et al., 2020; & Linda & Thabrani, 2021).

According to Li et al., (2006) cited in (Bratić, 2011), SCM practices are defined as the set of activities undertaken by an organization to promote effective management and supply chain practices proposed to a multi-dimensional concept, including the downstream and upstream sides of the supply chain. SCM involves integration, coordination, and collaboration across organizations and throughout the supply chain. It means that it requires internal (intra-organizational) and external (inter-organizational) integration.

The goal of SCM is to integrate both information and materials flows across the supply chain as an effective competitive weapon (Bratić, 2011). Stakeholders in such environments are more likely to penalize an organization if it fails to deliver on its promises. Stakeholder requirements can change rapidly in unpredictable ways (Bratić, 2011).

Previous researchers used common dimensions or constructs to investigate SCM practices, namely, strategic supplier partnerships, information sharing, the quality of information, customer relationship management, postponement, and Total Quality Management (Mellat & John, 2014; Leo et al., 2015; & Linda & Thabrani, 2021).

Competitive advantage
Competitive advantage (CA) refers to the extent to which a firm can generate a strong position over its rivals. Competitive advantages pertain to a firm’s ability to show a higher degree of competitiveness as compared to its rivals within a given industry, such as being able to reduce cost, creating distinct products or services, or better satisfy customers Porter (2011) cited in (Chen & Chen, 2018). Hence, a firm is said to have a competitive advantage when the existing or potential competitors cannot duplicate or it will cost much to imitate. CA is the extent to which companies can create a defensible position over their competitors (Bratić, 2011). So firms are at two extremes, presented with a choice of following either a cost leadership or a differentiation strategy to achieve
competitive advantage (Porter, 1985) cited in (Kwak et al., 2018).

An organization can achieve an advantage over the competition through external changes and developing internal factors. The company has no control over external factors, but directly or indirectly affect the company’s daily operation (Montshiwa, 2016). External factors such as Political, Economic, Social, and Technological changes have many opportunities that can appear that, if seized upon, could provide many advantages to an organization (Montshiwa, 2016). Competitive advantage can be achieved if companies have assets and resources that are valuable, scarce, and difficult to imitate (Montshiwa, 2016; Chen & Chen, 2018; & Maat et al., 2020).

To sustain competitive advantage firms are not only seen concerning tangible products, but also about intangible abilities, efficiency, and customer responses (Chen & Chen, 2018). Moreover, technological changes, demanding customers, sustainable supply chains through increased globalization, complex global connections, volatile and unpredictable markets, and shorter product lifecycles, among other reasons, have made sustaining competitive advantage more difficult than ever before (Manuj et al., 2013). Companies that have CA always have the ability to understand changes taking place in market structure and be able to choose effective marketing strategies (Islam et al., 2021). Companies with the commitment to pursuing a sustainability strategy are more likely to have a sustainable competitive advantage.

**The relationship between supply chain management practices and competitive advantage**

Effective SCM has a potentially valuable way of securing competitive advantage through the improvement of organizational performance (Bratić, 2011). The implementation of good SCM practices is expected to increase organizational competitive advantage through price/cost, quality, quick response, and product innovation (Linda & Thabrani, 2021). SCM is considered a strategic resource, that needs unique capabilities, its implementation could lead to competitive advantage and improve company performance (Bratić, 2011; Alfalla-Luquet al., 2018).

Several studies on supply chain management and competitive advantage have been carried out, such as (Bratić, 2011; Maqbool et al., 2014; Maat et al., 2020; Linda & Thabrani, and Islam et al., 2021). For instance, Bratić, (2011), conducted a study on achieving a CA by SCM. The finding indicates that SCM has effects on CA. Major dimensions such as price, quality, and time to market are stronger indicators of CA than delivery dependability and product innovation.

The other study conducted (Linda & Thabrani, 2021), on the SCM practices and CA used supply chain performance as moderating variable. The finding indicates SCM practices significantly influence competitive advantage. Leo et al., (2015) also found that SCM practices are influenced by contextual factors like firm size, distance, the quantity of transactions of industries, and buyer preference.

Furthermore, Tukamuhabwa et al., (2021) investigated competitive advantage in SMEs and the effect of SCM practices, logistics capabilities, and logistics integration in a developing country. The finding revealed that both SCM practices and logistics integration are positively and significantly associated with a competitive advantage. In addition, both SCM practices and logistics capabilities are positively and significantly associated with logistics integration. Additionally, the authors found that logistics integration partially mediates the relationships between supply chain management practices and competitive advantage, and logistics capabilities and competitive advantage.

Therefore, improving supply chain management practices has become a critical issue for gaining a
competitive advantage for companies.

**Theoretical perspective for supply chain management and competitive advantage**

**Resource-based theory**

Resource-based theory (RBT) explains how organizations maintain unique and sustainable positions in competitive environments. According to RBT organizations compete against others based on their resources and capabilities (Milles, 2012). Capability refers to the ability of an organization to perform a coordinated set of tasks using organizational resources (Manuj et al., 2013). The firm own resources ( tangible or intangible) create superior performance, which then translates into a competitive advantage (Tukamuhabwa et al., 2021). Resources are anything that includes brand names; employee knowledge, skills, and abilities; machinery and technology; capital; contracts; and efficient procedures and processes (Milles, 2012).

The resource-based view (RBV) also emphasizes that a firm gains a competitive advantage when it implements a value-creating strategy that is not simultaneously being implemented by other potential competitors (Manuj et al., 2013).

According to the RBV, organizations are accumulations of resources, some of which can be considered strategic; capacity to generate a competitive advantage by developing their resources and capabilities. From a supply chain perspective, the concept of RBV is organization involves inter-organization relationships that are included as a strategic resource (Alfalla-Luque et al., 2018). The RBV of competitive advantage can be used to address the growth of logistics/supply chain management practices and their effect on firm competitiveness (Mellat & John, 2014). Research has acknowledged the importance of the RBV for SCM (Alfalla-Luque et al., 2018). The theory has been adopted in the context of SCM or logistics such as (Manuj et al., 2013; Montshiwa, 2016; Alfalla-Luque et.al, 2018; & Tukamuhabwa et al., 2021).

**Dynamic capability theory**

Dynamic capabilities theory postulated how firms integrate, build, and reconfigure their internal and external firm-specific competencies into new competencies that match their turbulent environment (Milles, 2012).

Business organizations are required to respond to dynamic environments by adapting their supply chain resources. According to the dynamic capability theory firms can use their own particular internal and external abilities and knowledge and develop new capacities to struggle with changing environments (Alfalla-Luque et al., 2018). The linkage between SCM and dynamic capability is growing in research and has been focused on the scientific community for several years (Beske, 2012). The dynamic capabilities view is a widely applied theory to explain the difference in performance across competing firms. It refers to the ability of a firm to integrate, build, renew, adapt, and reconfigure its resource base in response to dynamism in the external changing environment (Chen, 2018).

The dynamic capability view proposes that resource configuration rather than control over a resource leads to competitive advantage. This means if a partner in the supply chain, the value creation, controls the resource and competitive advantage might only be realized in combination with other resources controlled by other partners in the chain (Beske, 2012).
Knowledge-based theory
The main concept of the knowledge-based theory of the firm is that organizations exist in the way that they do because of their ability to manage knowledge more efficiently than is possible under other types of organizational structures (Milles, 2012). Organizations are social entities that use and store internal knowledge, competencies, and capabilities that are vital for the firm’s survival, growth, and success (Hakanson, 2010). The theory emphasizes the organizational need for superior coordination and integration of learning by employees inside the organization (Milles, 2012).

The Knowledge-based view of the firm is a recent extension of the Resource-based view of the firm and is adequate to the present economic context. It is considered to be a very special strategic resource that does not depreciate in the way traditional economic productive factors do and can generate increasing returns (Curado, 2006). According to (Grant & Bocconi, 2019), many firms consider that to act with efficacy in today’s economy, they must become a knowledge-based organization. However, few understand what that means, and how to make the changes necessary to achieve it. Perhaps the most common mistake firms make is considering that the higher the knowledge content of their products and services, the closer they are to being true knowledge-based organizations.

METHODOLOGY
Research method
A literature review is a critical, analytical summary and synthesis of the current knowledge of a topic. It compares and relates different theories and findings rather than just summarizing them individually Harvey (2010). It is the leading contributor and input to research advancement and is deliberated to provide a historical perspective of the respective research area and an in-depth account of independent research activities Mentzer & Kahn, (1995) cited in (Lamé, 2019).

Reviewing the literature systematically provides the foundation on which further research could build and the primary purpose is to have a deep understanding and insight into relevant research that has already been undertaken and trends that the previous research has developed (Khan et al., 2022).

Systematic literature reviews (SRs) are a technique of synthesizing scientific evidence to answer a particular research question in a transparent and reproducible way while seeking to include all published evidence on the topic and evaluating the quality of this evidence (Lamé, 2019). Hence, it is significant to review the literature to determine where the relationship between SCM practices and firm CA research has been, what theories have been used in the investigation, what factors, and which elements of the topic may be included in the future.

Therefore, this study adopted a systematic literature review approach to address the objectives. The study reviews previously conducted research papers, which measure the effect of SCM practices on CA published from 2002 to 2022.

Process of Review
To conduct this systematic review of the literature on SCM practices and CA, the researcher followed the systematic review guideline recommended by (Durach et al., 2017). As the guideline, a systematic literature review is commonly conducted in six steps: (1) defining the research question, (2) determining the required characteristics of primary studies, (3) retrieving a sample of potentially relevant literature, (4) selecting the pertinent literature, (5) synthesizing the literature, and (6) reporting the results. Accordingly, the researcher adopted these steps for this systematic literature review and briefly discussed them as follows.

Step 1: Defining the research question
In this step, the researcher defines the purpose of the study along with research questions; and justifies the need for the review and contribution of conducting the review on SCM practices and
Step 2: Determining the required characteristics of primary studies
The researcher determines the inclusion/exclusion of SCM criteria, which is used to assess the extent to which a primary study can inform one or more aspects of the initial theoretical framework, including study contexts, definitions, and the operationalization of constructs. Among the inclusion criteria mainly focus on research articles published in impact factor journals in the English language, covering the publication period 2002 to 2022, articles on all forms of the effect/impact/influence/role of SCM practices on/and CA are included. Concerning the article type, all types such as empirical, review, and conceptual articles are included. The researcher excluded Ph.D. or master dissertations, articles from unreliable databases and publishers, articles other than the English language, and articles published as conference proceedings.

Step 3: Retrieving a sample of potentially relevant literature
A systematic search was conducted using internationally recognized databases such as Emerald, Elsevier, Springer, Wiley, and JSTOR as many highly ranked journals of academic studies. The search began using keywords such as “supply chain management” AND “competitive advantage” OR “the relationship between supply chain management practices” AND “firm competitive advantage”, which resulted in 54 articles downloaded.

Step 4: Selecting the pertinent literature
In this step, the exclusion criteria were applied to reduce the sample of primary to synthesis samples, which included only relevant studies, focused on the research objective. To exclude irrelevant studies the researcher read the abstract of 54 articles. Based on this review 29 articles did not match with the objective of the study. Therefore, 25 relevant articles were used for the rest step of the review.

Step 5: Synthesizing the literature
In this step, the researcher is concerned with study synthesis, to code the relevant data. The coding process. The process of coding articles merely focuses on details and general information such as the title of the article, author and publication year, objectives, methodology used, and findings. Table 1 indicates the summary of this step.

Step 6: Reporting the results
Finally, the researcher involves reporting the results systematic literature review through descriptive analysis and thematic analysis as recommended by (Tranfield et al., 2003) a two-step presentation of the research findings.
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Objective</th>
<th>Method</th>
<th>Theory used</th>
<th>Key findings</th>
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<tbody>
<tr>
<td>Tukamuhabwa, et.al, (2021)</td>
<td>Competitive advantage in SMEs: effect of supply chain management practices, logistics capabilities and Logistics integration in a developing country</td>
<td>To explore the relationship between SCMP, logistics capabilities, logistics integration, and CA</td>
<td>Quantitative Explanatory</td>
<td>RBV</td>
<td>SCM practices have significantly predicted CA.</td>
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<td>Khaddam, et.al, (2020)</td>
<td>The effect of supply chain management on competitive advantage: The mediating role of information technology</td>
<td>To examine the impact of SCM on the CA</td>
<td>Descriptive &amp; explanatory</td>
<td>N/A</td>
<td>SCM and its combined dimensions have a significant effect on CA.</td>
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<tr>
<td>Islam &amp; Qamari (2020)</td>
<td>Effect of Supply chain management on competitive advantage and organizational performance. Studies on the Batik Industry in Yogyakarta City</td>
<td>To determine the effect of SCM on CA and organizational performance</td>
<td>Quantitative Explanatory</td>
<td>N/A</td>
<td>SCM has a significant effect on competitive advantage and organizational performance.</td>
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<tr>
<td>Linda &amp; Thabrani (2021)</td>
<td>Supply chain management practices on competitive advantage with supply chain performance as moderating variable</td>
<td>To verify the role of supply chain performance among supply chain management practices and CA</td>
<td>Quantitative Explanatory</td>
<td>N/A</td>
<td>SCMP had a significant impact on competitive advantage</td>
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<tr>
<td>Sukati et al, (2011)</td>
<td>An investigation of the relationship between supply chain management practices and competitive advantage</td>
<td>To present the relationship between SCM practices and supply chain responsiveness (SCR), and CA</td>
<td>Quantitative Explanatory</td>
<td>N/A</td>
<td>SCM practices are related to SCR and SCR is related to CA.</td>
</tr>
<tr>
<td>Li et al (2006)</td>
<td>The impact of supply chain management practices on competitive advantage and organizational performance</td>
<td>To test a framework identifying the relationships among SCM practices, competitive advantage, and organizational performance</td>
<td>Explanatory</td>
<td>N/A</td>
<td>SCM practices enhance CA and improve organizational performance</td>
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<tr>
<td>Kalaitzi and Tsolakis (2022)</td>
<td>Supply chain analytics adoption: Determinants and impacts on organizational performance and competitive advantage</td>
<td>To explore the determinants influencing SCA adoption and the impacts on firm performance and CA</td>
<td>Quantitative Explanatory</td>
<td>N/A</td>
<td>Internal organization and external factors affect the intention to adopt SCA and CA.</td>
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<tr>
<td>Authors</td>
<td>Title</td>
<td>Methodology</td>
<td>Research Approach</td>
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<tr>
<td>Vargas, Mantilla &amp; Jabbour</td>
<td>Enablers of sustainable supply chain management and its effect on competitive advantage in the Colombian context</td>
<td>Quantitative</td>
<td>RBV</td>
<td>Management support and strategic purchasing affect CA.</td>
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<tr>
<td>Harrison and New (2002)</td>
<td>The role of coherent supply chain strategy and performance management in achieving competitive advantage</td>
<td>Quantitative</td>
<td>N/A</td>
<td>Supply chain strategy is more important for corporate strategy and also in achieving CA.</td>
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<tr>
<td>Bratić (2011)</td>
<td>Achieving a competitive advantage by SCM</td>
<td>Quantitative</td>
<td>RBV</td>
<td>SCM practice directly affects CA</td>
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<tr>
<td>Abeysekara et al (2019)</td>
<td>Effect of supply-chain resilience on firm performance and competitive advantage</td>
<td>Quantitative</td>
<td>DCT &amp; RBV</td>
<td>Agility shows the greatest influence on firm performance and competitive advantage</td>
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<tr>
<td>Luque et al., (2018)</td>
<td>Triple-A and competitive advantage in supply chains: Empirical research in developed countries</td>
<td>Quantitative</td>
<td>DCT &amp; RBV</td>
<td>The effects are significant on all the CA measures except quality.</td>
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<tr>
<td>Bayraktar et al, (2009)</td>
<td>A causal analysis of the impact of information systems and supply chain management practices on operational performance: Evidence from manufacturing SMEs in Turkey</td>
<td>Quantitative</td>
<td>N/A</td>
<td>SCM has an impact on operational performance</td>
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<tr>
<td>Alzubi &amp; Akkerman (2022)</td>
<td>Sustainable supply chain management practices in developing countries: An empirical study of Jordanian manufacturing companies</td>
<td>Descriptive</td>
<td>N/A</td>
<td>The adoption of sustainable supply chain management practices is still in the initial stages.</td>
<td></td>
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<tr>
<td>Chen (2018)</td>
<td>Developing a model for supply chain agility and innovativeness to enhance firms’ competitive advantage</td>
<td>Quantitative</td>
<td>DCT &amp; RBV</td>
<td>IT integration and supply chain agility positively affect a firm’s competitive advantage.</td>
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<tr>
<th><strong>Green et al., (2018)</strong></th>
<th>Comprehensive Supply Chain Management Model</th>
<th>To develop a supply chain management (SCM) model</th>
<th>Quantitative</th>
<th>CT &amp; ST</th>
<th>TQM supports the implementation of SCM, SCM supports</th>
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<tr>
<td><strong>Handoko, et.al, (2015)</strong></td>
<td>The impact of enterprise resources system and supply chain management practices on competitive advantage and firm performance: Case of Indonesian Companies</td>
<td>To investigate the effect of ERP and SCM practices on competitive advantage and organizational performance</td>
<td>Quantitative</td>
<td>N/A</td>
<td>ERP systems and SCM practices have a positive impact on both competitive advantage and firm performance.</td>
</tr>
<tr>
<td><strong>Hua, Chatterjee, &amp; Jingliang</strong></td>
<td>Achieving competitive Advantage in the service supply chain: evidence from the Chinese steel industry</td>
<td>To identify service supply chain strategies that correspond with specific customer demand</td>
<td>Quantitative</td>
<td>DCV</td>
<td>Strategies have different impacts on competitive advantage</td>
</tr>
<tr>
<td><strong>Manuj et al, (2013)</strong></td>
<td>The quest for competitive advantage in global supply chains: The role of inter-organizational learning</td>
<td>To review the literature on inter-organizational learning and related constructs to develop a theoretical model</td>
<td>Systematic review</td>
<td>RV &amp; KBT</td>
<td>Inter-organizational learning driven by a firm’s orientation toward its supply chain partners and source of a CA</td>
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<td><strong>Kalaitzi, et.al, (2019)</strong></td>
<td>Supply chains under resource pressure Strategies for improving resource efficiency and competitive advantage</td>
<td>To investigate supply chain strategies to achieve a competitive advantage</td>
<td>Quantitative</td>
<td>RDT</td>
<td>The relationship between resource efficiency and CA is not supported.</td>
</tr>
<tr>
<td><strong>Kwak, Seo &amp; Mason (2017)</strong></td>
<td>Investigating the relationship between supply chain innovation, risk management capabilities, and competitive advantage in global supply chains</td>
<td>To propose and validate a theoretical model</td>
<td>Quantitative</td>
<td>RBV</td>
<td>Innovative supply chains have a positive influence on risk management capability and CA</td>
</tr>
<tr>
<td><strong>Lin &amp; Tseng (2014)</strong></td>
<td>Assessing the competitive priorities within a sustainable supply chain management under uncertainty</td>
<td>To assess the hierarchical structure in identifying the ranking of competing priorities</td>
<td>Systematic review</td>
<td>N/A</td>
<td>Innovation is a top priority for all sustainable supply chain management aspects.</td>
</tr>
<tr>
<td><strong>Sahay et al., (2006)</strong></td>
<td>Managing supply chains for competitiveness: the Indian Scenario</td>
<td>To assess the direction in which supply chain management to enhance competitiveness</td>
<td>Descriptive</td>
<td>N/A</td>
<td>Organizations have aligned their supply chain objectives with the business objectives</td>
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FINDINGS AND DISCUSSION
From a theoretical perspective, the purpose of the literature review is to identify the factors most studied, methodologies, theories, and other related aspects used by previous scholars on the relationship between supply chain management practices and competitive advantage.

Fifty-four articles abstracts were reviewed, from which 29 articles did not match the objective of the study. Therefore, 25 relevant articles were used for further assessment. The articles are summarized based on basic themes such as their objective, methodological approach, major findings, theory applied as foundation, variables or factors used as independent, mediator/moderator, and dependent variable in the investigation of SCM practices and CA (see Table 1). Hence, the discussion was guided based on these review questions and themes.

Research methods used in the studies
The first stage of the analysis was the methodological approach that most studies adopted. Out of the 25 studies conducted between 2002 and 2022, most of the studies were empirical and used a quantitative research approach with an explanatory research design (n=22) as seen in Table 1. One study used a descriptive research method while another two studies were systematic reviews. This indicates that quantitative research methodology dominates the investigation of supply chain management practices and competitive advantage. Concerning their objective, majorities of articles investigated the impact/effect/influence of SCM practices on CA (Bakar & Hamid, 2011; Maqbool et al., 2014; Li et al., 2016; Kwak et al., 2018; Abeysekara & Wang, 2019; (Bakar & Hamid, 2011; Maat et al., 2020; Tukamuhabwa et al., 2021 & Linda & Thabrani, 2021). In line with this, other studies focus on assessing the relationship between or role of SCM and CA (Harrison & New, 2002; Lin & Tseng, 2014 & Khaddam et al., 2020). While the rest studies develop models for SCM and CA (Seuring & Mu, 2008; Green et al., 2019; & Rahman & Farkas, 2020).

Theories used in the studies
Theory plays a vital role in research to explain, understand, and create meaningfulness in the research. Theory helps to predict facts and to identify unexplored research areas. Without appropriate theory, it is difficult to establish the relationship among attributes, variables, or data.

Regarding the theoretical foundations that have been used in the study of the relationship between SCM practices and CA, the comprehensive review of the literature indicated that, out of 25 articles, three of them applied Resource-based Theory (RBT), and four studies used both RBT and Dynamic capability Theory (DCT). Moreover, other studies also used Resource dependency Theory (RDT), Relational view (RV), Knowledge–based Theory (KBT), and System Theory (ST) (Table 1).

Having a good understanding of the uses of theory enables the researcher to grasp the phenomena through its representational aspect and to be able to manipulate it and make it fit the computational aspect. Hence, the RBT provides an understanding of the key concepts related to the role of resources in the creation and maintenance of competitive advantage for firms. Dynamic capabilities theory also underpins firms to transform themselves and evolve with the times. So that developing capabilities that go beyond ordinary strategic capabilities, firms will be in a strong position to achieve a long-lasting competitive advantage.

Moreover, the other stream, RV, provides sufficient literature concerning buyer-seller relationships and provides a different perspective on firm resource utilization by highlighting the role of relationships. KBT also emphasizes the role of knowledge as a resource with unique characteristics that could lead to sustainable competitive advantage. Since SCM practices have connections with different disciplines, the utilization of theories depends upon those fields. Specifically, resources and the way they are managed and utilized are realized as the source of achieving competitive advantage for firms.

However, as indicated in the literature review (see Table 1) majorities of studies (n=13) did not apply theoretical underpinning for their studies. The theory is similar to the human skeleton upon
which the body is built. A well-structured and defined theoretical framework of the study creates enough understanding and gives the desired result. This implies most studies that have been conducted around SCM practices and CA fail to utilize popular theoretical perspectives to capture all aspects of practices in the field. Therefore, this review indicates the lack of theoretical underpinning for SCM practice studies.

Factors used in the studies
The other review objective focused on factors or constructs used to measure the effects or relationship between SCM practices and CA. In the investigation of the relationship between SCM practices and CA, researchers used different factors or dimensions. Studies conceptualize five SCM dimensions, which are considered independent variables such as strategic supplier partnership, customer relationship, information sharing, quality of information, and postponement.

Strategic supplier partnership refers to the long-term relationship between the company and its suppliers. It is intended to control the strategic and operational capabilities of individual participating companies to support them in achieving significant benefits (Maqbool et al., 2014 & Li et al., 2016). Customer relationships consist of the entire array of practices that are employed to manage customer complaints, build long-term relationships with customers, and improve customer satisfaction (Bratić, 2011). Quality of information sharing deals with the accuracy, timeliness, adequacy, and credibility of information exchanged, therefore companies need to know the significance depending on what information is shared, when and how it is shared, and with whom it is shared (Bratić, 2011). The level of information sharing is defined as the extent to which critical and proprietary information is communicated to one’s supply chain partner (Li et al., 2016). Moreover, postponement means the practice of moving forward one or more operations or activities including making, sourcing, and delivering to a much later point in the supply chain (Linda & Thabrani, 2021).

Depending on the area of research, other factors like information technology, marketing orientation, agile production, JIT, TQM, management support, and strategic purchasing are taken as explanatory variables for SCM.

On the other hand, the major factors or dimensions, such as price/cost, product innovation, time to market, delivery, and dependability are used to predict competitive advantage. In connection with this, the relationship between SCM practices and CA depends upon mediating and moderating variables, such as logistics integration, supply chain agility, and innovation.

CONCLUSION
This study conducted a systematic literature review on SCM practices and competitive advantage using articles published between 2002 and 2022. The study adopted a systematic literature review approach, which is important for synthesizing concepts from numerous studies. The major objective of the study was to review literature related to the relationship between supply chain management practices and competitive advantage to indicate future research direction.

Fifty-four articles' abstracts were reviewed, and 29 articles did not match the objective of the study. Hence, 25 relevant articles were used for assessment. Most of the studies were empirical and used a quantitative research approach with an explanatory research design. This indicates that quantitative research methodology dominates the investigation of supply chain management practices and competitive advantage.

There was a lack of theoretical foundation for most studies conducted on the relationship between SCM practices and CA. However, few studies applied theoretical underpinnings such as Resource-based Theory (RBT), Dynamic capability Theory (DCT), Knowledge–based Theory (KBT), Resource dependency Theory (RDT), Relational view (RV), and System Theory (ST) are used.

SCM dimensions such as strategic supplier partnership, customer relationship, information sharing, quality of information, and postponement are used to measure SCM practices. Significant factors
such as price/cost, product innovation, time to market, delivery, and dependability are used to predict competitive advantage.

LIMITATIONS AND FUTURE RESEARCH
This review has limitations that could addressed in future research. First, the researcher tried her best to include the studies conducted between 2002 and 2022. However, the number of sample articles is not enough even though there is no minimum number of studies determined to be included in a systematic review. Secondly, the review did not cover specific industries or sectors as well as consider countries. Considering these areas might help to understand the topic in more detail and provide valuable insight into the relationship between supply chain management practices and competitive advantage.

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