# Three decades of export competitiveness literature: systematic review, synthesis and future research agenda

Three decades of export literature

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#### Abstract

**Purpose** – This review has two purposes: (1) to systematically analyse the literature on export competitiveness (EC) and (2) to provide an overview of various determinants and the methodological trends in the subject field, making it possible to develop a roadmap for future researchers.

**Design/methodology/approach** – The systematic literature review (SLR) method was employed in this paper. The authors have covered three decades of research articles published in Scopus listed journals between 1991 and 2020. The determinants of EC are synthesized and widely used theories, and methodologies are identified and classified. The authors have also provided directions for future research.

**Findings** – The key determinants identified are labour and capital productivity, labour costs, exchange and real effective exchange rate (REER), domestic gross domestic product (GDP), trade liberalization and barriers. The findings reveal that EC is now a scientific measure, since the studies in this subject field have moved towards measuring EC and its determinants.

Originality/value — There has been no comprehensive review in this area exploring the theories, context, constructs and methodologies until now. Therefore, this review provides deep insights into the topic and also offers a unified picture of the subject field.

**Keywords** Export competitiveness, Systematic literature review, International marketing **Paper type** Literature review

#### 1. Introduction

Export competitiveness (EC) has been widely recognized as one of the mediums for achieving global competitiveness (Asteriou *et al.*, 2016; Caporale *et al.*, 2018; Dhiman *et al.*, 2020; Gnangnon, 2019; Parlakgul and Selekler-Goksen, 2018). EC can be defined as the capability to produce and sell goods and services at the required place at competitive prices when compared to other suppliers (Sharples and Milham, 1990). Prior researchers state that research on EC has made incredible progress, and it has gained credibility as an independent concept (Herciu, 2013; Huang *et al.*, 2008; Joshi and Singh, 2010). Nowadays, both theoretical and empirical research for EC focus on firms, commodities, industries and countries. Although there are theoretical advancements in the field of EC linking with trade patterns, international marketing and productivity growth of heterogeneous firms remain much underexplored (Bernard *et al.*, 2007a, b).

During the past three decades, prior researchers have evaluated competitiveness at various levels, such as (the regional level) (Pillania, 2006; Srivastava, 2006; Uysal *et al.*, 2000), (the firm level) (Jones, 1994; Murtha and Lenway, 1994; Pillania, 2007), (the country level) (Roth and Morrison, 1992; Mitchell *et al.*, 1993; Koc, 2009) and (the industry level) (Caglayan and Demir, 2014; Supongpan *et al.*, 2013; Fang and Miller, 2007). It is worth noting that there



International Marketing Review © Emerald Publishing Limited 0265-1335 DOI 10.1108/IMR-12-2020-0295 have been some efforts to develop theoretical models covering some specific dimensions of EC (Battisti *et al.*, 2019; Bhattacharyya, 2020; Lopez-Morales, 2018; Thorpe *et al.*, 2005). For example, Bhattacharyya (2020) developed an integrated conceptual framework for international business. Lopez-Morales (2018) made an attempt to find the gaps in the existing literature during the period 2007–2017 in the Latin American context and found that studies in this subject area have increased, although it is still an understudied area. Also, Yang *et al.* (2006) reviewed papers to identify methodologies used in the area of EC; nevertheless, their review was limited to only six journals. There has been no review on this topic published during the last decade, which covers a large number of journals. Identifying this gap, this review provides the most comprehensive synthesis by taking into account studies from all Scopus listed journals during the period 1991–2020.

Literature review plays a significant role in building a foundation for various kinds of research and serves as a basis for knowledge improvement and help in offering new directions in a subject field (Paul and Criado, 2020; Lopez-Morales, 2018; Vrontis and Christofi, 2019). Review papers additionally serve as the basis for theory building (Christofi et al., 2019a, b; Paul and Mas, 2019). A large number of papers on EC have been published in previous years; however, none of them provide a comprehensive review on the methodologies and determinants of EC. For this reason, the main purpose of this paper is to identify key determinants and evaluate the methodological trends of EC.

The remainder of this paper is structured as follows: we first elaborate on the review design and structure and then provide details of papers on determinants and methodological trends of EC. Theoretical underpinnings are discussed in section four followed by industries and countries studied by previous authors. Widely used determinants and methodologies are presented in the next section. Thereafter, we provide directions for future research followed by theoretical and practical implications. Finally, findings are summarized and are given as a conclusion.

#### 2. Methodology followed to carry out the review

#### 2.1 Review design

A classic thematic systematic review synthesizes extant research and analyses explicit methods used in prior studies to identify, choose and examine relevant research and to extract and set directions for future research Pereira *et al.* (2019), Christofi *et al.* (2019a, b). Systematic literature review (SLR) articles can be broadly classified as domain-based, theory-based and method-based (Paul and Criado, 2020). Domain-based reviews are of various types such as a structured review that focuses on broadly used methods, major theories and constructs (Reboucas and Soares, 2020; Mishra *et al.*, 2021; Rosado-Serrano *et al.*, 2018; Paul and Singh, 2017); framework-based review (Lim *et al.*, 2020: Paul and Benito, 2018; Leonidou *et al.*, 2018); hybrid review in order to set a future research agenda (Paul *et al.*, 2017; Kumar *et al.*, 2020, Pereira *et al.*, 2019); theory-based review (Paul and Rosad-Serrano, 2019; Vrontis and Christofi, 2019), meta-analysis-based review (Rana and Paul, 2020), bibliometric review (Randhawa *et al.*, 2016) and review papers with the purpose to develop a model or framework (Christofi *et al.*, 2019a, b; Paul and Mas, 2019; Paul, 2019). This paper can be classified as a domain-based structured review.

A total of five phases were involved to carry out this SLR (Thorpe *et al.*, 2005). Phase I includes the definition of search and selection keys in the database; Phase II focuses on searching papers in the database; Phase III involves reading and the selection of titles and abstracts; Phase IV includes reading and the selection of full papers and Phase V was the analysis of the findings from papers. The details have been given in Table 1.

Scopus database was used to download scholarly articles in the field of EC. The keywords used include determinants of global trade; methodological trends in international

business; factors influencing export and import and indicators of global supply and demand side factors. The papers considered in this review are indexed in Scopus and are published in the English language, disregarding book chapters, proceedings and summaries of events and seminars.

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#### 2.2 Review structure

2.2.1 Year and theme-wise break-up of studies reviewed. Before proceeding with the review of papers, it is important to understand the year and theme-wise break-up of various papers included in the study. It is clear from Figure 1 that the majority of the papers referred to are from 2015 to 2020 (41%), followed by the period 2010–2015 (24%); 2005–2010 (19%) and 2000–2005 (16%). This indicated that the majority of the papers refereed were recent. Figure 2 depicts that previous studies referred to fall under the theme determinants of EC (35%), followed by theoretical underpinnings (33%) and widely used methodologies in EC (32%).

2.2.2 Why should people know more about export competitiveness? Exporting firms and countries often strive to accomplish competitiveness in the world market. Therefore, it is

Phase II Phase III Phase IV

Phase IV
Phase V
Source(s): Thorpe et al. (2005)

Definition of search and keyword search in the database Searching papers in the database Reading and selection of titles and abstracts Reading and selection of full papers Analysis of papers

**Table 1.** Various SLR phases

#### Year-wise break-up for No.of papers

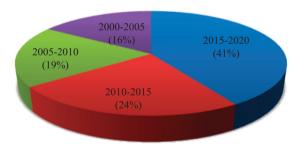


Figure 1. Year-wise break-up for number of papers

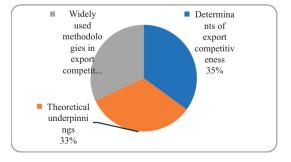


Figure 2. Theme wise break-up of papers reviewed

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worth studying the major determinants by synthesizing previous studies and presenting the main variables. This will ensure better understanding and offer valuable insights into both research and business practice. Scholars who are in the initial stages of their research shall also be benefited to move further in the research, as they will be well aware of the theoretical underpinnings, major determinants and methodological domains of EC. Considering this, Section 4 makes an attempt to highlight the major theories used in the literature. They contribute significantly to the extant knowledge. Later, an identification of the various determinants and methodologies are presented.

2.2.3 Industries and countries in prior research (where and which industries have been researched). It is crucial to identify the amount of previous research done in different countries and industries. In order to address this particular question, an attempt is made in Section 5 to identify various countries and industries where research on EC has been undertaken

2.2.4 Classification by number of papers published and number of authors contributed. The classification in terms of number of papers published and number of authors contributed is shown in Table 2 to span the years from 1991 to 2020 in sets of three years. From Table 2, it is worth noting that there is a substantial increase in the number of authors who have contributed since 1991.

For the period 1991–1993, the numbers of papers and authors were only 17 and 52, respectively. This figure has been constantly increasing, and from the period 2009–2011, the numbers of papers and the authors contributed are 98 and 254, respectively. During 2018–2020, it has been observed that the numbers of papers and authors contributed in the subject field are 108 and 227 respectively. The total numbers of the papers and authors contributed during the period are 742 and 2,151, respectively. Hence, it can be concluded that the literature in the field of EC has been able to capture the attention of researchers, academicians and publishers successfully.

2.2.5 Distribution of papers. During 1991–2020, a total of 742 research papers were published in Scopus indexed international journals. The number of papers in different journals in the area of EC is mentioned in Table 3.

2.2.6 Criteria for study inclusion and exclusion. Previous reviews have indicated that inclusion and exclusion criteria are important to decide the papers to include in a SLR (Plessen et al., 2020; Gupta et al., 2019; Vrontis et al., 2020). We included articles in our final sample based on the condition that our keywords appear either in the title, or abstract or in the keywords of the article.

In this section, an attempt has been made to elaborate on the criteria selected for the inclusion and exclusion of identified papers. We came across 742 studies. In addition,

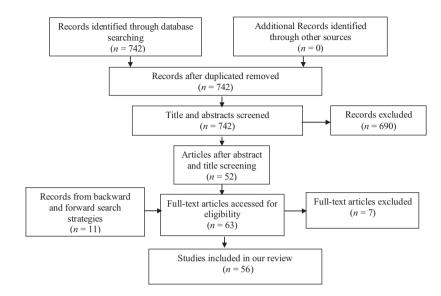
No. of papers	No. of authors contributed	
17	52	
32	110	
45	135	
61	178	
78	207	
84	231	
98	254	
107	361	
112	396	
108	227	
742	2,151	
	17 32 45 61 78 84 98 107 112 108	

**Table 2.**Number of research papers published and number of authors contributed

			Three decades
Journal	Publisher	Total	of export
Journal of International Money and Finance	Elsevier	44	literature
Economic Modelling	Elsevier	40	nierature
Studies in Economics and Finance	Emerald	39	
Journal of International Business Studies	Palgrave Macmillan	35	
Journal of Econometrics	Elsevier	32	
Competitiveness Review	Emerald	30	
Applied Economics	Taylor and Francis	28	
American Economic Review	American Economic	24	
American Economic Review	Association	24	
Emerging Markets Review	Elsevier	22	
World Development	Elsevier	21	
Journal of Economics	Springer	21	
Research in International Business and Finance	Elsevier	20	
Review of World Economics	Springer	19	
Southern Economic Journal	Wiley Online Library	18	
Econometrica: Journal of the Econometric Society	Wiley Online Library	17	
Journal of Post Keynesian Economics	Taylor and Francis	17	
Review of International Business and Strategy	Emerald	17	
The Journal of Development Studies	Taylor and Francis	16	
International Business Review	Elsevier	16	
Journal of Development Economics	Elsevier	16	
Review of Economics and Statistics	MIT Press	15	
Economic Letters	Elsevier	15	
Journal of Political Economy	University of Chicago Press	15	
	Palgrave Macmillan	13	
European Journal of Development Research	Wiley Online Library	14	
World Economy Iournal of International Economics	Elsevier	13	
3	Oxford Academic	13	
Review of Economic Studies		13 12	
Asian Economic Journal	Wiley Online Library	12	
Agricultural and Resource Economics Review	Cambridge	12	
Benchmarking: An International Journal	Emerald Elsevier	12	
Journal of Banking and Finance			
Journal of Business Research	Elsevier	11	
International Marketing Review	Emerald	11	
Journal of International Financial Markets, Institutions and	Elsevier	11	
Money	A	0	
Journal of Economic Perspectives	American Economic	9	
T	Association	0	
International Journal of Business and Globalisation	Inderscience	8	
Vision: The Journal of Business Perspective	Sage	8	
International Journal of Indian Culture and Business Management	Inderscience	8	
International Journal of Lifelong Education	Taylor and Francis	8	
Journal of Asia Business Studies	Emerald	7	
Journal of International Marketing	Sage	7	
The Journal of The Textile Institute	Taylor and Francis	6	
International Journal of Applied Business and Economic Research	Serials Publications	5	
Journal of Science and Technology Policy Management	Emerald	5 740	Table 3.
Total		742	Distribution of papers
Source(s): Compiled by the Authors			in journals

11 additional papers were found through forward and backward search strategies. After applying inclusion/exclusion criteria, 56 studies are included to conduct the SLR. A brief description of this systematic review is highlighted in Figure 3.





**Figure 3.** Flowchart for inclusion and exclusion criteria of papers

#### 3. Determinants and methodological trends

Out of our large sample included for our general overview, we carried out a specific task to synthesize studies focussing on determinants of EC. In total, 56 papers were identified for this task because only 56 studies were carried out focussing on the identification of EC determinants. Those selected papers on determinants and methodological trends of EC are given in Table 4.

Out of the 56 papers discussing the determinants of EC, the majority of the papers are from journals such as Applied Economics (6) followed by *Review of International Business and Strategy (5), World Development (3) and Research in International Business and Finance (3).* Similarly, Table 5 depicts articles on methodological trends and confirms that the majority of the articles are from the following journals: Review of International Business and Strategy (5) followed by *World Development (3), Economic Modelling (3) and Applied Economics (3).* 

#### 4. Theoretical underpinnings

In this section, an attempt is made to identify and list the widely used theories in this subject field. These theories, as indicated in Table 5, have signified the importance of theoretical contributions in the existing body of knowledge.

It can be found that majority of the researchers in the past have used a variety of theories, such as Heckscher–Ohlin (H–O) theory, followed by theory of comparative advantage, theory of absolute advantage, the product life cycle theory of export competitiveness, international production theory, neoclassical trade theory, the market imperfections theory, internationalization theory, Mundell–Fleming model, monopolistic advantage theory, diamond theory, stage theory of internationalization, the neo-technology theory and human capital theory.

#### 4.1 Heckscher-Ohlin (H-O) theory

The comparative advantage of a nation relies upon the factors of labour and capital, which are very important determinants. H–O theory clarified the reasons for differences in the

Name of the journal	ame of the journal Articles References		Three decades of export
Applied Economics	6	Jenkins and Katircioglu (2010), Fang and Miller (2007), Singh (2003), Kulendran and Wilson (2000), Abeysinghe and Yeok (1998) and Ghatak <i>et al.</i> (1997)	literature
Review of International Business and	5	Azam et al. (2020), Dhiman et al. (2020), Bhattacharya	
Strategy	O	(2020), Gnangnon (2019) and Lukason and Laitinen (2018)	
World Development	3	Narayan and Bhattacharya (2019), Caglayan and Demir (2014) and Dawe (1996)	
Research in International Business and Finance	3	Caporale <i>et al.</i> (2018), Morgan (2013) and Hung <i>et al.</i> (2004)	
Economics Letters	3	Assery and Peel (1991), Athukorala (1991) and Bahmani-Oskooee (1991)	
Journal of International Money and Finance	3	Cheung and Sengupta (2013), Cheung <i>et al.</i> (2005) and Kroner and Lastrapes (1993)	
Economic Modelling	2	Asteriou et al. (2016) and Hooy et al. (2015)	
World Economy	2	Quaye et al. (2017) and Jongwanich (2010)	
International Journal of Applied Business and Economic Research	2	Dhiman and Sharma (2017a, b)	
Journal of Economic Perspectives	2	Bernard et al. (2007a, b) and Hummels (2007)	
International Trade Journal	2	Rettab and Rao (2009) and Crowley and Lee (2003)	
International Marketing Review	2	Shoham <i>et al.</i> (2002) and Stöttinger and Schlegelmilch (1998)	
Competitiveness Review	2	Abbas and Waheed (2017) and Fetscherin et al. (2012)	
International Journal of Indian Culture and Business Management	1	Chan et al. (2008)	
Journal of Banking and Finance	1	Mougoué and Aggarwal (2011)	
Agricultural and Resource Economics Review	1	Shane et al. (2008)	
Journal of Textile and Apparel, Technology and Management	1	Joshi and Singh (2009)	
Journal of Fashion Marketing and Management	1	Joshi and Singh (2010)	
Journal of the Textile Institute	1	Joshi and Singh (2012)	
American Economic Review Journal of International Financial	1 1	Frankel and Romer (1999) McKenzie and Brooks (1997)	
Markets, Institutions and Money Review of Economic Studies	1	Bernard <i>et al.</i> (2007a, b)	
International Journal of Business and Globalisation	1	Parlakgul and Selekler-Goksen (2018)	
European Journal of Marketing	1	Katsikeas et al. (1996)	
Electronic Library	1	Stewart and McAuley (2010)	
The Journal of Development Studies	1	Kumar and Siddharthan (1994)	
International Journal of Lifelong Education	1	Roosmaa and Saar (2012)	
Journal of International Marketing	1	Brouthers et al. (2009)	
Benchmarking: an International Journal	1	Upadhyay and Ghosh Roy (2016)	
The Review of Economics and Statistics	1	Bergstrand (1985)	
Journal of Science and Technology Policy Management	1	Malik and Velan (2016)	
Journal of International Trade and Economic Development	1	Montenegro and Soto (1996)	Table 4. Articles on determinants of EC
<b>Source(s)</b> : Author's own compilation			included in our review

TI (II)			
IMR	Name of the theory	Articles	References
	Heckscher-Ohlin (H-O) theory	13	Fetscherin <i>et al.</i> (2012), Fink <i>et al.</i> (2005), Helpman (1984), Dhiman <i>et al.</i> (2020), Dhiman and Sharma (2019), Morgan and Katsikeas (1997), Huang <i>et al.</i> (2008), Qureshi and Wan (2008), Bernard <i>et al.</i> (2007a, b), Slaud W. (1998), Morgan and V. (2007a), and D. (2007b), and W. (2008)
	Theory of comparative advantage	11	and Katsikeas (1997) and Qureshi and Wan (2008) Bhattacharyya (2020), Fink <i>et al.</i> (2005), Dhiman and Sharma (2017a, b, 2019); Hilland and Devadoss (2013), Fetscherin <i>et al.</i> (2012), Huang <i>et al.</i> (2008), Bernard <i>et al.</i> (2007a, b) and Hummels (2007)
	Theory of absolute advantage	6	Bernard <i>et al.</i> (2007a, b), Dhiman and Sharma (2019), Huang <i>et al.</i> (2008), Lopez-Morales (2018), Morgan and Katsikeas (1997) and Hoov <i>et al.</i> (2015)
	The product life cycle theory of export competitiveness	5	Nadeau and Casselman (2008), Morgan and Katsikeas (1997), Phillips McDougall <i>et al.</i> (1994), Kumar and Siddharthan (1994) and Huang <i>et al.</i> (2008)
	International production theory	5	Hooy et al. (2015), Fetscherin et al. (2012), Huang et al. (2008), Morgan and Katsikeas (1997) and Dunning (1980)
	Internalization theory	4	Jones and Coviello (2005), Whitelock (2002), Fillis (2001) and Phillips McDougall <i>et al.</i> (1994)
	Diamond theory	4	Castro-Gonzáles et al. (2016), Brosnan et al. (2016), Rettab and Rao (2009) and Stone and Ranchhod (2006)
	Neoclassical trade theory	2	Caglayan and Demir (2014) and Bernard et al. (2007a, b)
	The market imperfections theory	1	Morgan and Katsikeas (1997)
	Mundell-Fleming model	1	Abeysinghe and Yeok (1998)
	Monopolistic advantage theory	1	Phillips McDougall et al. (1994)
Table 5.	Stage theory of internationalization	1	Phillips McDougall et al. (1994)
Theories used in the	The neo-technology theory	1	Kumar and Siddharthan (1994)
export competitiveness	Human capital theory	1	Roosmaa and Saar (2012)
studies	<b>Source(s)</b> : Author's own compilation		

comparative advantage among nations. According to this theory, every country is engaged in the manufacturing of goods and services that need factor requirements in terms of labour and capital (Fetscherin *et al.*, 2012; Fink *et al.*, 2005; Helpman, 1984; Dhiman, Kumar *et al.*, 2020b; Dhiman and Sharma, 2019; Morgan and Katsikeas, 1997; Huang *et al.*, 2008; Qureshi and Wan, 2008; Bernard *et al.*, 2007a; Slaughter, 1998). The H–O theory emphasized that a nation which has labour-intensive resources must produce labour-intensive goods, and a capital-intensive country should emphasize manufacturing capital-intensive goods.

#### 4.2 Theory of absolute advantage

Different nations are engaged freely in trade, since every nation offers some specialization whether it is labour or capital (Parlakgul and Selekler-Goksen, 2018). The absolute advantage theory of Adam Smith supports this statement and advocates that a country can improve its wealth by specializing in producing those goods and services that offer an absolute cost advantage in contrast to the other countries. This theory also states that a nation must import those goods and services that have absolute cost disadvantage in production (Fink *et al.*, 2005; Dhiman and Sharma, 2017a, b, 2019; Hilland and Devadoss, 2013; Huang *et al.*, 2008; Bernard *et al.*, 2007a; Hummels, 2007).

#### 4.3 Theory of comparative advantage

The theory of absolute advantage is subjected to limitations because a nation will not be in a position to import if it possesses an absolute advantage in all the products and services it

manufactures. The theory of comparative advantage, propounded by David Ricardo, overcame this drawback and advocated that a country ought to specialize in the products which can be manufactured more economically in contrast to the other countries (Bhattacharyya, 2020; Dhiman and Sharma, 2019a; Lopez-Morales, 2018; Hilland and Devadoss, 2013; Huang et al., 2008; Bernard et al. 2007a, b). For this reason, competitiveness is an essential factor for a nation to get recognized in the global marketplace.

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#### 4.4 The product life cycle theory

This theory is also widely used in the EC literature (Nadeau and Casselman, 2008; Morgan and Katsikeas, 1997; Phillips McDougall *et al.*, 1994; Kumar and Siddharthan, 1994) and states that products become less research-intensive in the maturity stage as compared to the early stages.

#### 4.5 International production theory

This theory states that price competitiveness for exports can also be gained by considering the production of other nations, which offer a competitive advantage. The theory explains that the inclination of a company to commence overseas manufacturing depends on the appeals of its home nation when compared with the resources and advantages of producing in other nations (Hooy *et al.*, 2015; Fetscherin *et al.*, 2012; Huang *et al.*, 2008; Dunning, 1980; Morgan and Katsikeas, 1997).

#### 4.6 Neoclassical trade theory

This theory advocates that choices among two commodities are independent of the customers' existing entitlements (Caglayan and Demir, 2014; Bernard *et al.*, 2007b). Neoclassical trade theory holds that the major factors of changing patterns of EC can be found by considering technological factors, factor endowments and the changing tastes and preferences of different nations.

#### 4.7 Market imperfections theory

The theory of market imperfections holds that firms continuously look for marketplaces overseas. The decision of a firm to invest in a foreign country can be described as a plan to gain the advantage of abilities, which are not shared by its competitors in overseas nations (Morgan and Katsikeas, 1997). Hence, the competitiveness of a firm is explained by imperfections for commodities and factor endowments in the market.

#### 4.8 Internalization theory

This theory mentions that firms can create their own market in such a manner that transaction costs can be minimized and competitiveness can be gained (Jones and Coviello, 2005; Whitelock, 2002; Fillis, 2001; Phillips McDougall *et al.*, 1994).

#### 4.9 Mundell-Fleming model

This theory is used in some studies in the area of EC (Abeysinghe and Yeok, 1998). The Mundell–Fleming model is based on the notion that in case of small open economies, the appreciation of exchange rates (ERs) harms exports and promotes imports. This theory assumes perfect competition in the market.

#### 4.10 Monopolistic advantage theory

The monopolistic advantage theory defines the existence of an exporting firm as a result of the superiority that it possesses over other firms (Hunt, 2011; Debaere, 2005; Chang, 1995;

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Phillips McDougall *et al.*, 1994). Such superiority enables a firm to achieve competitiveness in the global markets. Hence, the firm can make use of this advantage overseas at almost no extra cost.

#### 4.11 Diamond theory

This is another theory that emphasizes the need for attaining competitiveness. This theory advocates that competitive advantage cannot be inherited, it has to be created (Castro-Gonzáles *et al.*, 2016; Brosnan *et al.*, 2016; Rettab and Rao, 2009; Stone and Ranchhod, 2006). However, it is important to sustain this competitive advantage created by a firm; one way for sustaining this is through continuous improvement.

### 4.12 Stage theory of internationalization (the Uppsala model of gradual internationalization)

The stage theory of internationalization argues that competitiveness cannot be achieved overnight (Johanson and Vahlne, 1977, 1990, 2009; Vahlne and Johanson, 2013), it is a gradual process that starts from selling in the local market then reaching the world markets to meet the demand for the product (Korsakienė and Tvaronavičienė, 2012; Contractor, 2007; Etemad and Wright, 2003). Thereafter, experience is gained by the firms in terms of world market, culture, customers' tastes, languages etc. In due course, this experience and added knowledge increases the probability of success with EC (Phillips McDougall *et al.*, 1994).

#### 4.13 Neo-technology theory

The neo-technology theory is used in some studies (Chadha, 2009; Sen, 2005; Letchumanan and Kodama, 2000). This theory emphasizes the role of the technology gap in shaping a nation's trends in international business (Kumar and Siddharthan, 1994). The theory states that it is important to be capital-productive, which could be achieved by adopting modern technology competitiveness.

#### 4.14 Human capital theory

This theory focuses on importance of portable (general) and non-portable (specific) skills of workers to attain competitiveness in the international market. The rationale of this theory is to encourage the firms to invest in the skill set of workers in both general and specific skills (Roosmaa and Saar, 2012).

#### 5. Industries and countries studied for examining EC

The information given in Table 6 shows that EC has been examined in manufacturing and service industries such as metal, chemical, general and electrical machinery, transport equipment, etc. across various developed and emerging nations. The majority of the studies are conducted in various nations including Turkey (Caporale *et al.*, 2018); India (Chan *et al.*, 2008; Cheung and Sengupta, 2013; Dhiman *et al.*, 2020; Dhiman and Sharma, 2019); the Association of Southeast Asian Nations (Supongpan *et al.*, 2013; Abeysinghe and Yeok, 1998; Fang and Miller, 2007; Hooy *et al.*, 2015); United Kingdom, Canada and Japan (Athukorala and Menon, 1994; Mougoué and Aggarwal, 2011). Conclusively, Table 6 shows that EC independently as well as in combination with other variables has been a subject of research amongst scholars across countries, industries and time spans.

#### 6. Determinants and methodologies used in export competitiveness research

An identification of the various determinants and methodologies is essential for various reasons. After revealing the theoretical underpinning in the literature of EC, the next task is to

Author and year	Country of study	Industry studied	Time period	Variables studied	Relationship between variables	Three decades of export
Caporale et al. (2018)	Emerging countries including the Czech Republic, Hungary, Indonesia, Korea, Mexico, Poland, South Africa, Thailand and Turkey	Stock market	2003– 2014	Exchange rates (ERs) vis-a-vis both the US dollar and the euro of the currencies	Strong evidence of causality by ER is found	literature
Dhiman and Sharma (2017b)	India	Indian textile industry at the disaggregate level	1991– 2015	Labour productivity (LP); capital productivity; unit labour cost (ULC); ER; real effective exchange rate(REER) and EC	ER and REER and significant determinants of EC	
Sharma and Dhiman (2016)	India	Indian textile industry	1991– 2014	Gross domestic product (GDP); real ER; per capita GDP and population growth rate	The devaluation of the Indian rupee would boost textile exports and vice- versa	
Hooy <i>et al.</i> (2015)	ASEAN countries	Export-oriented industries	1994– 2008	Renminbi real ER and ASEAN disaggregated exports	RMB real ER has a significant positive impact on ASEAN total exports to China	
Sharma and Dhiman (2014)	India	Indian textile industry	1991– 2014	EC; Exchange rate; GDP; imports and instability	Key role is played by the exchange rate and is a significant determinant of theEC	
Sunny and Sund (2014)	India	Indian toy industry	2008– 09 to 2011– 12	EC; eER; LP and capital productivity	ER is significant determinants of EC	
Nyeadi <i>et al.</i> (2014)	Ghana	Manufacturing and service industry	1990– 2012	ER and export growth	ER has no impact on the export of goods and services in Ghana (continued)	Table 6. Tabular representation of previous studies conducted, variables studied and their relationship

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Author and year	Country of study	Industry studied	Time period	Variables studied	Relationship between variables
Caglayan and Demir (2014)	Turkey	Manufacturing firms	1993– 2005	ER movements and export orientation	Export (inward)- oriented firms are affected less (more) by ER appreciations, and they are more (less) sensitive to ER volatility
Cheung and Sengupta (2013)	India	Non-financial sector firms	2000– 2010	ER movements and export performance	Indian firms respond asymmetrically to ERs. The Indian firms that have smaller export shares tend to have a stronger response to both REER change and volatility
Mougoue and Aggarwal (2011)	Foreign currency markets of United Kingdom, Canada and Japan	Currency market (British pound, the Canadian dollar and the Japanese yen)	1977– 2009	Trading volume and ER volatility	The trading volume can have an important non- linear relationship with return volatilities in the currency markets
Prusty (2008)	India	Manufacturing firms	1995– 2006	ER and export growth	Exchange rate is a significant determinant of the export growth
Chan et al. (2008)	India	Textile industry	1985– 2005	GDP; real ER; per capita GDP and population growth rate	Export growth The study indicates that the devaluation of the Indian rupee would boost textile exports due to the fact that the buyers would enjoy cheaper textile product
Shane <i>et al.</i> (2008)	United States	US agricultural exports	1970– 2006	Real trade- weighted ER and trade partner income	There is an asymmetric ER effect, so that the negative effect of ER appreciation on exports sometimes dominates the positive effect of foreign income growth

Table 6. (continued)

Author and year	Country of study	Industry studied	Time period	Variables studied	Relationship between variables	Three decades of export literature
Fang and Miller (2007)	Singapore	Manufacturing firms	1979– 2002	ER and export growth	The evidence shows that depreciation does not significantly improve exports. In sum, the effect of ER depreciation on exports is positive but	merature
Kemal and Qadir (2005)	Pakistan	Manufacturing firms	1981– 2004	Real ER; exports and imports movements	insignificant Real ER is negatively associated with the exports and positively associated with the imports	
Abeysinghe and Yeok (1998)	Singapore	Manufacturing and service firms	1980– 1995	ER; EC	The higher the imported input content, the less the impact of ER changes on exports	
Athukorala and Menon (1994)	Japan	Manufacturing industry(textiles, chemicals, metal products, general machinery, electrical machinery and transport equipment)	1980– 1992	ER changes and Japanese export pricing behaviour	The results show that depreciation does significantly improve exports. Also, incomplete pass through of ER changes is a pervasive phenomenon but rejects the widely held view that Japanese export firms have relied more heavily on pricing to market strategies during the period of yen appreciation in order to maintain market shares	
Athukorala (1991)	Korea	Manufacturing industry	1980– 1989	ER and manufactured exports	Exchange rate is a significant determinant of the export growth for manufacturing firms in Korea	
Source(s): Au	uthor's own com	pilation				Table 6.

#### **IMR**

systematically synthesize the state of determinants and methodological domains in the subject field. The details of both the state of determinants and the methodological trends have been provided in Tables 7 and 8, respectively.

#### 6.1 Key determinants of export competitiveness

Investigating the determinants is vital for understanding the key factors influencing a particular phenomenon, since appreciation and depreciation of currency impacts export. Several authors believe that the ER is fundamental to achieve EC. The ER can be defined as the rate at which one currency can be exchanged with the other (Dhiman *et al.*, 2020). It has been well revealed that the depreciation of a domestic currency would help in boosting export marketing activities, and appreciation will hurt exporters. A lack of agreement is found on the impact of ER appreciation or depreciation on EC (Zou and Stan, 1998). The ER does not have a major influence on Indian exports (Sarkar, 1992). Some studies established a significant relationship between export performance and ER (Quaye *et al.*, 2017; Yang *et al.*, 2006;

Major determinants	Articles	References
Exchange rate	13	Abeysinghe and Yeok (1998), Athukorala (1991), Athukorala and Menon (1994), Caglayan and Demir (2014), Caporale et al. (2018) and Chan et al. (2008), Cheung and Sengupta (2013), Dhiman et al., 2020, Fang and Miller (2007), Hooy et al. (2015), Kroner and Lastrapes (1993), Mougoué and Aggarwal (2011) and Shane et al. (2008)
Real effective exchange rate	7	Dhiman <i>et al.</i> (2020), Gnangnon (2019), Morgan (2013b), Bahmani-Oskooee (1991), Jongwanich (2010), Hooy <i>et al.</i> (2015) and Cheung and Sengupta (2013)
Capital productivity	6	Dhiman and Sharma (2017b), Joshi and Singh (2009, 2010, 2012), Singh (2003) and Sunny and Sund (2014)
Domestic gross domestic product	6	Hooy et al. (2015), Cheung and Sengupta (2013), Shane et al. (2008), Bernard et al. (2007a), Frankel and Romer (1999) and McKenzie and Brooks (1997)
Labour productivity	5	Dhiman and Sharma (2017b, 2019), Hung <i>et al.</i> (2004), Sunny and Sund (2014) and Bernard <i>et al.</i> (2007a, b)
Trade liberalization	2	Bernard <i>et al.</i> (2007a, b) and Caglayan and Demir (2014)
Organizational characteristics	2	Parlakgul and Selekler-Goksen (2018) and Rettab and Rao (2009)
Export marketing policies and efforts	2	Katsikeas et al. (1996) and Rettab and Rao (2009)
Competitive advantages/disadvantages of the firm such as transportation costs, etc.	2	Hummels (2007) and Shoham et al. (2002)
Characteristics of the firm's environment	2	Rettab and Rao (2009) and Stewart and McAuley (2010)
Production technology and firm size	2	Kumar and Siddharthan (1994) and Parlakgul and Selekler-Goksen (2018)
Unit labour cost	1	Dhiman and Sharma (2017a)
Cash flow sufficiency	1	Lukason and Laitinen (2018)
Population growth rate of the importers	1	Chan et al. (2008)
Decision-maker's characteristics	1	Stöttinger and Schlegelmilch (1998)
Tariff rates	1	Bernard et al. (2007a, b)
Trade barriers	1	Katsikeas et al. (1996)
Demand and supply side factors	1	Roosmaa and Saar (2012)
Source(s): Author's own compilation		

**Table 7.** Widely studied determinants of export competitiveness

Methodology used	Articles	References	Three decades of export
Cross-sectional data and analysis using factor analysis (confirmatory factor analysis, exploratory factor analysis, etc)	9	Dawe (1996), Parlakgul and Selekler-Goksen (2018), Katsikeas and Morgan (1994), Parlakgul and Selekler-Goksen (2018), Rettab and Rao (2009), Stöttinger and Schlegelmilch (1998), Saini (2011), Brouthers <i>et al.</i> (2009) and Huang <i>et al.</i> (2008)	literature
Co-integration and causality approach	9	Dhiman et al. (2020), Dhiman and Sharma (2019), Bahmani-Oskooee (1991), Jongwanich (2010), Athukorala and Menon (1994), Asteriou et al. (2016), Kulendran and Wilson (2000), Jenkins and Katircioglu (2010) and Ghatak et al. (1997)	
Multiple regression; logistic regression method and the multinomial logit (MNL) method of analysis	9	Lukason and Laitinen (2018), Quaye et al. (2017), Frankel and Romer (1999), Katsikeas et al. (1996), Upadhyay and Ghosh Roy (2016), Malik and Velan (2016), Rettab and Rao (2009), Frankel and Romer (1999) and Chen and Hu (2002)	
Revealed comparative advantage	6	Dhiman and Sharma (2017a), Qureshi and Wan (2008), Laursen (2015), Herciu (2013), Abbas and Waheed (2017) and, Narayan and Bhattacharya (2019)	
Estimation of panel data regression models	6	Hung <i>et al.</i> (2004), Gnangnon (2019), Morgan (2013), Hooy <i>et al.</i> (2015), Chan <i>et al.</i> (2008) and Kumar and Siddharthan (1994)	
Gravity model	6	Chan et al. (2008), Bernard et al. (2007a, b), Bergstrand (1985), Chan and Au (2007), Santana- Gallego et al. (2016) and Montenegro and Soto (1996)	
Time series analysis	6	Dhiman and Sharma (2017b, 2019), Mougoué and Aggarwal (2011), Upadhyay and Ghosh Roy (2016), Shane <i>et al.</i> (2008) and Fetscherin <i>et al.</i> (2012)	
Generalized Auto Regressive Conditional Heteroskedasticity (GARCH model)	5	Caglayan and Demir (2014), McKenzie and Brooks (1997), Kroner and Lastrapes (1993), Asteriou <i>et al.</i> (2016) and Crowley and Lee (2003)	<b>Table 8.</b> Widely-used
Source(s): Author' own compilation			methodologies

Hooy *et al.*, 2015). On the other hand, another set of studies highlight that the ER does not have a significant impact on exports (Dhiman and Sharma, 2019; Fink *et al.*, 2005). Therefore, from the literature, a mixed impact of ER is found on EC (Dhiman and Sharma, 2020; Cheung and Sengupta, 2013; Caporale *et al.*, 2018; Morgan, 2013; Sunny and Sund, 2014; Joseph, 2014).

Real effective exchange rate (REER) is another variable that has been widely addressed in the EC literature and examines the competitiveness of the home currency against the foreign currency (Dhiman *et al.*, 2020; Gnangnon, 2019; Morgan, 2013; Bahmani-Oskooee, 1991; Jongwanich, 2010; Hooy *et al.*, 2015; Cheung and Sengupta, 2013). It is a familiar concept that the appreciation of the REER will minimize the exports' demand. Theoretically, a stronger REER highlights that the home country is less competitive; on the other hand, weak REER points towards more competitiveness of the home country (Chan *et al.*, 2008). Therefore, appreciation in REER means less competitiveness, and depreciation indicates more competitiveness.

Capital productivity has also been identified as a key determinant of EC by previous authors (Dhiman and Sharma, 2017b; Joshi and Singh, 2009, 2010, 2012; Singh, 2003; Sunny and Sund, 2014). While exploring the association among exports and productivity, the hypotheses can be that the firms with higher productivity are expected to achieve more in the

competitive international markets (Bernard *et al.*, 2007a, b). This justification is also in line with the traditional H–O theory, which indicates that better factor endowments and manufacturing technologies influence the competitiveness.

Domestic gross domestic product (GDP) is also considered to be vital. Various authors over the past have mentioned the importance of GDP (Hooy *et al.*, 2015; Cheung and Sengupta, 2013; Shane *et al.*, 2008; McKenzie and Brooks, 1997). Authors over the past have pointed out the clear relationship between exports and GDP. The previous studies confirm that if the goal of policymakers is to promote exports, then the key task is to make efforts to improve GDP (Bernard *et al.*, 2007a; Frankel and Romer, 1999).

Labour productivity (LP) is another major determinant and indicates the value added per unit of labour. Quantity of labour is important, but the output produced by the available labour is more relevant. Better productivity not only ensures competitiveness but also promotes economic growth (Sunny and Sund, 2014). Therefore, LP has been well addressed by previous authors who have found that growth in LP results in an increase in EC (Dhiman and Sharma, 2017b, 2019; Hung *et al.*, 2004; Bernard *et al.*, 2007a).

Unit labour cost (ULC) is a crucial determinant on the ability of a country to attain competitiveness. It is found that theoretically a decrease in ULC increases EC and vice versa. A nation where the labour cost is higher will have less attractiveness as an exporter. For that reason, the ULC should have a negative impact on exports (Dhiman and Sharma, 2017a). In a case where the ULC is lower when compared to the other nations, then the impact of ER can be reduced. Hence, labour costs are very important for a country to attain competitiveness.

Apart from these variables, other important variables of EC in the literature are trade liberalization (Bernard *et al.* 2007a, b; Caglayan and Demir, 2014); organizational characteristics (Parlakgul and Selekler-Goksen, 2018; Rettab and Rao, 2009); export marketing policies and efforts (Katsikeas *et al.*, 1996; Rettab and Rao, 2009); competitive advantages/disadvantages of the firm such as transportation costs, etc. (Hummels, 2007; Shoham *et al.*, 2002); traits of the firm's environment (Rettab and Rao, 2009; Stewart and McAuley, 2010); production technology and firm size (Kumar and Siddharthan, 1994; Parlakgul and Selekler-Goksen, 2018); Cash slow sufficiency (Lukason and Laitinen, 2018); population growth rate of the importers (Chan *et al.*, 2008); decision-makers' characteristics (Stöttinger and Schlegelmilch, 1998); tariff rates (Bernard *et al.*, 2007a); trade barriers (Katsikeas *et al.*, 1996) and demand and supply side factors (Roosmaa and Saar, 2012).

#### 6.2 Widely methodologies used

Now, we have compiled the various methodologies used in the prior studies. Table 8 highlights the widely-used methodologies and reveals that apart from secondary data studies, cross-sectional studies have also been widely employed (Dawe, 1996; Parlakgul and Selekler-Goksen, 2018; Katsikeas and Morgan, 1994; Parlakgul and Selekler-Goksen, 2018; Rettab and Rao, 2009, Stöttinger and Schlegelmilch, 1998; Saini, 2011; Brouthers *et al.*, 2009; Huang *et al.*, 2008). Since EC has been used as a dependent variable, therefore, the direction of causality between the variables and their co-integration needs to be examined. Keeping this in mind, previous studies have also used co-integration and causality approach as another methodology (Dhiman *et al.*, 2020; Dhiman and Sharma, 2019; Bahmani-Oskooee, 1991; Jongwanich, 2010; Asteriou *et al.*, 2016; Kulendran and Wilson, 2000; Jenkins and Katircioglu, 2010; Ghatak *et al.*, 1997).

Previous studies have used various methodologies to analyse the impact of determinants on EC. We found that the cross-sectional data and analysis using factor analysis (Dawe, 1996; Parlakgul and Selekler-Goksen, 2018; Katsikeas and Morgan, 1994; Parlakgul and Selekler-Goksen, 2018; Rettab and Rao, 2009; Stöttinger and Schlegelmilch, 1998; Saini, 2011; Brouthers *et al.*, 2009; Huang *et al.*, 2008). Co-integration and causality approach has also been widely employed (Dhiman *et al.*, 2020; Dhiman and Sharma, 2019; Bahmani-Oskooee, 1991;

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Jongwanich, 2010; Athukorala and Menon, 1994; Asteriou *et al.*, 2016). Multiple regression, logistic regression and the multinomial logit (MNL) method of analysis have also been widely employed in the literature (Frankel and Romer, 1999; Katsikeas *et al.*, 1996; Upadhyay and Ghosh Roy, 2016; Malik and Velan, 2016). The revealed comparative advantage (RCA) index introduced has also been extensively employed (Dhiman and Sharma, 2017a; Qureshi and Wan, 2008; Laursen, 2015; Herciu, 2013; Abbas and Waheed, 2017; Narayan and Bhattacharya, 2019). This method is employed to find the competitiveness of commodities in relation to manufacturing and service exports. The RCA index presents a clear picture concerning the specialization of nations in specific commodities. This index also gives an idea about the competitive advantage gained by a country over the preceding years.

Apart from these methodologies, other methods employed to examine the impact of determinants on EC are panel data (Hung et al., 2004; Gnangnon, 2019; Morgan, 2013; Hooy et al., 2015; Chan et al., 2008; Kumar and Siddharthan, 1994); gravity model (Chan et al., 2008; Bernard et al., 2007a, Bergstrand, 1985; Chan and Au, 2007; Santana-Gallego et al., 2016; Montenegro and Soto, 1996); time series analysis (Dhiman and Sharma, 2017b, 2019; Mougoué and Aggarwal, 2011; Upadhyay and Ghosh Roy, 2016; Shane et al., 2008) and GARCH model (Caglayan and Demir, 2014; McKenzie and Brooks, 1997; Kroner and Lastrapes, 1993; Asteriou et al., 2016; Crowley and Lee, 2003). The above discussion shows that there are several studies exploring the conceptual and methodological domains of EC. The most important determinants of EC are productivity (labour and capital), labour costs, exchange rate, real effective exchange rate (REER), GDP, trade liberalization, supply and demand side factors and trade barriers. Higher labour and capital productivity trends and lower labour costs will certainly decide which countries will succeed or lose in the worldwide market. As far as methodological trends are concerned, our review confirms that all crosssectional studies, time series studies, the co-integration and causality approach, regression analysis and GARCH model have been widely employed in the previous studies.

#### 7. Directions for future research (future research agenda)

Following several studies on determinants and the methodological trends of EC, our objective was to systematically review the literature related to EC in order to form a roadmap for future researchers. In this section, we provide directions for future research using the theory, context, constructs and methodology (TCCM) framework (Paul and Rosado-Serrano, 2019).

#### 7.1 Theories that we recommend in future studies

With respect to the theory, our review shows that previous studies have made use of multiple theories to explain the relationship between variables of EC. Some researchers have employed a multi-theoretical perspective to understand EC (Hooy *et al.*, 2015; Fetscherin *et al.*, 2012; Bernard *et al.*, 2007a, b; Fink *et al.*, 2005; Phillips McDougall *et al.*, 1994; Kumar and Siddharthan, 1994). We have observed that many previous studies lack a coherent theoretical underpinning. The four widely-used theories are H–O theory, theory of comparative advantage, theory of absolute advantage and the product life cycle theory. Considering the importance of these theories in EC research, we briefly comment on each.

Previous authors have applied H–O theory to explain how the comparative advantage of a nation relies upon factors of labour and capital, which are very important determinants (Dhiman *et al.*, 2020a; Fetscherin *et al.*, 2012; Qureshi and Wan, 2008; Bernard *et al.*, 2007a, b; Slaughter, 1998; Morgan and Katsikeas, 1997). Studies using the theory of comparative advantage advocated that a country must be specialized in the products which can be manufactured more economically in that specific country in contrast to in other countries (Bhattacharyya, 2020; Dhiman and Sharma, 2019a; Lopez-Morales, 2018; Hilland and Devadoss, 2013; Huang *et al.*, 2008; Bernard *et al.*, 2007a, b). From the lens of theory of absolute advantage, studies focus on improving the wealth of nation by that nation

specializing in producing those goods and services that offer an absolute cost advantage in contrast to the other countries (Lopez-Morales, 2018; Hooy *et al.*, 2015). The product life cycle theory is used as a theoretical background to explain that products become less research-intensive and less competitive in the maturity stage when compared to the early stages (Nadeau and Casselman, 2008; Phillips McDougall *et al.*, 1994). These theories have been widely employed since all of them have the potential to explain the EC. Therefore, we observe that the majority of researchers have used theories which focus on important factors of EC, such as economic production, labour, capital and product life-cycle.

We noted that some theories are rarely been used in prior studies. Examples include the market imperfections theory, Mundell–Fleming model, monopolistic advantage theory, conservative, predictable and pacemaker (CPP) model (Paul and Sanchez-Morcillo, 2019), neo-technology theory and human capital theory. We believe that these theories have the potential to explain more of the reasons for EC across various industries and countries. For example, the seven-P framework for international marketing (Paul and Mas, 2019) grounded in performance = f (potential, path, process, pace, pattern and problems) can be used as a theoretical lens in future studies. Therefore, we encourage future researchers to use these theories. We strongly recommend that more studies need to be conducted which introduce new theoretical approaches and better dynamic frameworks in the field of EC. We believe that theory validation of existing models is important only in those cases where generalizability has not yet been established. Hence, introducing new and better theoretical models that examine the relationship between variables of EC is equally as important as studying existing models.

#### 7.2 Context where studies can be conducted

With respect to the investigated contexts, we observed in our systematic review that a large number of EC studies were conducted in specific industries, such as metal, chemical, general and electrical machinery, transport equipment, etc. across various developed and emerging nations. However, studies exploring other industries, such as service, remain scarce. For example, there is only one study found in the literature that investigates EC for both the manufacturing and the service industry (Nyeadi *et al.*, 2014). Therefore, we encourage future EC studies to be conducted across more diverse industries, including the service industry as well.

We also identified that majority of the studies in our review were conducted considering a sector as a whole. But studies on EC related to micro, small and medium enterprises (MSMEs) are limited. It is a well-known fact that MSMEs constitute a very important segment in the economic development of a nation. Additionally, the MSMEs play a vital role in the overall manufacturing exports of a nation (Mukherjee and Chanda, 2019). This currently lacking aspect in studies also could offer rich potential for future studies. Therefore it is imperative to study, within a specific industry, the EC of MSMEs. Leonidou and Katsikeas (1996) confirmed there have only been limited studies on the exporting MSMEs, and there have been very few studies thereafter on the MSMEs (Leonidou *et al.*, 2011). Hence, future researchers are encouraged to undertake studies on the MSMEs, within a specific industry, to bring more diversity into the field of EC research that currently exists.

Since the majority of the studies were conducted in specific nations including Turkey, ASEAN countries, United Kingdom, Canada and Japan, there are opportunities to carry out studies in emerging markets in European countries, Africa and Latin America. Since globalization has ensured that no country is too far to deal with in the international business, the need of the hour is to conduct research in the aforementioned countries as well.

Additionally, we found limited EC studies that focused on cross-country comparisons, i.e. bilateral or multilateral across emerging nations (Caporale *et al.*, 2018; Hooy *et al.*, 2015).

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The majority of the studies considered only a single country to examine EC in (Dhiman and Sharma, 2017b; Caglayan and Demir, 2014; Shane *et al.*, 2008; Fang and Miller, 2007; Abeysinghe and Yeok, 1998; Athukorala and Menon, 1994). Therefore, we encourage future researchers to consider cross-country comparisons to examine EC in. Also, future studies could explore the major determinants of EC in the diverse market settings of emerging nations. This will assist to generalize prior findings and theories, as well as to help researchers to understand more about the role of contextual factors such as economic conditions (GDP, per capital income, etc.), cultural particularities and capital investments in technology.

#### 7.3 Constructs that can be used in future studies

Our systematic review with respect to constructs reveals that EC has captured the attention of several researchers over the passage of time. We have found that authors in the past have attempted to establish linkages with various variables of EC such as LP, (Bernard *et al.*, 2007a; Frankel and Romer, 1999; McKenzie and Brooks, 1997), capital productivity (Joshi and Singh, 2009, 2010, 2012; Singh, 2003; Sunny and Sund, 2014), labour cost (Dhiman and Sharma, 2020), exchange rate (Caglayan and Demir, 2014; Caporale *et al.*, 2018; Fang and Miller, 2007; Hooy *et al.*, 2015; Kroner and Lastrapes, 1993; Mougoué and Aggarwal, 2011), Technology (Yang *et al.*, 2006) and foreign direct investment (FDI) (Joseph, 2014).

It was found that although studies on several variables have been undertaken by previous authors, still studies related to supply and demand side factors are limited (Roosmaa and Saar, 2012). Studying these variables and understanding their impact is very important for sustaining high export growth. Also, very limited research has been done related to variables such as decision-makers' characteristics (Stöttinger and Schlegelmilch, 1998); population growth rate of the importers (Chan *et al.*, 2008) and tariff rates/trade barriers (Bernard *et al.*, 2007a, b; Katsikeas *et al.*, 1996). Various authors believe that export-oriented industries in developing countries are most strongly affected by the aforementioned variables (Kaplinsky and Morris, 2008; Ramaswamy and Gereffi, 2000; Santos-Paulino, 2002). Also, in our systematic review, we could not find other important constructs such as raw material availability, material and logistics costs, geographic factors and the legal environment of the exporting nations. Therefore, we urge that future studies should critically examine these constructs to find their impact on EC across diverse industries and different nations.

#### 7.4 Methodologies that can be employed in future studies

Previous research on the methodological domain of EC has evaluated trends by mostly considering empirical studies only. A number of attempts have been made by previous researchers to understand the methodologies adopted; for instance, two stage least square method (Frankel and Romer, 1999; Morgan, 2013), constant market share model (Joshi and Singh, 2012), simple general equilibrium model of EC (Helpman, 1984), RCA (Qureshi and Wan, 2008), MNL model (Rettab and Rao, 2009), gravity model (Bergstrand, 1985; Fink et al., 2005), tobit model (Kumar and Siddharthan, 1994), auto regressive conditional heteroscedasticity model (McKenzie and Brooks, 1997), GARCH model (Kroner and Lastrapes, 1993), probit, logit and tobit and MNL logistic (Hung et al., 2004). We make a strong point here that authors should compile more studies to put forward a more comprehensive integration of all the relevant facets of the methodological domain.

It was observed that on the methodological front, diverse analytical tools have been applied as discussed above. Similarly, we found that commodities have been studied at aggregate levels only (Sunny and Sund, 2014; Caglayan and Demir, 2014; Cheung and Sengupta, 2013; Mougoue and Aggarwal, 2011; Chan *et al.*, 2008; Shane *et al.*, 2008; Fang and Miller, 2007; Athukorala, 1991). However, examinations of the EC of commodities at a

disaggregate level are very scarce and have not been studied comprehensively (Dhiman and Sharma, 2017b; Sharma and Dhiman, 2016). Therefore, we encourage future researchers to study commodities at various disaggregate levels such as HS (harmonized system) 02 digit, HS 04 digit and HS 06 digit levels. This will be helpful in bringing better insights into a particular commodity in a specific industry for researchers. Also, such studies will be useful in deliberating the reasons for the increase and decrease in the EC of the selected commodities given a wider range of variables. Hence, better answers will be able to be found for various research questions such as (1) what are the commodities in which EC is declining at the disaggregate level? (2) what are the reasons for this volatility in the EC of commodities within a particular industry? and 3) what could be the strategies for improving the EC of commodities at disaggregate levels?

Our findings show that EC has attained the status of a scientific measure in the literature, since the studies in this subject field so far have moved towards quantitative studies. It is found that analysis of EC has been carried out using both cross-sectional and time series data. Also, mixed methods were employed by the some authors, using both cross-sectional and time series data. The comprehensive examination of earlier studies highlighted that authors in the past have made use of a variety of analytical tools, such as co-integration and causality approach, revealed comparative advantage index, GARCH model, panel data and regression analysis.

Several cross-sectional studies (Dawe, 1996; Parlakgul and Selekler-Goksen, 2018; Katsikeas and Morgan, 1994; Parlakgul and Selekler-Goksen, 2018; Rettab and Rao, 2009; Stöttinger and Schlegelmilch, 1998), time series (Asteriou *et al.*, 2016; Kulendran and Wilson, 2000; Jenkins and Katircioglu, 2010; Ghatak *et al.*, 1997) and panel data studies (Hung *et al.*, 2004; Gnangnon, 2019; Morgan, 2013; Hooy *et al.*, 2015; Chan *et al.*, 2008; Kumar and Siddharthan, 1994) were found. The use of qualitative methods in competitiveness studies is an area that has more potential. Therefore, we are of the opinion that qualitative studies on EC are also the need of hour to enable us to put together observations of various exporting firms across industries. This will be useful in gaining a deeper and better understanding of international marketing in the post-coronavirus disease 2019 (COVID-19) period.

#### 8. Implications

Our systematic review has certain implications for researchers. Both theoretical and practical implications are discussed in the following sub-sections.

#### 8.1 Theoretical implications

Based on this review, we infer certain implications for researchers. First, to the best of our knowledge, this is the first systematic review covering all Scopus journals on EC. Our review provides deep insights into the topic and also offers a unified picture of the subject field. The theoretical underpinning discussed in this paper will definitely enhance the understanding on the interrelationship among a variety of variables of EC. Specifically, this systematic review provides unique insights, allowing for a more complete and unifying picture of the subject field.

Second, by applying a scientific review methodology, this systematic review summarizes existing contributions in the EC literature and synthesizes the theoretical underpinnings to put forward the importance of theoretical contributions in the existing body of knowledge. This kind of synthesis provides new insights that can steer future research that merits further examination.

Third, our paper has also elaborated on both widely and rarely used theories. We reveal that though theories have been extended and validated, the development of a new framework across varied settings is equally important in the EC literature. Such arguments will push

future research efforts in this direction; hence, significant contributions can be made in further extending this research domain, as well as the entire field on international business.

Fourth, the review sheds light on several future research directions using the TCCM framework that provides fruitful avenues for future research.

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#### 8.2 Practical implications

In addition to the theoretical implications, this review also provides several implications for practice. By synthesizing the EC literature, we lay the foundations for practitioners in this field to understand the determinants that affect EC.

This review provides information to researchers and practitioners of international business, especially those working in this research domain. The information is provided in terms of identifying various theories, determinants and methodological domains that are currently available in the literature.

EC has emerged as a tool to sustain in the international markets, and this can no longer be rejected by exporters and policymakers. We hope that this attempt of synthesizing theories, constructs and methodologies will not only encourage buddy researchers but will also encourage exporters and policymakers as a blueprint to help in understanding major factors to help stay alive in the global competition. We are very confident that the theoretical, methodological and constructs synthesis presented in this paper informs practice towards formulating strategies that result in attaining competitiveness in the global markets.

#### 9. Limitations

The author accepts that this attempt of systematic review in the subject field cannot be claimed to be fully comprehensive as analysis of determinants and methodological domains are limited to the papers published between 1991 and 2020. Therefore, findings of the study cannot be generalized to whole subject field. Accordingly, it is expected that this systematic review will act as a reference point for future researchers interested in the field of EC and will help in building their interest in this field.

#### 10. Conclusion

This article can serve as a blueprint for the beginners in this subject field, who are still exploring the probable theories, determinants and methodological domains in the field of international business. The purpose of this paper is to synthesize the previous studies in order to identify the key theories, determinants and methodological trends of EC. The review of these selected articles highlights diverse theoretical settings employed by the researchers to understand the EC. Based on the findings, we infer that there is scope for more studies to be conducted that introduce new theoretical approaches and better dynamic frameworks in the field of EC. Based on the review and analysis, we can identify promising opportunities for future research, which can contribute considerably to the development of the subject field. With respect to the contextual setting, we found that the need of the hour is to consider diverse export-oriented industries including the service industry. Also, limited attention has been paid to emerging markets in European countries, Africa and Latin America.

We observed that the EC as a research field is still rich and contemporary. There is a huge scope of research on this topic since export contributes heavily to the economic development of a nation. Also, to be sustainable in the global markets, export has to be competitive as well. Therefore, the research field of EC deserves more research in this period of globalization. We also offered some potential areas to study, with recommendations on theory, context, construct and methodology for future research. It was found that there are opportunities to

use qualitative methods in future studies. Such an approach is very much suited to further investigate contemporary areas for theory building on EC. Therefore, we are of the opinion that qualitative studies on EC are also the need of hour to enable us to put together observations of various exporting firms across industries. In addition, it is worth noting that there are more opportunities to analyse the impact of COVID-19 on EC in different industries in the context of different countries (which could be single country or cross-country studies). EC studies linking with COVID-19 could be conducted using time series or cross-section data. Researchers can analyse the impact of COVID-19 on international marketing, integrating EC as a variable in future.

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